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Next Week's Engagements.

MONDAY, Sept. 6th.—Meeting of the General Committee of the National Chrysanthemum Society at 8 p.m.—Sale of Bulbs at Protheroe and Morris's.

TUESDAY, Sept. 7th.—Show of Grapes and Dahlias at South Kensington. Meeting of Fruit and Floral Committees.

WEDNESDAY, Sept. 8th.—Glasgow and West of Horticultural Society's Show.—Royal Caledonian Horticultural Society's Autumn Show (two days).

THURSDAY, Sept. 9th.—Flower Show in the Blackpool Winter Gardens (two days).—National Chrysanthemum Society's Autumn Show at the Royal Aquarium.—Sale of Flowering Orchids at Stevens', and Bulbs at Protheroe and Morris's.

FRIDAY, Sept. 10th.—Autumn Show of the Royal Horticultural Society of Aberdeen (two days).—Sale of Orchids at Protheroe and Morris's.

SATURDAY, Sept. 11th.—Sale of Dutch Bulbs at Stevens'.



"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 4, 1886.

THE DAHLIA.—Ere this number reaches the hands of our readers we shall be fairly into the midst of the Dahlia season, for the exhibition of the National Dahlia Society at the Crystal Palace may be said to be opening the ball as our present issue is passing through the post. It is true Dahlia competitions of more or less interest take place at numerous local shows in various parts of the kingdom during the month of August, but first-class flowers, especially when the season is late, can hardly be looked for until we approach the end of August, or September comes in. It may be that recent drought, for generally the soil is very dry, may have materially discounted hopes of fine blooms, but even with some recent hot days we have had moist nights, and such humidity is most favourable to the development of foliage and the expanding of flower-buds. Drought at the roots may be met by liberal mulchings of long manure and ample waterings, but dry cold nights cannot well be overcome. Generally, therefore, the season, if late, has not been un-

favourable to Dahlias, and where due care is taken, and insect pests are repressed, good clean blooms should be abundant.

It is worthy of note that whilst the old Dahlia florists at first looked with coldness, indeed, almost with contempt, upon the earlier single kinds, and the "eraze" which so effectually popularised them, yet they must now admit that their introduction has helped not only to give the Dahlia a new lease of life, but has also attracted public attention and interest much more largely to the fine double or so-called show and fancy kinds than previously was the case; in fact, it may well be assumed that at the present moment, thanks largely to the new fancy for the single forms, the Dahlia in all its sections enjoys a wider popularity than it ever before possessed. The old show or double Dahlia flower has often been characterised as lumpy, stiff, heavy, formal, and other depreciatory appellations not more complimentary have been freely flung at it. Curiously enough those who will take the trouble to watch the aspect of the crowd of visitors found at any considerable flower show, will invariably find as much admiration bestowed upon these lumpy flowers as upon the singles; pretty plain proof that after all, and in spite of adjectives, there is much beauty in a good double Dahlia, and a little examination into the flowers shows that beauty predominates.

If perfection is a form of beauty, then perfection is found allied to beauty more fully in a good double Dahlia than, perhaps, in any other florists' flower. The curve is the line of beauty, and in the contour of the Dahlias that curve is perfect. In formation and disposal of petal the flower is perfect. In variation of colour, whether self or parti-coloured the Dahlia is perfect; indeed, it is, except in variation of colour or of markings, very hard, indeed, to excel in form and finish the best Dahlias of the day. This very perfection excites at once admiration and surprise. How any simple plant can evolve so much floral finish and beauty is, indeed, marvellous, for here we see nature absolutely ductile in the hands of the florists, and moulding her flowers to suit their tastes and requirements. No matter whether we look at the selfs, the flushed or tinted, the edged or tipped, or the flaked kinds, all seem wondrously formed, and if varied yet perfect.

After all, there is good reason to believe that florists, in regard to their old favourites, will find gain rather than loss in the new interest in Dahlias which the single kinds have created, and that if we turn to the Pompon or bouquet kinds, how charming are they and how variously and wondrously marked. If too rotund or ball-like for some tastes, they are still most valuable for decorative purposes, and are, with others, becoming more and more popular. The flowers are solid and enduring; they are, if rotund, at least small, and may be utilised in many ways. For beds or borders in the garden, and for various uses within doors, they are most valuable. It is true we find the pointed petals of the Caetus section rather more fancied for decorative uses just at present; but there is little probability that such taste will long endure. Pointed petals are not pleasing at any time, and seem specially undesirable in Dahlias. There was a certain element of novelty in the form of the Caetus flowers so called, and if but thinly borne, at least these flowers are striking and enduring. Still, beyond the fanciful forms shown in the petals they have no special attractions, and unless some more useful features be added to them—such as better habits, greater floriferousness, or earlier blooming—it is difficult to see how far they may hope to hold any appreciable place in public estimation.

With respect to the single kinds, it is impossible to write of them with other than an approving estimate. Certainly, there did seem

to be at the first some retrogressive force in operation, and it was but natural that florists should fear their labours through many years were about to be set aside and even despised. Happily, no such result has occurred, and we have even already seen ample evidence of the stamp of the florist being set upon the single kinds. A few, perhaps, yet admire the starry-pointed petalled forms found in some of the earlier flowers; but, as a rule, the natural course of floral improvement has its way, and gaps between the petals are filled up, so that good form and breadth of petal is developed. Happily, these developments detract in no way from the merits of the flowers for domestic decorative purposes. Just as much now as at the first they admit of unstudied arrangements, which, being graceful and elegant, naturally give pleasure. There has been an error in producing rather big flowers; but whilst big flowers would inevitably come, and to some seemed attractive, yet it is evident that size is in these single Dahlias hardly allied to gracefulness; hence smaller but even more beautiful ones are desirable and forthcoming. Let those who have undefined tastes with respect to single Dahlias take stock of the various beautiful flowers of diverse sizes seen at the Crystal Palace, on Tuesday next at South Kensington, on Thursday next at the Royal Aquarium, or at the numerous shows yet held in the provinces, and they will have little difficulty in deciding as to their fancies in the matter of size and form in these flowers.

As to colours and markings, these are already legion, and are being wondrously multiplied. Probably, none are more beautiful than the selfs, and certainly none are more useful. The whites, lemons, yellows, carmines, reds, scarlets, purples, crimsons, and other hues offer lovely contrasts, and those who employ these flowers for domestic decoration know how very effective may a few decisive colours prove. Still, something must be said for the edged, striped, and flaked flowers, for they are so quaint and attractive that they command attention, and in not a few cases admiration. Each section happily finds its own admirers; for whilst our tastes may be thus defined, we feel that absolute uniformity would be a misfortune. The Dahlia is now almost everybody's flower. It fitly follows the Rose, and links to it the Chrysanthemum, thus forming a trio of summer, autumn, and winter floral queens.

Mr. John Thorpe, formerly of Stratford-on-Avon, has been elected secretary of the NEW YORK HORTICULTURAL SOCIETY, in succession to Mr. Murkland, whose death we recorded in a recent issue.

Messrs. William and John Stewart, senior partners of the firm of JOHN STEWART & SONS, nurserymen, Dundee, intimate that in future they will conduct the business on their own account.

AN INTERNATIONAL HORTICULTURAL EXHIBITION is to be held in Dresden in May next, in the fine old park of the royal residence, near to the city.

Messrs. Barr & Son, Covent Garden, have just issued a complete list of all the OLD AND NEW DAFFODILS in cultivation up to the present time, and which number over 250 distinct varieties.

The annual Fungus foray of the YORKSHIRE NATURALIST'S UNION will take place on the 30th inst.

Sir Herbert Eustace Maxwell, Bart., M.P., has been elected PRESIDENT OF THE SCOTTISH ARBORICULTURAL SOCIETY, in succession to Dr. Cleghorn, of Stravethie, St. Andrews.

SWEET PEAS are stated to be very popular at Philadelphia this season, but the cut flower trade there is not good.

MRS. FROST, relict of the late Mr. Thomas Frost, Bower Nurseries, Maidstone, died on Sunday evening last.

MR. N. MOLYNEUX, for several years foreman to his brother at Swanmore Park, Bishops Waltham, has been engaged as gardener to C. Willock-Dawes, Esq., Barton Hill, Petworth, Sussex.

MR. STEVENS has returned to Trentham, and is, we are pleased to hear, making good progress towards complete recovery from his recent severe illness.

MR. GEORGE MAW, of Benthall Hall, Broseley, who for many years has been diligently collecting and cultivating Crocuses, has prepared a monograph of the genus, which is complete for publication.

Last week the gardeners of Kingston-upon-Thames and district, captained by Mr. J. Puttock, played a CRICKET MATCH with the gardeners of Walton-on-Thames, at Ashley Park, the residence of J. S. Sassoon, Esq. The Walton men won by fifty-eight runs.

MR. SAMUEL HEATON, of Astley Bank Gardens, Darwen, will read a paper on WINDOW GARDENING, at the fifth monthly meeting of the Preston and Fulwood Horticultural Society, this (Saturday) evening.

THE VEITCH MEMORIAL MEDALS and accompanying money prizes of £5 each offered for competition at the Stoke-upon-Trent flower show last week, were won by Mr. C. Roberts, gardener to A. Nicholson, Esq., Leek; and Mr. W. Stevens, gardener to W. Thompson, Esq., Walton, Stone. Details will be found at p. 13.

The first exhibition of EARLY-BLOOMING CHRYSANTHEMUMS, organised by the National Chrysanthemum Society, will be held at the Royal Aquarium on Thursday and Friday next, and the floral committee meetings of the same society are announced to be held on October 13th and 27th, November 10th and 24th, and December 8th.

The annual TRADE SALES of Heaths, &c., conducted by Messrs. Protheroe and Morris, will take place the week after next, in the following order:—14th, Mr. B. Maller's, Burnt Ash Lane, Lec; 15th, Mr. John Fraser's, Lea Bridge; 16th, Mr. John Maller's, Tottenham; 17th, Messrs. Gregory & Evans, Sidecup; and 18th, Mr. H. B. May's, Dyson's Lane, Edmonton.

The third of the series of reports on INSECTS INJURIOUS TO CROPS, prepared by Mr. Charles Whitehead, Barming House, Maidstone, for the Agricultural Department of the Privy Council, has just been issued, and being devoted exclusively to those insects which are injurious to fruit crops, is of special interest to gardeners. It can be obtained for 7½d., and every observant worker in a garden should possess a copy.

Scottish arboriculturists consider it desirable that they should have a special journal devoted to the interest of ARBORICULTURE, and have appointed a committee to consider the matter; but as *Forestry* died for lack of support, and *Woods and Forests* was only saved by incorporating it with another paper, the prospect of success does not seem particularly bright.

WITH regard to the emission of black COAL SMOKE from chimneys, Mr. Fletcher, Chief Inspector of Alkali Works, states in his recently issued report for 1885 that "it is a curable evil, and therefore ought to be cured. In order to purge the air of our manufacturing districts of its black soot, to remove the pall of smoke which shuts out the sunlight, and enfeebles both animal and vegetable life, pressure is needed from outside, a determination on the part of the public that the evil shall cease." What is the Smoke Abatement Committee doing?

Messrs. W. H. and H. Le May's annual report of the state of THE WORLD'S HOP CROP states that after a most exhaustive and thorough examination of the hop grounds of England, they estimate the probable yield to be equal to £300,000, or an average of 9 cwt. per acre. The quality will be equal to any growth on record; fully nine-tenths of the gardens look magnificent, being perfectly free from any disease whatever, the cones are large, and of a most beautiful colour, and full of aroma. The quality of the crop is, without doubt, the best grown since 1876.

The KENTISH FRUIT CROP is now being rapidly gathered. On the whole it has been very large, and, considering the enormous quantity, Cherries had a fair sale. Raspberries, Gooseberries, and black Currants sold badly, and Strawberries were not a paying crop. There is a very large growth of Plums and Damsons, which are now selling at very low prices—so low indeed that several farmers have discontinued picking the fruit. Pears are an average, but the Apple crop is short in quantity, though the fruit is well grown out; the yield will be larger than was at one time expected, notwithstanding the ravages of the maggot. Nuts, with the exception of Walnuts, are short.

HEATING GREENHOUSES.

Now that the season is again close at hand when we shall have to contemplate the best means of keeping Jack Frost out of our greenhouses, a few notes from an amateur may, perhaps, be of assistance to some who are as yet not decided as to what they shall do. Four years ago I had my house put up, and the first winter I used an oil stove, one of the best which I could get, but which I found uncertain. One very serious disadvantage with it was that it used up all the fresh air in the house, and instead of doing good did actual harm, by robbing the plants of their absolute necessity.

I then, for the next season, put up a little shed at the back of the greenhouse, and had one of Hartley & Sugden's Conical Star Boilers fixed with a flow and return of 2-in. pipe on three sides of the house, and a more satisfactory heating apparatus it would be impossible to have. For fuel I use coke broken up rather small, and with it the ashes from the kitchen range—not riddled, but damped, and all mixed up together with the coke. I tried it the first few days so as to get well acquainted with the working of the dampers, and throughout the whole season the affair worked far beyond my expectations. Last season I lighted the fire in October, and the water in the boiler was never cold till after the middle of May, and the fire never out except I think three times when I raked all out to clean the smoke-pipe.

I make up the fire about eight o'clock at night, close the dampers, and about eight the next morning rake out the dead ashes from the bottom, fill up with fresh fuel, and leave it again till eight at night, when I always find a nice glowing fire. The regulation of the dampers is the most important point in the successful management of the stove, but to do as I did, pay particular attention to the way they want fixing, for the first few days is time well spent, and makes the after management as simple as A B C. The stove is fed from the top in the usual way, and regulated by the bottom doors, and I may say, always use the lowest of the two bottom doors, so that the draught goes into the fire from under the bottom grate, which is the only means of getting perfect combustion.

The nice genial heat thrown off by the hot-water pipes enabled me to have such a display of bloom right throughout the winter, as anyone would be proud of, especially an amateur. I had Roses, Lilies, Pelargoniums, Fuchsias, Abutilons, Genista, Coronilla, Carnations, Cinerarias, Primulas, Calceolarias, Cyclamens, Heliotrope, Petunias, Verbeuas, Tuberoses, Ranunculus, and a lovely display of bulbs of sorts, and many others, which without the hot-water apparatus would have been quite out of the question. I kept the house at about 55°, and let it run up to 60° and 65° with sun-heat in the daytime, and never lower than 45° at night. I would strongly advise those about to warm their greenhouses, to go to the little extra expense in the first place, and have a boiler and pipes, which I am quite sure would never be regretted. As regards the cost of fuel, I found my oil stove cost me never less than tenpence a week, and the present coke stove never exceeds fourpence per week.

If I have not made myself quite plain enough respecting the foregoing, I shall be pleased to explain further, or answer any question either through the columns of this paper, or directed privately to *Ellis Palmer, Millbrook, Milford Hill, Salisbury*.

CANON BRIDGE'S GARDEN AT BEDDINGTON.

BEDDINGTON House has been noted for its successful gardening for many years past, and consequently in its garden many fine old plants are to be found giving that rich display of flowers in their mature years which young plants of the same species never attain. We mean such plants as have the name of being shy flowering in young specimens or are of straggling growth, and are consequently not thought so much of in modern gardens as those which earlier attain symmetry and floriferousness. As illustrating the classes we refer to, we may out of the many such at Beddington House take two as fine examples—viz., *Asclepias curassavica*, which is usually seen with a few straggling shoots, but which Mr. T. Penfold, the gardener here, grows into large globular-headed plants 3 ft. across, and densely covered with scarlet and yellow flowers; and *Scutellaria Mocciuiana*, which he makes into a wall plant, and which forms a splendid object with its large heads of

brilliant scarlet blooms. Vincas, and many other plants which are liable to grow straggling if not in the hands of a skilful and always watchful and diligent grower, are grown equally well, their heads being formed as compactly as possible, and covered with flowers.

THE FLOWER GARDEN.

The arrangement of the flower garden is made in several sections, or, rather, several moderate-sized gardens are arranged in the different parts of the grounds, which is much better than having a large display in one place. That nearest the house and in front of the terrace (which has some very fine mosaics and groups of figures along it) is a very bright display, in which the different scarlet Pelargoniums, blue Lobelias, yellow Calceolarias, and white Marguerites as usual give the salient features. Beyond, at the end of a fine expanse of smooth lawn, is another arrangement, in which Roses intermingled with other summer-flowering plants, among which the tall scarlet Gladioli, are very effective; the whole being bounded by a belt of Yews, Hollies, and other shrubs, and relieved by an occasional giant Elm or Beech, one of the latter being a very handsome

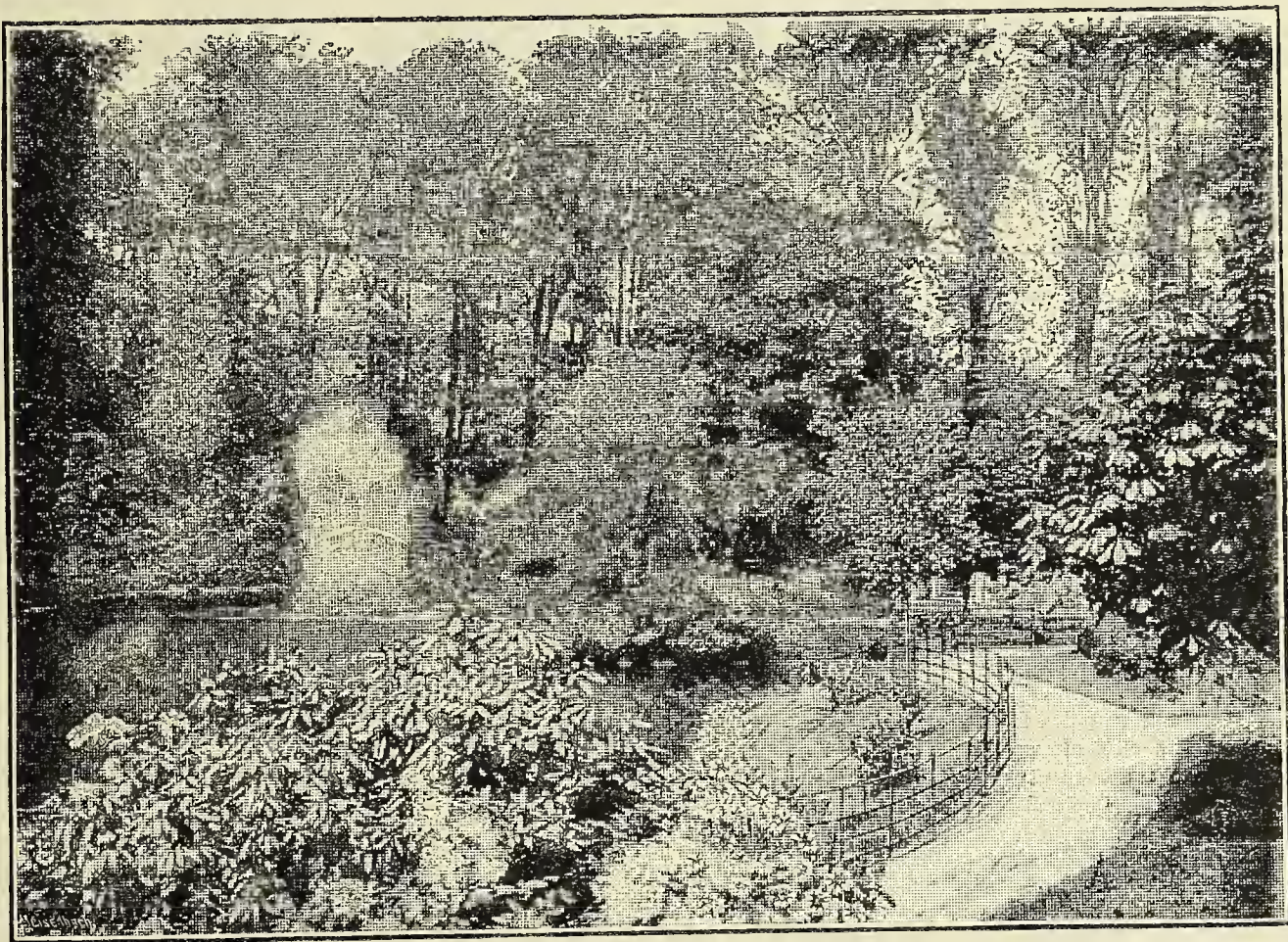
prospect. As might be expected, the herbaceous perennials are not neglected in Canon Bridge's garden, but have portions set aside for them, and the many things, such as Zinnia, Portulaca, Aster, Tagetes, Helichrysum, and other summer-flowers raised from seed are made to supply fine displays; an excellent combination of both annual and perennial flowers, Roses, Sunflowers, &c., being made in the garden in front of Mr. Penfold's house.

THE GLASS DEPARTMENT.

This is extensive, and in it the best possible culture of the numerous classes of plants is exhibited. All are clean, well grown, and of good flowering capacity or of beautiful leaf development, according as they come under the heading of flowering or foliage plants, and whenever they make their appearance at a flower show they fail not to take high honours. The tuberous Begonias, which were procured from Messrs. John Laing & Co., of Forest Hill, as seedlings, are excellent both in quality and culture, one fine scarlet, much like Stanstead Surprise, and an equally fine pure white, being two of the best examples of tuberous Begonias we ever saw in

white Stephanotis, and the scarlet-spathed Anthurium Scherzerianum. Among the foliage plants, many of them being 6 ft. in height and as much across, are many excellent examples of Dieffenbachia, Anthurium regale, A. crystallinum, Phyllanthus nivosus, Carludovica Druidii, Kentia Balmoreana, Alocasia metallica, A. Veitchii, A. Sanderiana, Thrinax elegans, Spathiphyllum pictum, Cycas undulata, and many other Palms and coloured foliage plants of equal note; nor should it be omitted that among all these huge specimens the usual run of plants required for decoration is not forgotten, for they are grown in numbers, the plants being unusually fine considering the small pots allowed them.

Among the good collection of Ferns, the notable specimens are Adiantum Farleyense, A. Peruviana, and other Maidenhairs; Bird's-nest Fern (Neottopteris Australasica), the Woodwardias, Davallia Mooreana, D. Fijiensis, D. F. plumosa, D. polyantha, D. Tyermani (whose pan has been supplemented by a turf-covered wire-work for its rhizomes to run over—a capital plan), Lastrea prolifica, with scarlet sori, and a number of other



VIEW IN THE QUARRY, SHREWSBURY. SEE P. 9.

and large tree. Some of the Elms, too, must be of great age, and great care is very properly taken to preserve them.

Along the Cedar walk, which has on either hand a row of fine Cedars of Lebanon, another bedding display is arranged on the mixed carpet and bedding plan, which is now in vogue, and which is preferable to either carpet bedding or bedding in the old style, as it gives variety to the latter, without undue prominence to the former. There is no doubt that carpet-bedding has had its day, but an occasional bed among others, or a carpet edging for a flower bed, is effective. In many of the large beds a very fine round-headed variegated Holly occupies the centre, and the surface of many of the flat beds is broken by feathery plants of Acacia lophantha, and other pretty foliage plants, and in some of the carpet-beds tufts of the Agrostis nebulosa appear at intervals, their light plumes looking like fine sprays of water. At the outside of this neat flower garden, at the back of the Cedar trees, is the shrubbery, which runs round the whole place, and in which many fine specimens of conifers have now attained a good height, and still preserving their symmetry, while in the meadow are some aged Cedars; and fine clump of golden Hollies and Wellingtonias planted in situations where they much improve the appearance of the whole

an amateur's collection. These and the many others grown with them—yellows, pinks, crimsons, scarlets &c.—are from 2 ft. to 3 ft. across, and covered with flowers of the largest size and finest substance, the handsome foliage being in every case clean and healthy. With Begonias, as with most other plants, culture makes all the difference. So grown they are grand objects in a garden, but badly managed they are poor things. In the same house the Fuchsias and the blue Plumbago capensis and scarlet Asclepias are very beautifully bloomed, and the Kalosanthes, which are growing on the shelf, are perfect specimens. In the stove houses are a superb lot of plants of the class denominated stove plants, the Crotons and Dracenas being of exquisite growth and colouring. Among the former, two raised on the place are very elegant—viz., C. superbum, a charming variety intermediate between Angustifolius and Wiesmanni, and C. gracillimum, the prettiest yellow-foliaged narrow variety we have seen.

Among the other great show plants we noted large specimens of the white and pink Vincas, Bougainvillea glabra, a mass of mauve bloom; Allamanda nobilis, with a great show of yellow flowers; Cyrtoceras reflexum, an old favourite, with bunches of Hoya-like flowers; the orange-scarlet Rondeletia speciosa; the

Ferns not usually seen so fine. Those which are benefited by being kept cool in summer, are placed in a shady frame outside, and among these Adiantum excisum, and A. capillus-veneris, and the filmy Ferns, Todea superba, Trichomanes radicans, and Hymanophyllums, are in great beauty. The fine collection of Azaleas and Ericas are in the open air, and in good order. Among the plants covering the walls and roofs in different houses was noticed in great beauty the white Solanum jasminoides, the rose Habrothamnus elegans, the scarlet and double yellow Hibiscus, Tacsonia exoniensis, Lapageria, white and red, and the pure white Passion Flower, Constance Elliot, which is a valuable plant for such a purpose. The Orchids are not grown for the sake of a collection, but there are a goodly number of them, and among them some difficult subjects in unusual vigour, such as Dendrobium superbicum, with growths 2 ft. to 3 ft. in height; Oncidium Krameri, very sturdy; and Dendrobium formosum giganteum, which here grows very vigorously in pots, although most people fail with it unless on blocks or baskets. The cool Orchids are in frames outside, and look very healthy; some Masdevallias, Miltonias, and Odontoglossums, being in flower among them. The stock of Coelogyne cristata, and Cypripedium insigne, too, seem to like similar treatment in cold shady frames, and with

them are many Brazilian plants, which are not usually so treated, but which evidently relish the cool and unstinted supply of air thus secured.

THE CONSERVATORY.

The large ornamental conservatory which is kept as an intermediate house is a pleasant adjunct to the house; in its centre bed are two tall tree Ferns, their stems being clad with *Ficus repens*, the centre between them being occupied by a large ornamental vase of *Begonias* and other plants—Palms and flowering specimens making up the group. Round the house a bright display of flowering *Begonias*, *Coleus*, *Allamandas*, scarlet *Anthuriums*, and Ferns and mosses are arranged, and from the roof depend a good collection of *Stanhopeas*, some of which bear their large wax-like fragrant flowers. Adjoining the conservatory is the rockery house, which may be regarded as one of the prettiest bits of the garden, the proportions of the handsome foliaged *Begonias*, some of which are 3 ft. across, being truly grand as they mingle with the long fronds of the *Nephrolepis*, *Pteris*, *Aspleniums*, and other Ferns with which the rock is planted; the old green and silver *Tradescantia* drooping over here and there, and proving its usefulness and beauty for such work.

The Peach and Nectarine houses, Vineries, and other fruit houses are, or have recently been all well-cropped, and the spacious walled-in kitchen garden is in good keeping with all the rest of the garden which Mr. J. Penfold manages so well. On the wall there is a good show of fruit, the trees of Cox's Emperor Plum especially being very heavily laden with its large fruits, which are excellent either for kitchen or dessert.

NOTES ON PEAS.

THE Pea season is now drawing to a close, and so far as I have had experience, the season appears to have been a good average one, although in some localities and soils the hot dry weather considerably retarded their growth and finish. I have previously stated regarding successful cropping, no matter what the kind may be, that so very much depends upon soil and season. It has, I think, been fully demonstrated again and again that whatever the sort of Pea may be grown, good or bad, fresh soil broken up deeply is the great object to aim at to ensure successful results. Poor, shallow, dry, exhausted soils never did, nor ever can, produce good crops. The only chance of their doing so has been when the weather has been warm and showery.

Old gardens which have been under cultivation for a number of years should, for the Pea crop, always be turned up at least two spades deep, with plenty of manure worked-in with the first ingoing spit at the bottom of the trench; or should this have been neglected to have been carried out at the proper time, the plan adopted forty or fifty years ago to my knowledge should be had recourse to—viz., prepare the ground in the same way as for Celery. I have always found this plan, when judiciously performed, very materially aid in improving and prolonging the produce of the plants, more especially the second and late Peas.

A report of the trial of Peas at Chiswick, 1886, is just to hand, in the perusal of which one is almost befogged by such an array of names and detailed descriptions. There can be no question but that these trials are well and carefully manipulated, and are of great service to those who may not have an opportunity of testing the numerous sorts, or supposed varieties themselves; but, however valuable this tribunal may assert itself, I do not always regard the finality of these trials, because it may so happen that those Peas reported on as being second or third rate in quality, may really turn out to prove in other soils and localities with generous treatment in every respect first-rate kinds. I have even myself sown Peas out of one bag, in different soils, and the result has been of a decidedly dissimilar character, the one being in good well prepared fresh ground, growing the height of 4 ft. to 5 ft., with fine large well filled pods of large size, while those sown at the same time in a poor exhausted soil, the growth has been short and weakly, bearing small short pods. So marked was the contrast that it seemed preposterous to suppose that the two separate sowings were made at the same time and out of the same bag, and there can be no question but that in some instances, if not of frequent occurrence, inferior kinds grown under favourable conditions, are superior to many better varieties grown

under adverse circumstances. All Peas are more mellow and tender when the season is of a genial character, any prolonged growth always militates very perceptibly against the quality of almost all vegetable productions, and I may add Peas in particular.

I cultivated Champion of England when first sent out by Mr. Fairbaird, and obtained true as it was at that time, I scarcely think that any better Pea could be found, or even desired by any epicurian of the most delicate taste. It was from this variety that I obtained my "Prince Imperial" about sixteen years ago, and which may be described as an improved Champion of England. I have grown the Prince Imperial during the lapse of time since its introduction, with most of the most popular favourites, and there is not one amongst the many tall-branching Marrows with which I am acquainted, that I should feel disposed to give the preference. Last season, I obtained a seedling from it, and my stock for sowing this spring was about three dozen peas, which by sowing in a pot and transplanting, gave me two rows about 9 ft. and 11 ft. each, 20 ft. long in the aggregate, from which I gathered one good dish early in July; the remainder of the produce I am saving for seed, a good deal of which is already harvested. The plants, although subjected at the present time to mildew, are still flowering from the lateral growth, at the same time yielding ripened seed from the old stems, which is gathered from time to time when in a fit state.

This seedling has, to my mind, some special qualities that may possibly commend themselves; it is a good table Pea, and may be classed with the branching Marrows of rather tall growth—5 ft. and upwards. The pods are comparatively very thin and small, when the yield is taken into consideration, viz., an average of nine in each pod, filled completely, almost to compressed packing. I enclose examples, not that you can judge of its flavour, but that you may note what I consider its somewhat peculiar characteristics, with reference to the largeness of the fruit yielded, in so small a space afforded by pods so small and thin in texture, and should I be spared another year, will afford an opportunity of thoroughly testing its merits on a more extended scale.—George Fry.

FEEDING AND DISBUDDING THE CHRYSANTHEMUM.*

OF all the plants and flowers that adorn our conservatories and greenhouses during the dull season of autumn and the early part of winter, there are none which surpass the Chrysanthemum. Many other plants which wake up with the voice of spring, clothe themselves in green leaves, and in due time develop their gay colours, fulfill their mission and go to rest before these invaluable and welcome friends robe themselves in their gay attire. The Chrysanthemums deserve all the care that can be bestowed upon them, and when well grown are objects of admiration, which call forth the spontaneous praises of their admirers. What with their varied colours and forms, their dark green foliage, and beautiful habit, as they can be trained into almost any shape the cultivator's fancy may dictate, they may be said to rank amongst our most useful decorative flowers. I can think of no class of plants which pays for good cultivation better than does the Chrysanthemum, but in how many cases do we see the plants treated as they ought to be? They are often huddled together in some out-of-the-way corner, where they receive the most meagre attention, and when the blooming season arrives, the cultivator wonders why his plants are not so good as his neighbour's, who gives them all necessary attention. I say give the plants a fair chance, treat them properly, and you will, for any trouble you may bestow upon them, be repaid with fine and beautiful flowers. It is, as a lover of this beautiful plant that I have undertaken to read a paper on a very important part of its cultivation; but I should wish it to be understood that I do not do so as an expert, or as a perfect professional. I am, indeed, a learner, and if we all approach the subject in the same inquiring spirit, our knowledge of these fine flowers will be considerably increased.

STANDARDS.

Chrysanthemums that are grown as standards, either for decorative purposes in houses, or for furnishing

*A paper read by Mr. E. Austin, gardener to J. H. Allcard, Esq., Broomville House, Glossop Road, Sheffield before the Rotherham Gardeners' Mutual Improvement Society.

flowers for the exhibition table, are greatly improved by frequent supplies of liquid manure, from the time the roots touch the sides of the pots until the blooming season arrives. If the plants receive their final shift in the first or second week in June, and the weather is favourable for their growth, the roots will have made considerable progress, and pretty well permeated the new soil by the latter end of July; this is the time when the feeding should commence, and, as far as my experience goes, I believe this is the most important period of the Chrysanthemum's growth. With regard to stimulating the Chrysanthemum, the old-fashioned idea of feeding the plants was only to begin after the buds were set, a fallacy which has long ago been exploded by good cultivators. I remember very well, in my early days of gardening, after we had given the plants their final shift, which would be about the time above-named, we used to stand them in the shade until the end of August, then they were brought out into the full sun, and about the middle of September we began to give them liberal supplies of manure water; but with all our care we never saw such plants or flowers as are produced at the present time. This was no doubt owing to their poor growth, and the immature state of the wood. Just allow me to say, as a passing remark, that without well ripened or mature wood we cannot attain success; everyone who wishes to be successful in obtaining fine flowers must aim at developing well matured wood.

FEEDING AT THE WRONG TIME.

To return to the subject of feeding. Of late years we have found out that if a plant is not grown with sufficient strength to swell and develop a large bud, it is a hopeless case to endeavour to obtain fine flowers by giving the plants strong doses of manure water in the last stages of their growth. I know that in some cases the old plan is still adhered to; no stimulants are given until the flower-buds appear. Strong doses are then given at long intervals; the result is that many collections are badly grown, or, perhaps what is a more common occurrence, they are greatly injured, and, in some cases, altogether ruined (I mention this as a very important fact). But let there be no misunderstanding, that even now the feeding of these plants is very imperfectly understood by many; the resources of the Chrysanthemum have not yet been fully developed; but we are learning more and more, and in the future finer plants and flowers will be produced. But to be clear with regard to the feeding, we must take into consideration the nature of the compost the plants are potted in, also the time of potting; the size of the pots, as well as the nature of the drainage. To some this may appear trifling, but it is the foundation upon which we must base our treatment if satisfactory results are to be obtained.

WEAK DOSES AT FIRST.

In commencing to feed the Chrysanthemum, it is a safe practice to let every second or third watering be of weak liquid manure, specially prepared for the purpose, and gradually increase its strength until the time when the flower buds are formed; after which the strength of the liquid should be considerably increased, according to the capacity of the plants for utilising it. Always commence by applying it weak; I begin by giving it every third watering for the first three weeks, at the end of that time every second watering for the next month; they then have manure water every time the plants are watered until the latter end of August or beginning of September, which is the time the buds are forming, when they have the liquid considerably increased until the buds begin to colour. At this period the strength of the manure must decrease, for if given too strong after that time, it will cause the blooms to open before they are fully developed; therefore, gradually decrease the strength with every successive watering, until you get back to clear water. Ever remember that the Chrysanthemum is a gross feeder, and that it must never be allowed to suffer for the want of water, for if once it becomes dry at the roots, it receives a check from which it scarcely ever recovers.

THE BEST KIND OF STIMULANTS: INSECTS, &c.

The sorts of liquid manure which I have found the best to use, are drainings from a stable or cow yard, diluted according to its strength; guano, at the rate of 2 ozs. to 3 ozs. to the gallon of clear water; and cow manure, mixed with soot, which is very beneficial; the cow dung feeds the plants, while the soot gives to the leaves a dark green colour, and a healthy

to ne to the plants. Pigeon manure can also be used with great advantage, and is undoubtedly one of the best of manures for the Chrysanthemum. But as they like their diet changed, it is a good plan to give them the different kinds every alternate week. Top-dressing is also a good help to them, that is if room has been left for that purpose, at the time of potting up the plant into the blooming pots. Look well after insects of all kinds that are enemies to the Chrysanthemum, especially earwigs; these must be constantly looked after and destroyed, or else they will soon destroy the plants. Green-fly is also troublesome, and if left alone will soon do much mischief. Sprinkle a little tobacco powder on the points of the plants at night, then in the morning go round with the water can and syringe and wash it all off, give another application if needed. The plants should also be syringed overhead night and morning in bright sunny weather, and the ground made damp on which the plants are standing. The strength and colour of the foliage may also be very much improved by syringing with very weak manure water. If these directions are carried out, and if the plants have been properly treated from the time they left the cutting pots until now, they will be fine plants, and the reward will be fine masses of bloom during November and December.—*E. Austin.*

(To be continued).

GARDENING NOTES FROM SCOTLAND.

"Queen Mary's Tree."—Some years ago the gigantic Plane [Sycamore?] growing at Little France, near Craigmillar, Midlothian—which, it is alleged, was planted by Queen Mary—showed indications of decay, and fears were entertained that it would succumb to a high westerly gale. In order to preserve this historical tree as far as possible, the proprietor of Craigmillar, after consulting competent authorities, had the top branches cut off, so that it would offer less resistance to the wind. The tree, says *The Scotsman*, has once more found itself famous on account of the recent notice taken of it by the Queen, who has now at Balmoral a sapling grown from its seed, which was presented to her at Dalkeith Palace. Since that little incident found its way into the newspapers, the overseer at Craigmillar has been inundated with letters from all parts of the country—not a few from Canadians and Australians at present in Britain, asking if they, too, can have a seedling from Queen Mary's tree, as an interesting relic of Scotland's ill-fated Queen. These he has, it seems, been able to answer in a way very gratifying to the relic hunters; for it so happens that the year before the tree was cut it produced a goodly crop of seed, which was sown down in the neighbouring nursery, and produced an abundant supply of young plants, not a few of which have been since transplanted to decorate other portions of the Craigmillar estate.

Notes from Parkhall, Stirlingshire.—When I gave a brief report of the doings of this extensive fruit-growing place last year, I was hardly prepared for such an extension of glass as has been added this season—a range of span houses forming three structures, 250 ft. long each—a goodly amount of glass accommodation in itself for one place. It is probable that these very useful houses will be utilised for the growth of Cucumbers, Melons, Tomatos, early Grapes, &c. A succession of Cucumbers were already planted, and showing fruit in several of the divisions; so were also Tomatos. Evidently our countrymen must be acquiring a taste for these wholesome fruits, for the yearly increase of their cultivation is immense.

At Parkhall the Vines have this year done remarkably well—certainly there is no retrogression from last year—and those who saw the first-prize bunches in some half-dozen classes at the November show, held in the Waverly Market, Edinburgh, last year, may expect to hear of the Parkhall Grapes again. All the most useful kinds are well represented; the even outlines of the very handsome bunches, heavy crops, and large leathery foliage, shows that Grape-growing is a speciality at Parkhall of no mean order. I noticed the often disputed Bowood Muscat in fine form, outdistancing its compeer the Muscat of Alexandria in ripening; such results in the same house are very conclusive. To describe the stone fruits trained, and in pots, also Pears and Figs in pots, would be going over

the same ground as we did in our report last year. The enthusiasm of Mr. Murray, the gardener, has in no abated, *Excelsior* being his motto.—*M. T.*

Notes on Bedding Plants.—I notice among bedding plants, this season, a strong tendency to develop foliage at the expense of flowers. In cool and moist districts this is very general, and should a wet autumn set in, much may be lost by the decaying of the rank foliage. As a preventive of this, in some kinds of plants—Pelargoniums especially—a general stripping of the foliage may be made. We have been over the plants twice this season already, and the results are most satisfactory. Having put this plan in practice for many years, I recommend it to amateurs and others as safe; and when cuttings are taken off—which may be in the course of ten days or so after the denuding of the foliage—they will be found less sappy and more ready to stand a little rough treatment during the winter. The bottom leaves are the first to decay in the beds, and may be cleaned out somewhat severely. Other leaves may be thinned off, exposing every flower-bud to the light, when they will open unmolested by damp. The tops of the shoots can be nipped out, leaving the upper bud, which soon opens. I have often cut round the roots of such plants as Heliotropes, Verbenas, Gazanias, &c., with a large knife, stopping the growth and allowing flowers to open unmolested. Where the soil is dry, light, or sharpened with sand, no such precaution as this is necessary; but a good soaking of manure-water would be advantageous instead. I notice some Begonias (tuberous-rooted) which were left in the ground over the winter doing better, standing wind especially, than they did planted out of pots on the same space last year. Some spaces which were planted thinly because of scarcity of kinds, and the surface of the soil covered with Sedums, are doing very well; and though the Sedums are now being covered over with foliage, they do no harm to the larger-growing plants, and the soil has been hidden all the season. Propagation should now be pushed on rapidly. Good sandy loam placed in thoroughly-drained pots, boxes, or pans, with an increase of sand on the surface, suits most plants well.—*M. T.*

Planting Shrubs.—The season is at hand when this work should be done as expeditiously as possible. Large shrubs of the evergreen class, prepared last year by cutting round the roots and going under them with the spade will now be in fine order for lifting, and when they are removed require a free, healthy, and not heavy soil next the roots, and a good mulching with rotted manure; thoroughly trenched land with free drainage is very essential to free growth. Deciduous trees and shrubs are better when planted about the period their foliage begins to drop, and when growth is fairly matured. A number of Yews from a hedge, which were planted in lines during the early days of August, three years ago, have done remarkably well, and have now grown into nice specimens. If roots of old trees are in the ground where trees and shrubs are to be placed, it would be well to remove them; but young trees placed among old healthy specimens is a great mistake.—*M. T.*

Chrysanthemums.—A general overhaul of the Chrysanthemums should now be made—surface clearing and giving a dressing of rotted manure and loam—supplies of liquid manure may be given, especially to plants which have well filled their pots with roots; roots should not be allowed to grow through the pots. Secure staking is now very necessary, but this is often done to the extreme, and the plants suffer thereby in appearance. Where the plants have been turned out of their pots in a border or other suitable space, they should have the spade put round the balls of soil in which the roots are matted, preparatory to lifting, well water them, and in the course of a week or two they will be ready for removal to their flowering pots; for extra large blooms this plan does not suit so well.—*M. T.*

Royal Northern Horticultural Society of Aberdeen.—The autumn exhibition of the Royal Northern Horticultural Society will be held in the Music Hall Buildings, Aberdeen, on Friday and Saturday, 10th and 11th of September. There are 165 classes with three awards in each, making 500 prizes for competition. These classes are divided into four divisions—professional gardeners, nurserymen, amateurs, and working classes—and the exhibits comprise four sections, namely, pot plants, cut flowers, fruit, and vegetables. The opening ceremony will take place on Friday 10th September at noon, when Lord Provost

Matthews will preside. As usual there will be a musical promenade—a fine band supplying the music. Entries close on the 6th September. Notwithstanding the backward state of the season, it is fully expected there will be a large number of exhibits.

THE AMATEURS' GARDEN.

THE FLOWER GARDEN.

Where water has been liberally supplied during the dry weather, the flower beds still continue bright and beautiful; but if that point has been neglected, large numbers of plants will be in a very unsatisfactory condition. With due care and attention, the former will last for a long time yet, but the latter will be of little use except to furnish cuttings or seed for another season. Some hints were given, a few weeks since, on the desirability of early propagation in the case of Pelargoniums, as these could be readily struck out of doors, and subsequently taken up and potted. If sufficient stock was not taken at the time, some more cuttings should now be inserted under glass, either in pots or boxes, the latter being convenient where pots are scarce, and the cuttings can be safely wintered in them if not crowded together, a mistake that is too frequently made in wintering plants of all kinds. Whether for cuttings or plants that are to be preserved during the dull season under glass, rich soil should be avoided, as it only tends to encourage a sappy growth that is most unfitted for enduring either cold or damp.

This especially applies to Pelargoniums; but is also true as regards all other kinds of bedding plants, such as Iresines, Alternantheras, &c. Of the last-named two some prefer to keep old plants during the winter, but the best way is to have a few pots of cuttings, proportionate to the number to be required in the next season. Insert these cuttings early, so that they will become well-rooted, sturdy, little plants before dull weather sets in, hardening them well by exposure out of doors. These, if in light sandy soil, keep much better than old plants, and in the spring a stock can be quickly obtained. If they are potted and encouraged to grow in plenty of heat and moisture, abundance of cuttings will be secured.

Lobelias may be treated in a similar way. Calceolarias are best struck in cold frames; but it will be advisable to wait a week or two before inserting cuttings of these, as they are more likely to fail in hot dry weather than they are later in September, when the temperature is lower.

THE VEGETABLE AND FRUIT GARDEN.

In large gardens it is a serious undertaking to supply the vegetable crops with water in a dry season, but in most amateurs' and suburban gardens this can be accomplished without any great difficulty, and just now it is almost indispensable to preserve many crops. Where mulchings have been employed over the roots of fruit trees the full benefit will now be reaped, for without some provision of this kind the fruits fall prematurely in a hot dry period like the present. Apples and Plums especially suffer from drought, and a good drenching of water over their roots will prevent much loss and encourage the fruits to develop to their full size, which otherwise they are not likely to do.

It is astonishing how quickly Apples feel the drought, which checks the growth of the fruit, and a crop of undersized and poorly flavoured samples is the result. As these and other fruits mature they should be gathered carefully, either for immediate consumption or stored in a cool place for keeping; most of the early fruits, however, are bad keepers, and some of the early Pears in particular should always be gathered before they colour, or they will be found "sleepy," and otherwise unsatisfactory.

Dig all early, second early, and mid-season Potatoes that are sufficiently advanced, though of course there will be few of the first named now remaining. Place the tubers in a cool dark shed, but not damp, and it is advisable to carefully sort them before placing them under cover, removing any that are suspected to be diseased, and placing aside those intended for seed another year. Our latest Peas, *Ne Plus Ultra*, are now nearly over, but we have an abundant supply of Scarlet Runner Beans. Cauliflowers are excellent, and Vegetable Marrows are also good where they have been liberally watered.—*Scolytus.*

AUCTION SALES AT COVENT GARDEN.

"Draper's sellin', Draper's sellin'" yells a young fellow as he rapidly threads his way amongst the multifarious packages piling the floor of Covent Garden Market. Mr. Draper is one of a firm of fruit brokers, devoting themselves to the sale of foreign imports only. The sound of a hammer rapped in quick succession guides the would-be buyer to their stand, which is situated in what is known as the "Long Market," as distinguished from the "Apple Market" on the north of the Central Arcade, and the "Short Market" fronting the church of which Inigo Jones was the architect, and beneath whose broad portico many an early bird takes his "forty winks" just before dawn. If all Covent Garden were as well lighted and as spick and span as the Long Market, there would probably be less public abuse heaped by Mr. Punch and others upon that institution. Ten or a dozen years ago it was roofed with iron and glass, and made weather-tight, and it is a satisfactory thing to know that his Grace the Duke of Bedford, has it in contemplation to provide both the Apple and the Short Market with a similar roofing, which will be a great improvement.

Attracted by the rapping of the hammer, a miscellaneous throng gathers about the auctioneer's stand, which consists of a long elevated desk furnishing accommodation for four persons. Affixed to it are little boards having thereon the names of the auctioneers; and there is also a large slate notifying that cases, baskets, pads, and barrels of fruit just arrived in the Thames will be offered for sale. There is also a placard of the "conditions," which set forth that a deposit of £2 is required on lots of £5, and of £1 on lots under that sum. Goods are to be removed at purchaser's risk, with all defects of marks, quality, and inaccurate description. Balances of cash are payable in coin or Bank of England notes; in cases of dispute the lot is to be put up again; and lastly the auctioneer reserves the right to refuse the bidding of any defaulting or objectionable person. Underneath the auctioneer's pulpit is a broad ledge or counter, behind which stand two white smocked men, each armed with an iron wrench. In front and around, standing on forms and packing cases, and even perched upon lofty tiers of fruit boxes, so as to occupy a commanding position, the buyers station themselves.

THE SALE BEGINS.

Business speedily commences, and the bewildered stranger presently hears something like the following:—"Now then, five long cases of Pears, ten in a lot, first bid, 3s. 6d.; 3s. 6d. bid, 3s. 6d. bid; 4s., any advance on 4s., any advance on 4s.; 4s. 9d., 4s. 9d. in two places, 4s. 9d. bid; 5s. (*rap*). Ten more, last buyer (*rap*); ten more, ditto, ten more, ditto; ten more, last buyer. Away with 'em. Next lot. Large cases of Walnuts, ten in a lot, 3s., Robinson, Thompson, Jacobs; last buyer, 3s. (*rap*); ten more, 3s. 3d., ten more, 3s. 3s., ten more, ditto (*rap, rap, rap*). Two boxes of Peaches, marked 40 extra, 2s. These are extra, gentlemen, two lots, eight and seven."

This does not proceed simply from one man for all four occupants of the desk, together with the package-openers, engage in the hubbub, and sometimes all four join in chorus. The reason for this is not at first intelligible, but the explanation rests in the fact that whilst only one man has the hammer it is the task of the other three, including the booking clerk, to discover the bidders, and to shout out their advances. Thus all four may simultaneously notice a bid and publish it in a united bellow. The four pair of eyes sweep the crowd. A gentleman of military aspect, with arms crossed, will scrutinise one half of it; the auctioneer will follow his example in the centre, his other colleague will take the remainder, and the clerk looking up from his book will drop in at unexpected moments upon buyers in the same way. The latter has not much leisure for it whenever bidding is brisk; and, sometimes the hammer falls and rises to fall again continuously. The rapidity with which hundreds of parcels are knocked down is surprising. Very little breathing time is allowed. Mistakes are, of course, inevitable, but the more serious are avoided by the buyers calling out "How many does that make?" and the clerk shouts back again the total number of packages which have been knocked down to the enquirer. Fractional differences as to price when they occur are generally settled by comparison with the values of similar lots,

but on the whole there is seldom a necessity for the salesman and buyer to disagree. Rough and ready though the system of sale is, it seems to be effectual.

BUYING IN SILENCE.

It will have been observed that the buyers appear to take almost a silent part in the business so far as bidding aloud is concerned. Lots may be sold out after the other without a clue as to the identity of the purchaser; names are only given when there is room for any doubt. Indeed, purchasers seem to distrust the sound of their own voices, or perhaps they wish to conceal from their neighbours what they are doing. If they wish to make an advance they signify it by holding up their fingers, or in a variety of mute ways perfectly familiar to the eagle eyes of the auctioneers, but not so easily discoverable to the observation of the public. Hence, it follows, that an auctioneer knows every accustomed buyer, and can immediately detect the presence of a stranger. These buyers are dealers, who buy goods in London to despatch to provincial markets, speculators, greengrocers, and costermongers. The Jewish element is strong. Chaff is not very plentiful, nor very witty; but on the other hand there is a minimum of bad language, except under provocation, such as when a corner of a box is jammed into a person's eye. Boxes or cases carried on the heads of licensed porters are always on the move, giving the heaps of packages the appearance of their being alive, for the porter is more or less hidden by them as he runs in and out the alleys which are formed.

SELLING BY SAMPLE.

All foreign fruit is sold from the sample. Two packages taken at haphazard are roughly opened in sight of the buyers. If their inspection of these two is not satisfactory, then two more are ordered up. Purchasers are assisted in their judgment by an intimate knowledge of the marks. These marks represent the several French packers or growers. The English buyer does not stop to enquire who "P. H." is; it is sufficient for him to know that "P. H." sends good Pears to market well packed. As a rule the coster dislikes to see any great quantity of paper shavings in a box. He calls it "fluff," and he imagines it is put in it to hide shortcomings. One seldom sees a buyer handle a sample; but he takes the word of the package-opener that a case of Pears somewhat "gone" at the top "are all right underneath."

SALE DAYS.

There are eight or nine firms who sell by auction in this manner, and it may happen that as many as four auctions are proceeding together, two in the Long Market and two others in the Apple Market. When such is the case, the confusion of the whole business to the uninitiated is quadrupled. It is a veritable Babel. These sales are not held before ten a.m., and, generally, they do not take place on market days—Tuesday, Thursday and Saturday—when English fruit pours in abundantly. On Mondays, Wednesdays and Thursdays, however, great quantities of Paris fruit are disposed of at Covent Garden—much more than meets the eye of the public. It is only possible approximately to estimate the extent of this importation, as no distinction is made in the returns between home-grown and foreign fruit; but the great bulk of the trade has sprung up during the last ten years, chiefly owing to improvement of the means of communication by land as well as by sea. The market toll of ½d. per bushel is payable only upon stuff brought into Covent Garden, and the amount of the toll does not represent the aggregate sales. For instance, on a recent occasion over 39,000 bushels were entered in one day—rather a heavy average; but the actual sales covered a much greater quantity. A ship may be in the Thames with a cargo of Apples; a lot of one hundred barrels is brought to market, sold by auction, and the price for the whole is thus determined, so that the Apples may be sent into the provinces without coming to Covent Garden at all. It is fortunate that it can be managed in this way, for the accommodation at Covent Garden is admitted to be much behind the necessities of the trade, which is far in excess of what was originally contemplated.

PACKING: ENGLISH AND CONTINENTAL.

In the fruit market the auctioneers' stands are placed in moveable pens built up in the centre of the building, and surrounded with sieves, half-sieves, lough baskets, besides the neat wooden boxes, and natty looking pads which are used by the foreigners. There is a very

great difference between the English and continental systems of packing, as anyone can see at a glance. Here, Greengages and Plums, with some exceptions, are thrown into the sieves without any pretence of appearances, whereas, the Frenchman exercises the greatest possible care in sending fruit to market. English growers would do well to take a leaf out of their competitors' book, for a tasty arrangement has a real cash value when goods are submitted to auction; and it is well to remember that although the trade in English fruit which commences at four a.m. is conducted by private barter, it not unfrequently happens that salesmen will put up a portion of their consignments to auction. Consequently there may be several such small sales going on from nine p.m. until midday.

MARKET "CHARACTERS."

It is amusing to note the peculiarities of the several auctioneers. There is the gentleman who runs on without break, with more than a suspicion of a Jewish lisp, and wirling and balancing his hammer incessantly. He is the reputed "King of the Market," and his voice may be heard all over it, crying, "Four bid, four bid, any advance on 4s.; four and three bid, four and three bid, any advance on 4s. 3d.; going at 4s. 3d. (*rap*). Then, again, there is the gentleman who has a pronounced nasal twang, another who has a very loud voice, and a third who has a gleaming set of teeth, and is not above cracking a joke. You have also the melancholy man, the amusing man, familiarly known as "Simmy," and a smart young fellow whose characteristics are not unlike those of Edward Terry, the actor.

A hundred types of character may be picked out in the crowd. The suburban greengrocer is not usually in strong force after nine a.m.; still, he may here and there be seen. Not a few of the bystanders smoke short clay pipes. Most of them wear shockingly tattered coats, and every description of head-gear, the flat market cap, perhaps, predominating. The coster may always be discovered by his neckcloth. A silk handkerchief for the throat is indispensable to him, be the weather as hot as it may, and if in addition he can boast of a thick winter overcoat, and tightly buttoned up to the chin, he seems better able to bear the sultry heat of August. He is a decent fellow, however; still, the general public will not gain much by bidding against him. He has been known to run up a lot, in conjunction with his friends, to an exorbitant figure, in order to prevent an outsider from entering the ring, and the loss incurred has been shared amongst the *clique* afterwards. Costermongers, when they cannot take a large lot themselves, will divide it among their fellows. Sometimes as many as forty packages or, perhaps, twenty bushels constitute one lot; but it may happen that a single box of, say, eighteen giant Pears is put up. For the reason given an ordinary purchaser would have no chance of buying it.

GROWERS AND SALESMEN.

Whatever the disability to which the consumer may be subjected by market usages, the grower has no ground for complaint. The spirit which is at the foundation of the management of the market, despite its critics, is that it was chartered for the public good. A grower who imagines that a salesman is not making fair prices is at liberty to take his stand in the market and sell without the intervention of any middle man. There are several English growers who actually follow this course, and they are better able to judge of the fluctuations which occur in prices and of the causes of a glut. About half the area is let at annual rents, and these tenants are not charged toll, bringing into the place whatever they choose; but the weekly tenants recoup the proprietor of the market by paying toll levied on their consignments, and it is on the latter system that the foreign trade is chiefly rated.

THE QUARRY, SHREWSBURY.

In our report of the annual summer exhibition of the Shropshire Horticultural Society, held on Aug. 18th and 19th, brief allusion was made to the beautiful site on which the annual fête is held—the far famed Shrewsbury Quarry, and by the courtesy of Mr. Adnitt, of the firm of Adnitt & Naunton (the indefatigable joint honorary secretaries of this flourishing society), we are now enabled to place before our readers two views, prepared from photographs taken by Mr. Adnitt himself. Both of the illustrations depict views in that part of The Quarry known as "The Diugle," and which

during the last ten years has been improved almost beyond recognition, thanks in a great measure to the generosity of the Horticultural Society in devoting large portions of its handsome profits to planting, laying-out, &c.

The Quarry covers an area of some twenty-three acres, and is somewhat triangular in shape, the base being a sweeping curve bounded by the river Severn. With the exception of a short distance on the side opposite St. Chad's Church, the whole is bounded by magnificent avenues of Limes, and another straight avenue of the same age and character intersects the triangle, dividing the undulating park-like ground into about two equal portions. Entering The Quarry by the very handsome iron gates, made at a cost of £160, and presented by the society to the corporation in 1883, the visitor will not fail to notice and admire the artistic cottage in which resides the quarry inspector, Mr.

spot, and a credit to all concerned in its arrangement. Than the Quarry itself, few other towns possess public parks of so beautiful and interesting a character, and very few indeed possess so pretty a spot as The Dingle. If treated as a sub-tropical garden, for which it seems naturally made, its beauty would be still more enhanced. The introduction of a few dark-leaved Cannas, and Castor-oil plants, noble foliaged Wigandias, and a few Palms, would add a richness to the scene that all would be pleased with.

Much more might be written about Shrewsbury Quarry, and its historical associations, but space forbids, and we will merely add, for the benefit of those who may be interested in the subject, that much information of an historical and descriptive character has been compiled by its custodian, Mr. Dove, and published in the form of a small guide book, which can be obtained from Messrs. Adnitt & Naunton.

quite so abundant are the lilac shades, but still there is plenty to choose from. Others there are of rosy purple and purplish tints, and others still in which scarlet predominates. Given this rough view of the leading colours, it will be an easy matter to realise what an assemblage of forms and what a marvellous effect these have late in summer and on into the autumn months, and if, as I have previously hinted, a good selection of colours has been procured, then may you have them in any quantity you like without fear of monotony. Still, I wish to be clear upon that point, for I do not infer that I give preference to an overwhelming quantity of anything, for that is the point I would have all aim to avoid, and in reality am I now pointing in particular to these Phloxes, that they may be introduced among the composites now holding sway, and thus make up a most fitting and pleasing arrangement for the autumn months.



VIEW IN THE QUARRY, SHREWSBURY: THE "DINGLE."

W. H. Dove, and which was presented to the corporation last year, the cost of the same, £500, representing the profits made by the Horticultural Society in the same year. Proceeding onwards down the central avenue, the visitor will note the thriving specimens of *Cedrus deodara* on either hand, the trim-kept lawn and presently, on the left hand, the subject of our illustrations—The Dingle. If the said visitor happens to have been familiar with the place in years gone by, he will not fail to recollect its former state—an indescribably dirty hole of somewhat considerable dimensions—and he will rejoice at the change that has come o'er the scene, for truly has the desert been made to smile.

The sloping banks have been most judiciously planted with handsome trees and shrubs, well kept walks have been so made as to bring into prominent view the leading features of the situation, the dirty pond has been made into a lake of pleasingly irregular outline, and gay beds of flowers add the charm of brightness so naturally associated with them. It is indeed a beautiful

HERBACEOUS PHLOXES.

THESE are now filling the air with their welcome fragrance, which, though delicate, leaves nought to be desired. A few clumps of these in the herbaceous borders just now very materially assist in brightening the general view, especially if a fairly good selection in point of colour has been procured. The number of good varieties is almost endless and their colours equally diversified, and considering that they may be had so marvellously cheap, a selection should find a place in all gardens. Soon—aye, even now—are borders teeming with yellow and golden composite flowers, of which we are really overdone, so much so that the introduction of such things as are widely different from them in general aspect becomes almost a matter of necessity, and no greater departure all round can be secured than a choice assortment of herbaceous Phloxes.

In colour they vary from the snowiest and purest whites to the most intense and vivid shades of salmon, rose, crimson, vermillion, and so forth. Whites with conspicuous coloured centres are also numerous. Not

To have the varieties of these Phloxes in perfection, they must be abundantly supplied with water in early summer and throughout their flowering period, for they are great drinkers; and notwithstanding which, by making a great quantity of surface-roots, they feel the heat much more quickly than those plants which thrust their roots deeply into the earth. To procure fine heads of bloom they require a most generous treatment, by which I mean that you cannot have the soil too rich to give nourishment to all the many roots which are formed, and which may be seen *en masse* about the base of the plants. Respecting their propagation I may say one or two words, and this, from the ease with which they are managed, will, I trust, encourage not a few to take them in hand. They are among the simplest of soft-wooded herbaceous perennials to manage, and cuttings may be secured in early spring when young growths are abundant, or they may be had when flowering is complete. By adopting the first-named process, the plants will flower during the autumn of the same year, and somewhat later than the

original batch, thereby making a good succession to it. To attain this end they should be grown on steadily, and planted out when of sufficient size, receive every encouragement in the shape of water and so forth, but should not be pinched back at all. They will each produce a fine panicle or head of flowers, and few plants are more effective than these during their day. For autumn cuttings secure the half-ripened growth, and dibble them in sandy loam at a sufficient distance apart that they may remain till spring without being disturbed. By this time a quantity of roots will have been formed, and as soon as growth commences they may be potted. It will be hardly necessary to add that young plants outstrip the old ones for producing large massive spikes, and that plants are never in better condition than the second season after planting, so by inserting a few cuttings annually you may always rely on having good healthy-flowering plants, especially if they receive the simple though very necessary attention.

A few of the very best varieties are Queen of Whites, White Lady, Virgo Maria, and Jeanne d'Arc; these are all grand whites, having fine handsome trusses of the purest white, and all well-formed flowers. For a vermilion-crimson, *Coccinea* is almost unique; for salmon-reds and similar shades, I strongly recommend J. K. Lord, amabilis, Liervalli, Lothair, and Roi des Roses; all these are remarkably good. Richard Wallace has large, well-formed, clear, white flowers, with carmine eye, very effective; Menotti has delicate, shining, rosy lilac flowers, very beautiful; and Gloire de Poiteau has rosy lilac flowers. There are besides these several hundred so-called named varieties; but the object should be to aim at distinct and effective kinds, and not to worry oneself too much about those possessing some particular shade that you may have imagined you saw to-day, but which has departed on the morrow.—J.

FLORAL STYLES.

WATER LILIES are combined with blue Cornflowers effectively. "Bullrush baskets," so flexible that they can be drawn into almost any shape, are filled with water Lilies and the ragged blue flowers; then they are drawn together with a sash and a cluster of sea-weeds, with a few water Lily buds with long sedgy stems. This is the most favourite souvenir basket made up for gifts at summering places.

Garlands of flowers are the most stylish arrangements now worn. These are placed on dresses in various ways, and are the perfection of grace. A garland of small pink Asters and Smilax was worn from the left shoulder, extended across the bodice and nearly to the edge of the skirt on the other side. The dress was pink crepe. A garland of Lily of the Valley and Asparagus vine was worn on the side panels of a white silk mull gown. These garlands are made narrow and light, and are finished at the end with a fringing of flowers or foliage.

The garlands for sun-hats are made mostly of blue Cornflowers or pink Pea blossoms. Brunettes wear garlands of single Dahlias, which are very showy on black dresses. Some of the prettiest garlands contain grain intermixed. Wheat and Rye add lovely effects; clusters of this grain are placed on sunshades and on fans. The devices for carrying flowers when in full dress during the warm season are numerous. A lace handkerchief is pinned just below the belt on the left side of the skirt, and this is so folded that it will hold a cluster of blossoms, their stems being permitted to protrude from the side opposite the flowers. Small lace aprons have one side caught up so as to hold a bouquet, which is made flat and with very fringy foliage. These aprons are worn at lawn parties when it is inconvenient to carry the flower bunch in the hand. At a beach party given at the sea-shore there was a pretty arrangement made with oars, which were crossed and pushed in the sand. Over these was thrown a seine, which was used as a flower holder. There were nosegays of many descriptions in it, and it was an extremely picturesque object. The table was laid near it, and each lady received a miniature scoop-net made of fancy-coloured silk cord and containing water Lilies.

A graceful fashion is the fastening of the veil with a knot of flowers. Veils of all descriptions, from the green and blue ones to the illusion net which is put on because becoming, are the accompaniment of all walking costumes at fashionable resorts. The veil is crossed

at the back of the head, drawn in front and tied on one side, where a few long-stemmed Roses, Cornflowers, or Pea blossoms are pinned-in with a fancy lace-pin. When white illusion is the veil, Maiden-hair Fern leaves finish the knot frequently instead of flowers.

The Campanello Marguerite bell, which is now the talisman or amulet, made in silver and gold by the fashionable jewellers for engaged parties, is to be the leading token in flowers the coming season for engagement gifts, engagement-party decorations, and wedding decorations. The original Campanello bell, as the legend goes, was found in an ancient ruin in Rome, and as the hieroglyphics cut therein when deciphered signified no end of prosperity to the possessor, it was presented to the Princess Marguerite, of Italy, who adopted it as her talisman. With this romantic history the Campanello bell is all the rage in fashionable circles, and bids fair to have a "run" in flowers that will exceed even that of the horse-shoe, magnet, and other designs of sentiment. It is not to be made up at all like the regulation wedding-bell. I shall give a full description of it in September, as it will not be wise to set it ringing before the fall season opens.—*American Florist*.

THE CULTURE OF CHINESE PRIMULAS.

So much has from time to time been written upon the treatment best suited to *Primula sinensis*, that some may reasonably consider it unnecessary to take up valuable space with a subject so well understood; but although it is quite common with most gardeners to have a good show of Primulas during four months of the year, it is not so well known that they may be had in good condition for fully seven months, as was the case with us last year, and if any reader may desire to prolong the ordinary season of the Primula, they may do so with a little attention to the following points:—First, as to seed sowing. Many fail to get a sufficient number of their seeds to germinate through a mistaken impression that seeds require to be sown in a very fine soil, if not sand itself, and very often I believe seeds are condemned as bad, while the fault may easily be traced to this system of sowing. The mode of treatment I have found most suitable is to prepare a small quantity of moderately fine loam and leaf-soil in equal parts, with just sufficient sand added to keep the compost porous; two or three 6-in. pots should then be prepared for the seed. Half fill the pots with crocks, and in these place a little rough soil or fibre; fill the pots in the usual way with the prepared soil, and sow the seeds, lightly covering them, but not adding sand to the surface after sowing. This is often done, but it cannot be too strongly condemned, for where fine sand is used to cover seeds alone, there is pretty certain to be a close uncongential surface for the seeds, and which in some degree prevents germination taking place satisfactorily. We sow early in March, and again at the end of April, and from the first sowing we get plenty of flowering plants in succession, from the first week in October till the end of January, and from the second, or last, sowing we have a good supply of fresh plants from December and January till the end of April or early in May.

TREATMENT OF THE SEEDLINGS.

As soon as the seedlings are large enough to handle, they should be pricked off into 6-in. pots or pans with good drainage; the latter, indeed, is a very important point to bear in mind in all stages of their growth. The Primula dislikes a close, soddened compost, and will never thrive in such; therefore good drainage and rather rough soil (in reason) should be strictly adhered to. When Primulas damp off it may generally be traced to the stagnant nature of the soil. After the young seedlings have been pricked off as advised, they should be returned to a stove temperature, and be slightly shaded, and very soon all will be growing again. In about a fortnight they will be ready for another shift, for if left too long in the seed pots they soon become drawn.

The treatment I recommend from this stage onwards is somewhat different to the ordinary course of procedure, for instead of using small thumb pots we again prepare boxes or pans, and either are suitable. They are then planted in boxes 2 ins. apart both ways, and each box will contain from thirty to fifty plants. After being watered, an early Vinery is a suitable place

for them until they are nicely started away, when they should be gradually hardened off to a greenhouse temperature. My reason for putting them in boxes instead of using thumb pots is, that when Primulas are potted in such small pots, it is difficult to keep them all in a healthy growing condition, and under the strictest attention there is generally a third of them dry, while the remainder are too wet, with possibly an unwholesome green scum over the surface of the soil. It is in this stage when Primulas receive a severe check for weeks, and some are lost; but when planted out in boxes as advised, they are much easier to keep growing on in a healthy condition, and will make plants twice the size, in a given time, of those that are started in thumb pots.

POTTING OFF.

After the plants have filled up the space allotted to them in the boxes, they will require potting into large 60's, and three or four weeks later they are ready for their second and final transfer into 5 in. and 6 in. pots. After this potting cold frames are the best structures for them where suitable ones are at hand. A light shading from very bright sun is beneficial, and a dewing overhead with the syringe every evening after bright days will suit them well, and by the end of August a few flower-spikes will be pushing up. These may be removed with advantage to the plants for three or four weeks until the middle of September, after which period it is neither necessary nor of any advantage to the plants to remove the flowers. If the treatment above indicated is carried into practice cultivators will by October be rewarded by a fine batch of sturdy flowering plants worthy of the name, and which will continue flowering till the end of January or February.

THE SECOND BATCH.

I must briefly notice the second batch, as it is upon these that we depend for a supply of fresh plants during February, March, and April. The plants are treated in every stage the same as those from the first sowing, until the middle or end of September, when they are potted a third time into pots varying in size according to the strength of the plants, but not less than 7 in. and 8 in. It is also important to bear in mind that this last potting should be done just at the right time, as any delay is sure to be the cause of disappointment in March.

There is an old custom prevalent of removing early flower-spikes as a means of retarding the flowering period; but this is a mistaken impression, for it does nothing of the kind. We may remove the flowers truly, but only to hasten on others that would come later had the first been spared to adorn the plants. The only means known to me of checking the early flowering of Primulas is to pot them an extra time, as advised above, so soon as the previous pots are nicely filled with roots. They will then continue growing instead of sending up flowers to any extent, for once they are allowed to become root-bound, up come the flowers in quantity, after which it is of no use either to pot on or to remove the flowers. A small quantity of soot added to the potting soil is beneficial.—*A. Waters, The Gardens, Farington House, Preston.*

THE LATE ROBERT LORD.

ADDRESSING a very large congregation in the Unitarian Church, Todmorden, on Sunday evening, August 22nd, the minister, the Rev. A. B. Camm, in what we can only describe as a noble exception to the ordinary run of funeral sermons, said:—"Among the honoured names of those who had been born here,—of those who had lived, worked, taught, and died in these valleys, would long remain that of their dear friend, Mr. Robert Lord. They all knew what were his two great tastes—the passions and pastimes that formed the purpose of his life—music and horticulture, harmony and beauty, melody and flowers. These were lifelong passions; they were, and no doubt still are, the purpose of his being, for they could not suppose that now he had ceased to love either flowers or music. At fourteen years of age Mr. Lord began to save his first money, and when he had got ten shillings he spent it on plants. From that time forward he followed horticulture with a passionate devotion. To see his garden of Carnations and Picotees, as he (Mr. Camm) did while he lay unconscious in the outer courts of death, was to enter into a realm of beauty—and to see the choice specimens of the flowers he had trained and loved, as they had been

shown and gained the first prize at the Manchester floral exhibition the previous week, while he was sleeping away into the higher existence, was to be made sensible of the mystery, the pathos, and the tragedy of life. The beauty and the fragrance of his flowers passed beyond the atmosphere of Todmorden, as his name and fame were known in the floral world of England. The particulars of his later successes and prizes, especially at the National Carnation and Picotee Society's show at Old Trafford last Saturday but one were given in the *Todmorden Advertiser*, and he need not say more upon that, but he would like to read an extract from a work on "Carnations and Picotees," written by Mr. Dodwell, which showed the quaint humour of their departed friend, who talked of his flowers as if they were living beings. The quotation showed that Mr. Lord was not only a loss to Todmorden but to the floral world. The author writes :

Said my friend, Mr. Robert Lord to me last July (personifying the Carnation with a pleasant power of a quaint and glowing imagination), "To me the Carnation seems to say—Do what you will with me in autumn, and I am your willing servitor, your most obedient servant; send me from the soft air of the south to the sharp atmosphere of the north, and I complain not; from the breezy hillside to the close air of the sweltering valley, and I murmur not; subject me to the confinement of long journeys and indifferent packing, to disrooting, change of soil, and even to crushed foliage, and I retrieve the disaster and recover the injury from my winter's sleep. But woe to the wight who subjects me to change after I have doffed my winter's nightcap, or trespasses upon my rights in spring. Then I brook no injury, permit no liberties with impunity; then a broken leaf or crushed rootlet is a mortal injury, and involves the penalty of a mortal offence."

—They knew it was said that he who makes two-blades of grass grow were only one grew before is a benefactor to his race, and of their friend they certainly could say that he made new gleams of beauty and new shapes of loveliness to bloom in the floral world. There was a romance in the science of flowers which was very tempting, but he could do no more than make a passing reference to it. The authority on Carnations and Picotees from whom he had already quoted said of their late friend's productions—"The light-edged red raised at Todmorden by Mr. Robert Lord was the finest that had up to that time bloomed." "The heavy-edged, the last upon my list, is among the very first in my regard;" and then he adds :

"It is impossible to exaggerate the excellence of these flowers, or over exalt their quality. Raisers in all generations may develop new forms and shades of colour, but they will never surpass the richness of quality, stoutness of substance, distinctness of markings, smoothness of edge and surface, symmetry of form, or breadth of petal, which distinguishes these and other fine varieties."

—Again, speaking specially of one of the flowers grown by Mr. Lord, named Miss Horner, Mr. Rudd speaks of it in his latest list as

"The best of its class, and in reviewing the Picotee bloom of 1876 I remarked, 'undoubtedly the belle of the class.' Well done, indeed; especially in the colour-giving atmosphere of the Yorkshire hills. Miss Horner is superb; marginal colour of bright rose, evenly laid on, and the white ground without spot or bar."

—If they could but read the romance of these flowers they would have an interesting chapter in the autobiography of their departed friend, for their names seemed to have some reference to the likings and loves of his life. Here were a few of them :—Mrs. Dodwell, Rev. F. D. Horner, Alice, Ann Lord, Dr. Foster, Minnie, Nymph, Zerlina, Cynthia, Miss Horner, Miss Lee, and Mrs. Lord.

Strange, was it not, that as the funeral procession was moving slowly along the streets the previous day, they should meet a stream of people going to the flower show! Their old friend, however, had not passed away into darkness; he had gone into a realm of higher beauty, into the sweeter loveliness of the gardens of the Lord. Before his death he knew him only as one who had two great tastes—flowers and music. Flowers belonged to those influences which fringed the border of the actual and led up to the ideal. Music, flowers, and poetry formed the trinity of the beautiful, and Mr. Lord was not without a sense of the third element in that trinity. Some years ago, when in conversation with another friend who loved flowers, when talking about the dull appearance of the root and the greyness of the soil, without one gleam of beauty or breath of

fragrance, all dead, hard, and ugly, one said to the other, "Who can deny a great Creator, a supreme spirit, when out of these hard and seemingly ugly things there can be developed the beauty and perfection of a flower?" It was that which led him to have faith in God and immortality. Another writer had said, "Flower in the crannied wall, I will pluck thee, and with thee in my hand, little flower, if I could but understand thee—what thou art—root and all, then should I know what God and man is." Yes, flowers were on the borderland of the realms of the higher bliss, and their friend had passed that boundary now. His ruling passion was strong in death, for when lying unconscious on his death-bed the automatic action of the brain from long repetition and use went on. While he knew not what he was doing, the tender fingers that were placed on his brow to soothe his pain (though, fortunately, he had so little) were taken by him, and the fingers were placed one over the other as if he was layering Carnations in his garden; at another time he was beating time, "One, two, three," and repeating the words, "I will call upon the Lord," which was the last anthem sung in his presence in that church. Their friend might, perhaps, have had faults—who had not?—but at any rate he knew of none; he did, however, know enough to say, with confidence, that he was a good husband, a good father, a good citizen, and a good religious man.

GARDENING MISCELLANY.

Crinum amabile.—This lovely plant has been flowering freely for some weeks past at the Castle Gardens, Warwick, and has been very much admired. The bulb measures 24 ins. in circumference, and 17 ins. in height. The flower spikes and leaves stand 4 ft. high with about two dozen flowers on each spike; and the fragrance of the blossoms perfumes the whole house.

Paulownia imperialis is also a lovely sight at Warwick Castle, being splendidly in flower. This fine old tree I should fancy is quite a hundred years old, and seems to immensely enjoy its position, and the shelter it gets from the old and well-known Cedars.—*D.*

Earwigs and Chrysanthemums.—I have read Mr. Kidson's article on this subject in your last, and am surprised that he has not been able to satisfy himself that Earwigs do harm to the "mums." I am sure myself that they do eat the stems, the young leaves, and the flowers, and the green-fly also. I have caught them in the act over and over again, and, as a rule, such evidence is good enough for both judge and jury, but, if need be, I have no doubt there are others who can confirm it. Mr. Kidson denies that Earwigs eat the foliage, but if anyone will take a lamp in the night when the Earwigs are feeding, they will find them with their heads in the holes on the stem, just under the bud, and eating. But they must be very quick, because the Earwig will drop as soon as the Bull's-eye is turned upon them. You can see that the hole is freshly made, and that there are no caterpillars or anything else on the plants to make it. I have seen only too often the caterpillar described by Mr. Kidson, and must say that if it makes such a large hole as I have seen, it must be larger than a small piece of cotton. If I thought the Earwigs only eat green-fly, I should be kind to them as I am to lady birds, and put them on my plants to enjoy a good repast. I am sure Mr. Kidson will understand that in writing I only want the point cleared up for the benefit of all concerned, as I think we all ought to know if it is beneficial to destroy or preserve life, even in the case of Earwigs.—*A Gardener.*

Fig Trees for Fruiting in Pots.—Your interesting account of the mode of treating Vines in pots for table decoration, at p. 825, recalls to my mind a similar practice adopted by me nearly forty years ago to enable me to form, in a very short time, fine, bushy, fruitful plants of Fig trees for growing in pots. Having some very fine old plants growing against open walls, I used to select special branches with well-formed heads of four or five shoots; these were unnailed and brought down to the border, when the branches forming the head of the main branch were tied together carefully and brought through the bottom of the West Kent pot. With the aid of stakes, these were tied firmly, and the pots properly adjusted and filled with a good compost made up of the top spit from a meadow, well-decom-

posed manure, leaf-soil, &c. The pots were surrounded with leaves or some old hot-bed linings, to keep the soil in the pots in an uniform condition whilst the rooting process was going on. A good watering was given as occasion required it, and in from about three to four months the pots became filled with fine healthy roots. Such being the case, I carefully detached the new plants by removing the earth from the bottom of the pots, and severed the main branch that connected the newly-made plants from the mother tree. This done, a shift into a larger-sized pot was necessary, and attention being paid to watering, large handsome fruiting plants were expeditiously obtained possessing short-jointed fruit-bearing branches. By adopting this practice, I obtained strong, dwarf, robust trees in a very short space of time.—*George Fry, Lewisham.*

Chelone barbata.—This is one of the most beautiful and graceful of hardy perennials. The flower-spike rises some 3 ft. 6 ins. high, and is clothed with rich coral-red flowers of tubular outline. The flowers are arranged on short footstalks jutting from the main spike, and continue for weeks in succession. For vaso decoration it is simply charming, to which purpose its long slender spikes of flowers admirably adapt themselves. It is of free and easy growth, and a most elegant border plant.—*J.*

Garden Pots.—Mr. Hunt's patent process, (p. 820, vol. ii) may be an excellent one, and if proved to be such, doubtless the pots so prepared will be extensively used. An accumulation of vegetable growth or other extraneous matter on flower pots is most unsightly, in fact, an abomination where neatness and order are aimed at. I have for a long time used a solution of salt, and put my pots into a bath of brine. They are first washed clean, then allowed to become thoroughly dry before being placed in pickle, when after a good soaking the pots are taken out, dried, and neatly stored till required for use. I have noticed that when used the roots of the plants seem to delight in reaching the sides of the pots. I think that should your readers try this method they will find it advantageous; of course it only applies to pots that have been used, and those that may have been badly kiln-dried.—*George Fry.*

Eryngium amethystinum.—Mere description falls a long way short of the real value and beauty of this plant. In the first place, it is not remarkable for its gaudy hue of colour, nor yet for its delicate grace. From tufts of spiny lacinated leaves rise the flower-heads, which are of a lovely amethystine blue, the same colour prevailing in the upper portion of the flower-stems and also the bracts. For association with cut flowers it is most pleasing, and the effect produced by the coloured stems and flower-heads quite unique; it is fast becoming popular, and its popularity is well deserved. It grows well in any good garden soil, and is best if placed in a position where the full sun can bring out its colour to the best advantage. It attains a height of 3 ft., and is highly attractive just now.—*J.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Attention must now be given without further delay to the stock of Gesneras and Tydas. In both cases we have a very useful lot in small 32's. If some are required for early flowering, it will be advisable not to pot on; but otherwise the whole batch should at once be shifted into 7-in. pots, which, as a rule, are large enough to produce good specimens. Let the compost used be as light and open as possible, as anything approaching stagnation at the roots with this class of plants is fatal, and at this period of the year there is no hope of recovery by re-potting as previously advised, so that much care should be exercised and the work thoroughly done. They may be returned to the intermediate house after potting, and as growth proceeds neat stakes should be placed to each, inclining outwards so as to admit as much as possible of the full development of the foliage. Particularly is this necessary with the Gesneras, the foliage in nearly all the varieties being so prettily marked and so much admired.

Where Gloxinias for mid-winter flowering are required, those which flowered early in the season will be best suited for this purpose. We will, of course, presume that they have been thoroughly ripened off by being placed in the cold pits after they had done flowering, and watered as required until at rest. By

this time it will be found that most of the bulbs have started into growth. Give those selected for potting on a good soaking of water a day or two previous to the operation, and be cautious that the pots used are smaller than those used for summer flowering, or the probability is that plenty of good foliage will be obtained, but little flower.

Chrysanthemums will now need the greatest attention that is if anything like a good show is to be expected. The pots will now be filled with roots, and unless frequent feeding with liquid manure is resorted to, the greater part of the foliage near the base of the growths will die away, and the plants as specimens be greatly disfigured. This can only be avoided by high culture in the way of supplying stimulants at least at each alternate watering, and varying what is given also. Clay's Fertiliser we find one of the most reliable artificial manures. This used with, say, guano and sheep, cow, or deer-manure, will be found to produce satisfactory results.

I would also add a word or two as to the stock of *Begonia Frœbelli*, which we find one of the most showy and useful of all the *Begonias* for autumn work, whether for decoration or for cut flowers. We have a nice batch of plants, some of which we wintered; the remainder were raised from own seed this spring. The greater part of them have lately been potted into 32's, and the rest are now ready. We keep them growing on the shelves in the intermediate-house, where they thrive most satisfactorily, and later on will furnish us with an abundance of bloom. Continue the propagating of bedding stuff, and finish as early as possible.

THE FRUIT HOUSES.

Attention will now necessarily turn to next season's supply in this department, and foremost stand out the Strawberries for forcing; these will now require constant attention in the way of watering, sprinkling overhead, hand weeding, and last, but not by any means to be overlooked, keeping the runners constantly pinched off. In the case of healthy plants, it is amazing how rapidly these grow, consequently weakening the crown required to produce the crop of fruit next spring; our plants are standing on a firm bottomed ash border, and are making very satisfactory progress, the foliage being very thick and strong, so that we hope for the best results to follow attention bestowed.

While the weather continues so hot and dry, it will be much better to allow the fires in this department to go out; an abundance of air should be admitted, which will greatly help to thoroughly ripen up both wood and foliage, and surely tend to the crop keeping better through the autumn months; this is of the greatest moment, as if a thorough ripeness all round is not secured, the crop cannot possibly be expected to keep sound for any length of time. In the Fig house we have a most abundant second crop; the trees are syringed morning and evening, the border is kept well watered and damped down, so that we may expect shortly they will start swelling off; they will come in most useful for dessert—being much approved.

THE KITCHEN GARDEN.

In this department much time is taken up with watering, and it is absolutely necessary that this should be thoroughly done; and in the case of Peas and Beans a good mulching should be given, as the weather continues so very hot and dry. We still continue, as time will permit, the lifting of second early Potatoes, which now consist only of Woodstock Kidney, which with us is of the very best quality. The hoe is kept at work as much as possible between all crops to prevent the surface crusting over, and also for the destruction of small weeds, which persist in making their appearance.

In the flower garden, as the cuttings for propagating are taken off, it will be necessary to give a thorough cleaning to the beds; they will then quickly look gay again. In the shrubberies let the clipping be completed as soon as possible, so that later on all hands may be employed in the gathering in and storing of the crops of Apples, Pears, and Potatoes. Keep the walks frequently edged and weeded to prevent seeding, and see to the staking of the tall-growing border Asters, or should we experience heavy rains they will be apt to be broken. If required, Laurel cuttings should now be put in, choosing medium shoots with a heel, placing them in a moist quarter.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—"Overhaul stock, plant by plant and house by house, whenever the time can be found to do so" should be a standing order with all Orchid growers, as that very business-like operation gives the readiest means of detecting and remedying faults in the growth of the plants themselves, and discovering the insects in hiding which will do them mischief. With this standing order in view, an Orchid grower need not look round long at any time for important work to do, but immediately start on the review of whichever part of the collection needs it most. It may be that before he can get through the house thoroughly, other important matters will put a stop to the work in hand, but no matter, let the work be done thoroughly as far as it goes, and return to it when the opportunity offers.

By doing the work thoroughly, I mean that the plants, their pots, the staging, the house and everything connected with them should be thoroughly cleansed; that plants requiring re-potting or re-basketing should be attended to, and every little matter for their comfort which suggests itself seen to. For example, an occasional plant will be found on the stage which would possibly do best suspended, or, here and there, one in a basket which from its condition of growth and vigour seems to say that it would now do well on the stage, and yield its situation near to the glass of the roof to some frailer specimen which would be benefitted by the change.

For keeping a collection in vigour there is nothing like constant handling and change of the position of the specimens, but where certain things have been found to thrive well in certain positions, care should be taken not to move them to fresh quarters. The present time (no matter how irregularly the little inspections have been done during the year) is one in which a thorough review of the whole collection should take place in order to have plenty of time to carefully go over the whole, and put all in order for winter.

Repairs to the houses and in the hot-water apparatus should also now be seen to at once, for where there are defects either in piping or boiler, the evil, if not attended to in warm weather, ends in a break down in the winter, which is usually a serious and expensive matter.

THE TEMPERATURES FOR THE MONTH of September should be:—Warm house, East Indian, 75° to 80° by day, 70° at night; Cattleya or intermediate house, 70° to 75° by day, 65° at night; cool or *Odontoglossum* house, 60° to 65° by day, 55° at night.—*James O'Brien.*

Flowering Orchids in the City.—In spite of the tropical heat, the irrepressible Orchids made a very gay and fresh-looking show at the sale of plants in bloom at Messrs. Protheroe & Morris's Rooms, on Tuesday last. We noted a very fine spotted *Odontoglossum Pescatorei*, the rare scarlet *Renanthera matutina*, the pure white-lipped *Odontoglossum Bictoniense album*, a grand show of *Oncidium Jonesianum*, and a fine example of the variety of *Cattleya superba*, which Mr. Edward Wallace, of The New Plant & Bulb Co., of Colchester, is stated to have collected in Colombia, and consequently much cooler than the other forms. The plant had five very large bright rosy crimson flowers, with the most intense dark violet-crimson lips.

Orchid Specialities.—We have received the catalogue of Orchid specialities cultivated by Messrs. Fred. Horsman & Co., of Colchester, and note the fact on account of a very useful and considerate feature that has been introduced into it, viz, the printed matter being interleaved with closely lined white paper for the purpose of making notes and memoranda, which, when tabulated, being in company with the useful and extensive descriptive list cannot fail to be of service to those of its possessors who are wise enough to avail themselves of the hint. In this manner notes of time of flowering and quality of the flowers can be made against each; notes of things desirable, and many other subjects of interest.

SOME SILVER FIR SLEEPERS which were put into the railway line near Perth nine years ago, are reported to be still quite sound, and look as if they would last another three years. The usual life of a Larch sleeper is eight years, and of a Scotch Fir three or four years.

HORTICULTURAL SOCIETIES.

SANDY, BEDS.

WHETHER or not flower shows serve the purpose of extending a knowledge of practical horticulture, it is quite certain that in many parts of the country they form remarkable centres of attraction, and are the means of bringing together very large bodies of people. Surely this is an advantage on social grounds, because the associations with horticultural shows are generally of an innocuous, if not strictly of an elevating character; and when they are held in charming grounds, with the added attraction of high-class music, and they are made the occasion of a district holiday, the people gather together with the absence of many grosser recreations that accompany village fairs for instance.

The Sandy and district floral and horticultural society, whose annual exhibition was held on August 27th, is one of a thoroughly representative character, as it is all-embracing. There are classes for plants, flowers, fruits and vegetables, and there are divisions open to all, in which nurserymen can compete, and in which they cannot compete; for amateurs, for market gardeners, and for farmers; then there are classes for honey, needlework, ornamental work, stuffed animals, butter, eggs, trussed fowls, cage birds, poultry, pigeons, rabbits, &c. To accommodate all the subjects, a ring of something like a dozen tents is required, and in the centre is placed the band, the refreshment tents, and other matters. Sandy being the centre of a cluster of villages, district committees are appointed in forty-six places, and thus the interest of the villagers is secured, and when the day is fine, as it was on the 27th ult., an enormous concourse of people came to the show, and a large sum of money was taken at the gate. There is a subscription list of some £165, but more than this is awarded in prizes, and so a fine day is absolutely necessary, in order that the show should prove remunerative; the society is fortunate in having an excellent worker and administrator in the person of Mr. William Green, the acting secretary, who has filled this post for many years, and to whose exertions a large amount of the success which attends the annual show is due. There is a good working committee also. The exhibition took place, as usual, in the park of Sandy Place, the residence of J. H. Foster, Esq.

Five classes in Division A were open to all comers, and the prizes offered for ten stove and greenhouse plants in flower, brought Mr. James Cypher, that universal exhibitor, all the way from Cheltenham, but only to suffer defeat at the hands of a local man. Here, too, was Mr. J. F. Mould, from Pewsey, and he had to be content with third place. Mr. Cypher had, as usual, some very fine plants, but wear and tear had despoiled them of their freshness, and here was a close tent and hot weather rendering them less attractive every half-hour. But this is one of the fortunes of war, and the greatest commander has had to suffer repulses. The first prize fell to the lot of Mr. Freuch, gardener to Mr. J. Marriott, Cambridge, with a nice fresh lot, consisting of *Allamanda Hendersoni* and *nobilis*, *Ixora amabilis* and *javanica floribunda*, *Dipladenia amabilis*, *Stephanotis floribunda*, *Bougainvillea glabra*, *Erica Marnockiana*, and *Statice profusa*. Second, Mr. J. Cypher; third, Mr. J. F. Mould; a fourth and an extra prize was awarded. Twelve Zonal Pelargoniums were well shown, and we regret being unable to obtain the exhibitors names. Messrs. Paul & Son, Old Nurseries, Cheshunt, had the best forty-eight cut Roses, showing very good flowers of the leading varieties. Second, Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge. Messrs. J. Burrell & Co. had the best twenty-four spikes of *Gladiolus*, staging a very fine lot indeed, characterised by great size and richness of colour. Second, Mr. E. T. Atherton, Cambridge. The best twenty-four Dahlias came from Mr. Henry Glascock, Bishop Stortford, who had an excellent lot of clean flowers.

In the division open to all, but nurserymen excluded, some good plants were shown, but the short time at our disposal for reporting prevented anything like the taking of copious notes. The best six foliage plants—nice, clear, bright, well-grown specimens, but not large in size, came from Mr. G. Redman, gardener to J. H. Goodgainer, Esq., Eynesbury, St. Neots; Mr. G. Clayden, gardener to J. Astell, Esq., Woodbury Hall, Sandy, being second. Stove and greenhouse plants in sizes were fairly well shewn; and *Coleus* were represented by nice pyramidal-grown specimens. Mr. G. Clayden had the best six Ferns, staging *Gymnogramma chrysophylla*, *Adiantum Farleyense*, *A. cuneatum*, *A. gracillimum*, *A. concinnum*, and *Blechnum corcovadense*. We were unable to obtain the name of the exhibitor of the second prize lot, but he had *Adiantum concinnum*, *A. concinnum latum*, *A. Williamsii*, *A. cuneatum*, *A. Farleyense*, and *Platyserium aleicorne*. Fuchsias were represented by nice bushy specimens, better than are often seen at country shows. Tuberous-rooted *Begonias* were a good feature, Mr. A. Apethorpe, Cambridge, was first with six—a very good lot; Mr. Brown, Cambridge, being a good second. British *Feruss*, Zonal *Pelargoniums* of various types, *Liliums*, *Achimenes*, *Cockscombs*, and plants for table decoration were all well represented.

Cut flowers were well shown in this division. Mr. H. Glascock had the best six fancy Dahlias, good blooms of Wizard, a charming bizarre flower, Professor Fawcett, Flora Wyatt, Mandarin, Duchess of Albany, and Miss Browning; second, Mr. Petfield. Mr. Ape-thorpe had the best twelve show Dahlias, the Rev. E. S. Fellowes, Wimpole Rectory, Royston, being second. Hollyhocks, Gladioli, Asters of all types, Pentstemons, Zinnias, African and French Marigolds, and Phloxes were all numerous and very fine. E. B. Lindsell, Esq., Hitchin, had the best twenty-four Roses, the Rev. Dr. King, Madeley, Cambridge, being second. Mr. W. French had the best twelve bunches of stove and greenhouse cut flowers, a very good lot indeed, while twelve bunches of outdoor flowers made a great display. A very interesting exhibit was put up by Mr. T. S. Ware, of Tottenham, not for competition. It consisted of six boxes of cut blooms of Dahlias, of Cactus, single, and Pompon types, and they were very highly commended by the judges. They formed a very attractive feature.

The best collection of eight dishes of fruit: A very good lot came from Mr. Tilbrook, gardener to Bateman Brown, Esq., St. Neots, Mr. G. R. Hallis, Old Warden Park Gardens, being second. Mr. W. H. Murfin, Great Houghton, had the best six dishes. Mr. G. Warberry, gardener to Mr. Medland, St. Neots, had the best two bunches of Black Hamburgh Grapes; the name of the second prize winner was not given. The best two bunches of any other blacks were Gros Maroc, from Mr. James Topham, Thorney Park, Peterborough, and the same variety was placed second. Mr. G. D. White, gardener to Captain S. Stanley, Longstowe Hall, Cambridge, had the best two bunches of Muscat of Alexandria. Mr. G. R. Allis was first with any other white, staging good bunches of Golden Champion.

Hardy fruits were decidedly good. Peaches and Nectarines had to be out-door growth, and they were decidedly good. Plums were largely shown, the leading dessert sorts were Greengage, Jefferson's, Transparent Gage, and Prince Englebert; the best culinary varieties, Diamond, Victoria, and Yellow Magnum Bonum. There were some good dessert Apples, such as Red Astrachan, Irish Peach, and Juneating. Kitchen Apples were very fine, the best Lord Derby, Lord Suffield, and Hawthornden. The best dessert Pears were Bon Chrétien, Jargonelle, and Windsor. Morello Cherries were both numerous and fine; so were black, white, and red Currants. But space will not admit of giving the names of the winners.

Vegetables were a remarkable feature, both numerous and of high quality. This was, perhaps, to be expected in such an important market gardening district as that of Sandy. The best collection of twelve varieties came from Mr. H. Bourne, Huntingdon Road, Cambridge, who had an excellent lot; Mr. C. Ellis, of Bedford, being second. Potatoes made an interesting feature, but it should be a requirement of the schedule that the tubers be all washed, as dirt hides defects. The best six dishes came from Mr. H. Ridgwell, who had Gladstone, white round; Adirondack and Vicar of Laleham; Chancellor, Beauty of Hebron, and Mr. Bresee. Second, the Rev. J. D. Hawkesley, The Chaplaincy, Baldock, Herts, with Lady Truscott, Queen of the Valley, Reading Russett, Victor, Salmon Kidney, and International. All other vegetables were equally good. The display of produce by market gardeners and farmers, by housewives and children, was in all cases of a very interesting character; and it is satisfactory to know that there was a good taking of gate money. Such a show deserves to be well supported.

READING.

THE autumn exhibition of the Reading Horticultural Society, took place as usual in the Abbey Ruins on August 25th. The entrance to the show is through the Forbury Gardens, which are maintained by the Corporation of Reading for the benefit of the town, and they are admirably kept by Mr. Phippen, of the Oxford Road Nursery. Here the band is stationed, and the gardens afford an excellent promenade for visitors.

The August exhibition is necessarily less bright as regards flowering plants, owing to the season; but this year there was a distinct falling off in pot plants, through accidental, and we trust temporary causes, though cut flowers, fruit and vegetables were rather above the average. From various reasons several of the usual large exhibitors did not compete this year, among them being Mr. W. Lees, gardener to Mrs. Marslaud, The Wilderness; Mr. Parham, gardener to H. J. Simonds, Esq.; Mr. Pearce, Southampton; Mr. Ross, gardener at Welford Park; Mr. Tudgey, Waltham Cross; and Mr. James. The season, also, owing to the rapid alternations of temperature, has been a very trying one to gardeners, so that altogether the thin entry of plants is not to be wondered at. The exhibits were staged under the direction of Mr. Baskett, gardener to W. I. Palmer, Esq., who was assisted by Mr. Phippen.

There was but one entry—nine stove and greenhouse plants—from Mr. J. F. Mould, nurseryman, Pewsey, who, however, thoroughly deserved the prize; the collection included a choice *Dipladenia amabilis*, and some good *Allamandas*. The same exhibitor was allowed a walk over in foliage plants, among them

being some very nicely coloured *Crotons*, and a splendid specimen of *Cycas revoluta*. Stove or greenhouse Ferns were decidedly below the mark as regards size; Mr. Dockerill, gardener to G. W. Palmer, Esq., Reading, was first; and Mr. Mould second. In specimen stove or greenhouse plants, Mr. Mould again secured the ribbon with a handsome Heath—*Erica Austiniana*, second honours being awarded to Mr. Goodman, gardener to C. Hammersley Esq., of Bourne End, for a well-flowered pot of the charming *Eucharis amazonica*. The class for plants for table decoration produced some healthy and clean young stuff of the usual order; and *Lycopodiums* showed a distinct advance on late years, Mr. G. W. Palmer's gardener showing some very clean and beautifully trained specimens. *Fuchsias* were also above the usual Reading stamp, and it would be difficult to find four better trained and flowered specimens than those with which Mr. Bright, gardener to Mr. Karslake, White Knights, Reading, took the first prize. Mr. Booker, gardener to C. Littledale, Esq., Twyford, Berks, had some very nice *Cockscombs*, *Liliums* were really good, and *Coleuses* produced a large entry of rather small but especially bright specimens. Three groups of plants were shown, all bad enough; Mr. Phippen was placed first, his being decidedly the best arrangement; Mr. Sumner, gardener to J. H. Millard, Esq., Reading, being second. Mr. Dockerill's tuberous-rooted *Begonias* were good; Mr. Sumner being a good second. The last-named had the best six variegated *Pelargoniums*.

The wealth of cut flowers atoned in some measure for the poor display of plants; but the turf banks of the abbey ruins are much better adapted to show off plants with advantage than they do cut flowers, which are placed too low to be scanned with pleasure. Dahlias were a prominent feature, the best eighteen show varieties came from Mr. John Walker, Thame; Mr. J. Tranter, Upper Assenden, Henley-on-Thames, being second. Mr. Tranter had the best twelve fancy varieties, Mr. Walker taking second place. As the National Dahlia Society's Exhibition is so close at hand, it is hardly worth while giving the names of any of the flowers shown at Reading. Messrs. J. Cheal & Son, nurserymen, Crawley, had the best twelve bunches of single Dahlias, set up in their usual effective style; Mr. Jackson, nurseryman, Kidderminster, being second. The best eighteen blooms of Roses came from Mr. T. W. Girdlestone, Sunningdale; Messrs. Perkins & Son, nurserymen, Coventry, being second. Asters were very fine, Mr. Walker, Thame, being first, both with twelve quilled and twelve flat-petalled varieties; Mr. Tranter being second with quilled; and Mr. Maskell, gardener to C. S. Slowcock, Esq., Donnington, being second with French. Mr. Tranter had the best twelve cockade Asters, a class that should be struck out of the schedule. Mr. W. Owen, nurseryman, Maidenhead, had the best twelve spikes of Gladioli, a very fine lot indeed; Mr. Jackson, Kidderminster, being second. Zinnias were very fine, and they should be shown with a little foliage, and raised higher on the stands. The best came from Mr. Benham, Bognor, Newbury; Mr. Walker, nurseryman, Thame, being second. Mr. Jennings, gardener to J. Freeman, Esq., Farnborough, had the best eighteen bunches of cut flowers; Mr. Phippen being second. Mr. Booker had the best twelve bunches; Mr. Howe, gardener to Sir R. Sutton, Bart., Benham Park, Newbury, being second. Messrs. Perkins & Son, Coventry, had the best bridal bouquet; Mr. Phippen being second; and they occupied the same position with three button-holes. Says the *Reading Mercury*:—"The absurdly-styled 'Amateurs' Division'—which ought to be removed from the schedule, and the prize money appropriated either to the increase of awards in the other classes, or to the encouragement of a genuine division for *bond fide* amateurs—was, as usual, meagrely filled, and the winners were all professed gardeners;" and so say we, for it simply means that nurserymen cannot show in the amateur division.

Table decorations are always nicely done at Reading, though they were not so numerous as usual; the prizes are too low we think to bring many competitors. It would be a good plan to take the money from the amateurs' division, and add to and extend the prizes in that for ladies. Miss Phillips, of Reading, had the best three pieces; Miss Simmonds, Caversham, being second. Miss L. Cole, Reading, had the best three pieces of wild flowers; Miss M. Taylor, Cravenhurst, being second. Miss L. Phillips had the best basket of sweet-scented flowers; Miss S. Cole, Reading, being second.

Fruit was a great feature, for it was both numerous and finely shown. The leading class was for eight dishes, and here Mr. Goodman, gardener to C. Hammersley, Esq., Bourne End, was first with a remarkably good lot; second, Mr. Ashby, gardener to W. Farning, Esq., Whitechurch; Mr. Howe, Benham Park, being third. Mr. Richards, The Gardens, Somerley Park, Ringwood, was first with six dishes; second, Mr. T. Lockie, gardener to the Hon. G. O. Fitzgerald, Oakley Court, Windsor; third, Mr. Jennings, Farnborough.

The Grapes were very nicely coloured, and there was a large competition, all the entries being clear and bright. Mr. Ashby, who used to win regularly, was this year beaten by the Hackwood Park gardener and also by Mr. John Hargreaves' gardener, in Black Hamburgh Grapes. In the class for other black kinds,

Mr. Cakebread, gardener to Sir P. Rose, won with some splendid bunches of Madresfield Court, and also took the first prize for white Muscats with some charmingly coloured fruit. Mr. Wyndham Portal's gardener secured the ribbon in the class for other white kinds with some rich looking bunches of Buckland Sweet-water. The Peaches shown were generally either unripe or over-ripe. Nectarines were very fine. There was a splendid show of culinary Apples. In miscellaneous fruits, Mr. S. Mortimer, of Rowledge, Farnborough, (and who was formerly a large exhibitor at these shows), staged a basket of twenty-four finely netted Melons of the variety known as Sutton's Imperial Green-flesh, which not only took the first prize, but also gained the honour of a First Class Certificate. This new Melon, which was raised by Mr. Mortimer last year, is a hybrid between Blenheim Orange and Eastnor Castle, and is the richest flavoured green-fleshed Melon we ever tasted. There was a large and good competition in this class.

The vegetables were all good, including specially fine Cucumbers and Tomatos, the latter being remarkably fine. There were several entries in competition for Messrs. Sutton's extra prizes for collections of Potatos, and throughout the quality was exceptionally good. There were a dozen or more competitors for Messrs. Sutton's Melon prize. The same firm's prizes for collections of vegetables produced one of the best competitions in the whole show, all the entries being extremely good. Some wonderful Tomatos were staged in the winning exhibit, and all the other vegetables were remarkably clean and handsome. There was a good entry competing for Messrs. Webb's prizes, and all the vegetables were good. Messrs. Carter's and Mr. Fidler's prizes produced but few entries.

STOKE-UPON-TRENT.

THE fifth annual exhibition of the Stoke-upon-Trent Horticultural Society was held on August 26th, and was favoured with a good attendance of visitors, which we trust will enable the committee to clear off their small outstanding liabilities, and start with a balance in hand on a prosperous career. The society has a most courteous treasurer in Mr. Broday, and a very able secretary is Mr. F. W. Pepper. In addition to a well arranged series of prizes open to all England, the society had the advantage of being able to offer two Veitch Memorial Medals, and accompanying awards of £5 each; the one for a group of flowering and fine foliage plants, and the other for a group of Orchids and Ferns. In the first named class the coveted award went to Mr. C. Roberts, gardener to A. Nicholson, Esq., Leek, who on a space covering 50 ft. square, put up some fine healthy specimens of *Kentia australis*, *Encephalortus villosus*, *Cocos Weddelliana*, *Dion edule*, *Dipladenia profusa*, *D. amabilis*, *Croton Barronne J. de Rothschild*, *C. Johannis*, *Phœnocomma prolifera Barnesii*, *Erica Jubana*, *E. Everiana*, *Ixora Pilgrimii*, *Erica McNabiana*, *Phyllotænum Lindenii*, &c. Though there was only one exhibitor of Orchids, Mr. W. Stevens, gardener to W. Thompson, Esq., Walton, Stone, he well deserved the prize which was awarded to him, for the group was the attraction of the show, all the specimens being fresh and in beautiful condition. Notably fine were *Odon-toglossum Alexandræ*, *O. A. gloriosum*, *O. gloriosum*, *O. Cervantesii*, very pretty; *O. pendulum*, *O. vexillarium*, *Masdevallia Veitchii*, *M. Reichenbachiana*, *M. Harryana regalis*, *M. Chimæra*, putting out its curious flowers from the bottom of the basket; *Promenæa stapelioides*, which made one long to pick it up and examine it; *Epidendrum prismatocarpum*, *Sobralia virginalis*, *Oncidium macranthum*, *O. crispum*, *Dendrobium infundibulum*, *Cattleya Eldorado*, &c. For a group of plants arranged for effect in a space not exceeding 50 square ft., Mr. C. Roberts, took the lead with *Cocos Weddelliana* in the back ground, some bright *Crotons*, *Hyacinthus candicans*, Bamboos, the indispensable Maidenhair Fern, and a few Orchids, enlivened with *Begonias*, and two pretty *Aralias* at each front corner. This group was nearly square, with the front line slightly broken. The second prize was taken by Mr. J. Burns, gardener to C. S. James, Esq., Stoke, with a very bright and telling group, arranged in the form of a semi-circle, and composed of young healthy stuff. The ground work was principally of *Adiantum gracillimum*, above which were *Asparagus plumosus nanus*, *Dracænas*, *Crotons*, light-leaved *Caladiums*, finely flowered *Vallotas*, with a front row of remarkably vigorous fine flowered *Gloxinias*, backed with *Lilium auratum*. The third group a semi-circle arranged by Mr. R. Miller, nurseryman, Milton, had a chaste collection of *Eucharis*, with *Selaginellas*, *Crotons*, *Dracænas*, and *Coleus*, backed with *Cocos Weddelliana*, *Selaginella Cæsia arborea*, &c.

For a miscellaneous group of plants, Mr. C. Roberts was again first, with *Lantana aurea*, *L. rubra*, *Maranta lebrina*, *Erica Shannonii*, *Kalosanthos coccinea*, *Croton amabilis*, &c.; second, Mr. J. Smith, gardener to A. Knight, Esq., Harthill; third, Mr. Geo. Clay, gardener to T. Mintin, Esq., Fenton Manor. With *Coleuses*, Mr. Geo. Clay was first, and Mr. R. Miller was second; and for tuberous *Begonias*, Mr. J. Smith was successful. In the Fern class Mr. J. Smith and Mr. Geo. Clay secured the awards. For thirty-six Roses, nurserymen, Messrs. Sanday & Son, Stafford, were first; and Messrs. Perkins & Sons, Coventry, second: and for twenty-four

blooms, Mr. J. Tittensor, Newcastle; Mr. W. Pyatt, Clayton; and Messrs. Bailey & Co., Leek, secured the awards in the order named: while for twelve, the honours fell to Mr. W. Pyatt; Mr. John Myall, gardener to E. Bowers, Esq., Barlaston Hall; and Mr. T. Tittensor. For three bunches of Black Grapes, Mr. J. Wilkes, gardener to Geo. Meakin, Esq., The Hayes, Stoue, came in first; Mr. J. Myall second; and Mr. J. Turner, gardener to Basil Fitzherbert, Esq., Swiurton, third; and for three bunches of White Grapes, the awards fell to Mr. Geo. Bolas, gardener to H. Chandos Pole Gell, Esq., Hopton Hall, Wirksworth; Mr. J. Wilkes, and Mr. J. Turner. Messrs. J. Wilkes, J. Myatt, and J. Turner, took the prizes for Peaches; and Messrs. J. Turner, C. Roberts, and J. Myatt for Nectarines. For a collection of fruit, Mr. J. Turner was first, Mr. J. Myatt second, and Mr. C. Roberts third; and for a collection of vegetables, first, Mr. J. Turner, with good dishes of Dwarf Beans, Broad Beans, Potatoes, Peas, Onions, &c.; second, Mr. J. Wilkes, with a splendid dish of Paragon Tomato, pure Ne Plus Ultra Peas, Canadian Wonder Beans, &c.; third, Mr. W. Stevens, with good Celery and Carrots. Dish of Salad, first, Mr. Geo. Bolas, with Sutton's Red and White-tipped Radish, Reading Mammoth Lettuce, Marvel, a splendid summer Lettuce, brace of Purley Park Hero Cucumber, white curled Endive, Australian and American Cress, Improved dark Beet, &c.; second, Mr. J. Smith; third, Mr. J. Keeling, Barlaston.

The display made by amateurs residing within the borough was very weak in plants, but the vegetables in some cases were very good. In the cottagers' tent there was a capital lot of vegetables and salads.

The prizes for bouquets were well contested, Mr. Miller leading with a chaste composition, and Messrs. Perkins & Son were second with a most beautiful arrangement, but of enormous size; Mr. Bolas's bouquet was of the ordinary size, 12 ins., with more colour in it. The centrepieces of cut flowers were very attractive. Mr. Bolas headed the list with a light airy stand, having a groundwork of Selaginella apoda in the form of a quatrefoil, and above blooms of the Mountain Poppy in shades of yellow, orange, and white, worked amongst grasses, Hamanthus Kalbreyeri, and Gloriosa superba, with skeleton leaves; Mr. C. Roberts was second; and Mr. R. Miller, third. For six button-holes, Messrs. Perkins & Son came out in their best style; second, Mr. R. Miller; and third, Mr. Jenkinson, nurseryman, Newcastle. The judges were Messrs. Wallis, Keele Hall; Bass, Biddulph Grange; and Blair, Trentham. —(Communicated.)

HANDSWORTH, SHEFFIELD.

THE twenty-third annual exhibition of the Handsworth Horticultural Society took place on Wednesday, August 25th under favourable circumstances. The weather being all that could be desired, an immense number of people were brought together. Handsworth being but a few miles from Sheffield, thousands avail themselves of the pleasant drive on a fine day, but not alone to visit the show, as Messrs. Fisher, Son, & Sibray generously invite the public to inspect their well-stocked grounds and greenhouses, which are filled with so many floral treasures, and cannot fail to please and create a desire to repeat the visit on the first opportunity. The committee is to be congratulated on having had one of the best displays of dessert fruit that they have had for several years past, there being four collections staged for competition, consisting of eight dishes each. The first prize was awarded to Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood Lodge; the second falling to Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle; Mr. Ward, gardener to Thos. Okes, Esq., Riddings House, being third; and the other collection, which failed to obtain a prize, was very little behind, there being in it the best finished black and white Grapes (also Peaches) in the exhibition. Single dishes of fruit were also well represented, Mr. Gilman, gardener to the Earl of Shrewsbury, Ingestre Hall, being amongst the prize winners in this class. In the class for a group of plants arranged for effect, space 12 ft. by 12 ft., there were but two exhibitors, both showing excellent taste in their arrangements. The coveted prize of £10 was awarded to Mr. Shaw, Richmond Nurseries, and the second prize to Mr. Crosland, nurseryman.

In the class for eight plants, four flowering and four fine foliage, there was but one exhibitor, Mr. Shelley, gardener to Mrs. Hobson, Burnt Stones, who staged plants that would not disgrace the company of Mr. Cypher's superb specimens; Ixora coccinea, 3 ft. through, was densely flowered; Eucharis amazonica, with twenty-six clusters of its snowy white blossoms; Clerodendron Balfourianum, Miltonia spectabilis, with 150 expanded flowers; Croton variegatus, C. undulatus, Alocasia metallica, and Asparagus plumosus nanus, were very fine. Mr. Shelley also had the class for Ferns to himself, staging good plants of Davallia Mooreana, D. bullata, and Pteris scaberula. There was a good show of cut flowers in the open class, amongst them being fine Dahlias, Roses, Hollyhocks, and Asters. Hand bouquets were also well represented, Mr. Crosland being first, and Mr. Shaw second. In the class set apart for gentlemen's gardeners and

growers for sale who reside within seven miles of Handsworth, F. Newton, Esq., gave £5 for the best group of plants arranged for effect, space 8 ft. by 8 ft., which was awarded to Mr. Foggin, gardener to Mrs. Wilson, Topton Hall, who had a very handsome and effective group; Mr. Walker, gardener to B. P. Broomhead, Esq., Broomhall Field, being second. The same exhibitor was first with exotic Ferns, also with black and white Grapes, and a model design for a house and flower garden. In this class there is generally a good competition, which attracts the attention of the public more than any other class at this show. I must not omit to mention the cottage flower gardens in the village, in which eight prizes were given—four for the professional class, and the same number for the non-professional; these small front gardens alone are worth going a long way to see in the show week.—J.

Obituary.

LORD HENRY GORDON LENNOX died at Eastbourne, on Saturday morning last, aged sixty-five years. Some twenty years ago Lord Henry was an active man in the little horticultural world at South Kensington. He was for several years a vice-president of the Royal Horticultural Society, and a member of its council; and his tall, slender figure, always seeming to shakelike an aspen leaf, was frequently seen at the fortnightly meetings in the days when Mr. James Bateman, the late Mr. Wilson Saunders, and the Rev. M. J. Berkeley, used to give such pleasant little lectures in the old council room. From July, 1866, to December, 1868, he was Secretary of the Admiralty, and on Lord Beaconsfield's accession to office in February, 1874, he became First Commissioner of Her Majesty's Office of Works. Many gardeners will remember him only, however, as the chairman of the ever memorable gardeners' dinner, which took place in May, 1866. He had a considerable amount of experience as a diner-out, but it is doubtful if either before or since he spent such an evening as that. What a night they had!

QUESTIONS AND ANSWERS.

FUCHSIAS.—E.C.: The change of aspect and position is quite sufficient to account for the dropping of the blooms. Few plants resent sudden changes when in bloom more than Fuchsias. Your best plan would be to flower what you have in the greenhouse in that structure, and another season to grow a few for the window in the open air, putting the plants in the window just as the buds are forming.

RAINY-MONTH FLOWER.—Q.C.: Dendrobium MacCarthiae is we believe so called, in Ceylon.

NAMES OF FRUITS.—W.R.: 4, Kerry Pippin; 5, Early Harvest; 6, probably Irish Peach, fruit not in condition; 7, Manks' Codlin; 8, Keswick Codlin. C.C. Doux: Apples, 1, Cox's Orange Pippin; 2, Lord Suffield; Pear, 3, Summer Franc Real; Plums, 4, Jefferson's; 5, Denyer's Victoria; 6, Kirke's.

NAMES OF PLANTS.—Reginald Young: 1, Dendrobium longicorn; 2, Cattleya Eldorada Wallisii, and a very good variety; 3, Saccobium, very fine; 4, please send fresh flowers and an old bulb if you can spare one. D.L.: 1, Lælia xanthina; 2, Thunia alba. J.F.: 1, Inula dysenterica; 2, Begonia Weltoniensis; 3, Nierembergia gracilis; 4, Euonymus japonicus aureus variegatus; 5, Pteris cretica alba lineata; 6, Pteris serrulata. Adirondach: 1, Tropæolum canariensis; 2, Ficus repens; 3, Sanchezia nobilis; 4, Fittonia argyreneura; 5, Fittonia Pearcei; 6, Begonia Rex var.

ANNUALS.—Irishman: All the sorts you name are quite hardy, and should be in flower early in May; but the exact time will depend upon the season and the locality.

COMMUNICATIONS RECEIVED.—J. W. (many thanks).—J. D.—A. O.—W. B. W.—J. W.—E. A. W.—C. A. G.—W. H.—M. T.—W. B. H.—J. M.—T. F.—J. C.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., 237, High Holborn, London, W.C.—Catalogue of Dutch and other Bulbs, &c.

BARR & SON, 12, King Street, Covent Garden.—Daffodils, and easily cultivated Bulbs and Plants.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.—Catalogue of Bulbs and Tuberous-rooted Plants, &c.

VICARS COLLYER & Co., Leicester.—Bulbs, Seeds, and Fruit Specialities.

LONDON SEED TRADE.

September 1st, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report little trade at to-day's market. Rye and Winter Tares meet a steady sale; the latter are cheaper owing to plentiful supplies. Trifolium moves slowly at unchanged rates. New English White Mustard and Rape and Blue Peas are offering at moderate prices; Hemp and Canary firm.

NOTICES TO CORRESPONDENTS.

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

To save time, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bond fides*. No notice whatever will be taken of anonymous letters.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige THE EDITOR by sending him their Schedules and Catalogues as soon as published.

COVENT GARDEN MARKET.

September 2nd.

FRUIT.—AVERAGE WHOLESALE PRICES					
	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	2 0	3 6	Pine-apples, St.		
Cherries, $\frac{1}{2}$ sieve			Michaels, each	2 6	3 0
Currents, $\frac{1}{2}$ sieve			Pine-apples, Eng., lb.	2 0	3 0
Grapes, ...per lb.	0 6	2 0	Plums, $\frac{1}{2}$ sieve	1 6	2 6
Melons, ...each	1 0	2 0	Strawberries ..per lb.		
Peaches, per doz.	2 0	8 0			

VEGETABLES.—AVERAGE RETAIL PRICES.									
	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0	
Beans, French, per lb.	0	4		Lettuces . . per dozen	1	6			
Beet, per dozen.....	2	0	3	Mushrooms, p. basket	1	0	2	0	
Cabbages per doz.	2	0	2	6	Onions, per bushel . .	4	0	6	0
Carrots, per bunch . .	0	6			Parsley, per bunch . .	0	6		
Cauliflowers, English,					Radishes, per dozen..	1	6		
per dozen	3	0	5	0	Small salading, punnet	0	4		
Celery, per bundle . .	1	6	2	6	Spinach, per strike . .	2	0		
Cucumbers, each . . .	0	6	0	9	Tomatos, per lb.	0	9		
Endive, French, doz.	2	6	3	6	Turnips.... per bun.	0	6		
Herbs, per bunch.....	0	2	0	4					

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.					
	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	2	0	4	Liliums in variety,	
Arum Lilies, 12 blms.	4	0	6	dozen bunches	12 0 24 0
Bouvardias, per bun.	0	6	1	Marguerites, 12 bun...	3 0 6 0
Carnations, 12 blooms	1	0	3	Mignonette, 12 bun...	1 0 3 0
Carnations .. 12 bun.	3	0	6	Pansies, 12 bunches..	1 0 3 0
Cornflower ..12 bun.	1	6	3	Pelargoniums, per 12	
Delphinium ..12 bun.				sprays	0 9 1 0
Daisies, common,				—scarlet, 12 sprays...	0 3 0 6
12 bunches	2	0	4	Primula, double, bun.	0 6 1 0
Encharis, per dozen..	2	6	4	Pyrethrum, 12 bunchs.	2 0 4 0
Forget-me-not or Myo-				Roses 12 bunches	2 0 6 0
sotis, 12 bunches ..	2	0	4	Roses (coloured)	0 9 1 0
Gardenias, 12 blooms.	2	6	4	Roses, Tea per dozen	0 9 2 0
Gladioli .. 12 sprays	1	0	2	Stephanotis, 12 sprays	1 6 3 0
Heliotropes, 12 sprays	0	6	0	Sweet Peas, doz. beh.	1 6 3 0
Lapageria, red, 12 blms.	1	0	2	Sweet Sultan, 12 bun.	3 0 4 0
Lavender, 12 bunches	3	0	5	Tropæolums	1 0 2 0
Lilium longiflorum,				Tuberose, per dozen.	0 4 0 9
12 blooms	4	0	6	White Jasmine, bun.	0 6 0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.					
	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsia, per doz.	3 0	6 0
Balsams per doz.	3 0	6 0	Gladioli, 12 pots	6 0	9 0
Begonias, per dozen..	6 0	12 0	Hydrangea ..per doz.	6 0	12 0
Cockscombs, per doz.	3 0	6 0	Liliums per doz.	12 0	30 0
Cyperus, per dozen ..	4 0	12 0	Lobelia, per dozen ..	3 0	4 0
Dracæna term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
—viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	6 0
Evergreens, in var.,			Palms in variety, each	2 6	21 0
per dozen	6 0	24 0	Pelargoniums, doz ..	6 0	12 0
Ferns, in var., doz. ..	4 0	18 0	Pelargoniums,scarlet,		
Ficus elastica, each..	1 6	7 0	per dozen	3 0	6 0
Foliage Plants, vari-			Petunias, per doz.	2 0	6 0
ous, each.....	0 10	2 0	Rhodanthe, per dozen	6 0	9 0

SITUATION VACANT.

WANTED A SHOPMAN.—Aman between 30 and 40 years of age preferred. Applications in own hand-writing, and enclosing copies of references, to be sent to JOHN DOWNIE, 144, Princes Street, Edinburgh.

SCHWEITZER'S

COCOATINA,

Anti-Dyspeptic Cocoa or Chocolate Powder.

Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocos thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures. Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.

Cocoatina possesses remarkable sustaining properties, and is specially adapted for early Breakfast.

In tins, at 1s. 6d., 3s., 5s. 6d., &c., by Chemists and Grocers. Sole Proprietors: H. SCHWEITZER & CO., 10, Adam Street, Strand, London, W.C.

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Next Week's Engagements.

MONDAY, Sept. 13th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.
 TUESDAY, Sept. 14th.—Sale at Mr. B. Maller's, Lee, by Protheroe & Morris.
 WEDNESDAY, Sept. 15th.—Sale at Mr. John Fraser's, Lea Bridge, by Protheroe & Morris.
 THURSDAY, Sept. 16th.—Sale at Mr. John Maller's, Tottenham, by Protheroe and Morris.—Sale of Orchids in Flower and Imported Plants, at Stevens' Rooms.
 FRIDAY, Sept. 17th.—Sale at Messrs. Gregory and Evans, Sideup, by Protheroe & Morris; and Great Trade Sale of Orchids at 67 & 68, Cheapside.
 SATURDAY, Sept. 18th.—Sale at Mr. H. B. May's, Dyson's Lane, Edmonton.



"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 11, 1886.

THE HEAT AND THE CROPS.—Comparatively small as has been the summer heat of the passing season, yet it was found difficult to endure the unusual warmth which prevailed so generally up to the middle of last week, and which must have been productive of wondrous good in maturing the corn and ripening it for the harvest. And yet in many directions the exceeding heat was doing harm, especially amongst the green field and garden crops, and in checking the development of hardy fruits, whilst quantities affected by drought were falling; thus the change to moisture and a cooler temperature proved most acceptable, and quite a new face seems to have been put upon nature and her products.

Somehow this year, although we have had occasional spells of drought, yet rain seems to have fallen in the nick of time; because of that we have had an ample hay harvest. There are more growing root crops than has been seen for several years, and all forms of hardy plant life is revived and invigorated, so that a new lease of life seems to have been taken. That we shall have enormous breadths of all the Brassica family this winter is certain, and that there will be constantly glutted markets seems also certain. Turnips have a very promising appearance and will be a good crop. Upon the fruit crop the effects of the change in the weather has been remarkable, and whilst Apples and Pears will hang longer they will swell appreciably; previously complaints of the size of many market Pears were being made, which should now be removed.

All hardy flowering and foliage plants have experienced an almost magical revival, the foliage has rarely been in the autumn more vigorous and clean than now, hence we may look for increased bloom and exceeding floral beauty from these next year.

"PLANT A TREE."—Fads, even in horticulture, may sometimes develop into comparative forms of insanity, as is evidenced in a recent recommendation of that amiable and well meaning nobleman, Lord Brabazon, that every London householder should plant a tree of some sort. It is not specifically stated in the recommendation whether such plantings should be done in the accumulation of London soot and dust found on the house tops, or in those apologies for gardens found in back courts, which are of such liliputian dimensions. A tree planted in these would in time, perhaps, convert London into a forest, but at what cost? The suggestion is based on the assumption that in such places trees would grow, but this is exceedingly doubtful.

But whilst trees are beautiful where they have ample light and air, they are indeed miserable scarecrow objects when growing, if the term may be fairly employed in such cases, in crowded localities and amidst smoke, fog and filth. On the other hand, Londoners get so little of the light of the sun and fresh air that it would be but to duplicate these miseries in these respects were they to crowd out the light and air by trees. Again, trees may be taken in their early years and as such present pleasant playthings, but later, when strong in growth, they soon become white Elephants, fairly eating up their benefactors. Still farther, whatsoever tenants may do in this matter, house owners may have good reason to object to big trees springing up on their property, and possibly doing it great injury. Even a Willow, if but emanating from a carrot bunch tie, will in time become a big tree. The proposal is far more enthusiastic than sensible.

THE CRYSTAL PALACE.—Judging by the comparatively slack attendance at such a very attractive display as the Fruit and Dahlia Show presented at the Palace on Friday last, it would seem as if that once famous place of entertainment was now becoming hardly less famous for its solitudes; whether due to the extraordinary competition in the matter of entertainment at South Kensington, which enjoys at once royal and popular favour; or whether arising from satiety on the part of the public, it seems certain that crowds do not flock to the Palace, and not one fourth the number of persons assembled to see such a grand show as the one held last week that would have attended at such a display in any ordinary provincial town.

London is far too big to interest in anything, and amidst this indifference even a Crystal Palace show may be overlooked. A finer place in which to hold a grand indoor show does not exist in the world, but it lies too much out of the way of the multitude; if the Palace could be bodily transplanted to the Thames embankment or into Hyde Park, no doubt it would be a crowded place of resort, especially in the winter months, but those who can visit such places at their own doors, cannot spare the time, even if they could spare the cash which the railway journey, never a quick one by the bye, involves the expenditure of. It is a matter for regret that the efforts of the Palace directors to cater for the million should be so poorly repaid. The flower and fruit shows are special features, which are worthy of high praise and merit wide popularity, but they fail to draw. Perhaps on the whole they attract as much as other forms of entertainment after all.

MR. JOHN COX, for many years gardener at Redleaf, Penshurst, Kent, died last week in the Isle of Wight.

WE understand that Mr. GEORGE THOMSON, has severed his connection with Mr. Anthony Waterer, of Knap Hill, with whom he has been since he left the Crystal Palace.

THE amount of land exclusively devoted to GARDENING IN GERMANY is stated to be 64,000,000 acres; and to cereals and vegetables, 47,000,000 acres.

THE TURNER MEMORIAL PRIZE, a silver cup, offered for twelve show and six fancy Dahlias at the Crystal Palace show last week, was won by Mr. F. G. West, Cornwallis, Brentwood.

THE third annual APPLE AND PEAR SHOW at Exeter will be held on October 21st and 22nd.

MR. ARTHUR HORSELL, lately gardener at Womersley Park, Guildford, Surrey, has been engaged as gardener to Lord Bateman, Shoddon Court, Hereford.

WE have received a copy of the fourth edition of Mr. John Wright's MUSHROOMS FOR THE MILLION, to which some supplementary chapters of an interesting character have been added.

THE BURY AND WEST SUFFOLK HORTICULTURAL SOCIETY, of which Mr. Peter Grieve, late of Culford, is Honorary Secretary, will hold a Fruit and Chrysanthemum Show at Bury St. Edmunds, on November 11th and 12th.

THE SUTTON ROSE SOCIETY has decided to hold a Chrysanthemum Show on November 12th and 13th.

MR. JOHN HANNAH, gardener, Whauphill, Ayrshire, exhibited a bunch of the RAISIN DE CALABRE GRAPE, weighing 21½ lbs., at the Crystal Palace Fruit Show last week.

THE plants figured in *The Orchid Album* for the current month are *Odontoglossum aspersum*, *Cattleya Mossiæ*, *Cœlogyne Dayana*, and *Vanda Denisoniana hebraica*.

MR. JOHN THORPE states, on authoritative information, that not less than 25,000 dollars worth of plants have been used for filling boxes and vases in front of New York hotels in a single year.

AT A MEETING OF THE PRESTON AND FULWOOD HORTICULTURAL SOCIETY held on Saturday last, the treasurer, Mr. J. B. Dixon, submitted the financial statement for the year 1885-6. It showed that the year opened with a balance in hand of £4 18s. 10½d. The receipts for admission to the exhibition amounted to £48 14s. 2d.; subscriptions came to £96 10s. 6d., and sundries brought the total receipts to £160 3s. 0½d. The disbursements, amounting to £151 15s. 3d., included vocalists £17 17s., band £12 2s., prizes £64 12s. 9d. The balance in hand was £8 7s. 9½d.

THE annual exhibition of Asters, Zinnias, &c., organised by the Maidstone Gardeners' Mutual Improvement Society, was held in the meeting room of society at the "Rose and Crown Hotel," High Street, on Thursday, September 2nd. The show was an exceedingly good one, the exhibits being very fine and numerous. There was good competition in each of the classes, more especially for Asters, of which there was a splendid collection.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the General Committee of the National Chrysanthemum Society was held on Monday, the 6th inst., at "The Old Four Swans," Bishopsgate, Mr. E. Sanderson in the chair. Final arrangements were made for the show of early-flowering Chrysanthemums and Dahlias at the Royal Aquarium, on Thursday and Friday, the 9th and 10th inst. Messrs. R. Dean, Geo. Gordon, and R. Swift were appointed judges for the Dahlia classes, and Messrs. E. Berry, C. Gibson, and C. Gilbey for the Chrysanthemums. Mr. Holmes, the hon. sec., reported that numerous applications had been received from affiliated societies for medals, and that there had already been a great demand for the new catalogue which has just been published by the Society.

The first autumn show, held at the Royal Aquarium on Thursday and Friday (to which we can only to-day very briefly allude), was in every way a success, though the early-flowering Chrysanthemums, for which the show was specially arranged, were by no means in full bloom. The display of Dahlias and Gladioli, however, helped to make up a very good show. The leading prize-winners with Chrysanthemums were Mr. N. Davis, Camberwell; Mr. Wright, Middle Temple; Mr. G. Stevens, Putney; Mr. Sadler, Streatham; Mr. Holmes, Hackney; Mr. Piercey, Forest Hill; and Mr. G. Bolas, Wirksworth.

The best collection of Gladioli came from Messrs. Burrell & Co., Cambridge, and the finest dozen from the Rev. H. H. D'Ombain, Westwell Vicarage, Ashford. Messrs. Keynes, Williams & Co. had the best forty-eight show Dahlias, and also the best twenty-four fancy varieties; and Mr. Turner staged the best twenty-four show varieties. Other successful exhibitors were Messrs. Cheal & Sons (first with Pompons and singles), Mr. Glascock, Mr. West, Mr. T. W. Girdlestone, Messrs. Saltmarsh & Sons, &c.

WOODTHORPE GRANGE.

SITUATED in the Borough of Nottingham, about two miles east of the town, and in the centre of a district long famous for the cultivation of the Rose, is Woodthorpe Grange, the property and residence of Henry Ashwell, Esq., J.P. There are few town residences which possess so many charming qualities as this, containing within its own borders, as it does, hills, dales, rocks, and water, individually and collectively of interest and beauty, and beyond them distant views of a charming landscape, ranging from the Leicestershire hills on the one side, and over the picturesque forest of Sherwood on the other; whilst in the valley near, one seems almost within the grounds of two other noted estates famous for their excellent horticultural productions, viz., Bestwood Lodge, where so many of those excellent collections of fruit which have so frequently graced the exhibition tent with so much success have been matured, and Arnot Hill, where upwards of thirty houses are devoted to that splendid collection of Orchids for which it is distinguished, and where those two fine varieties *Odontoglossum Hilli* and *O. Arnoti* recently exhibited at South Kensington are alone to be found.

The Grange is of comparatively modern erection, and is devoid of that massively pretentious architectural style which seems to be the order of the day. Domestic comfort seems to have been the one study of the respected owner. The gardens are about nine acres in extent, and possess many features of interest, the whole having been planned and laid out by the enthusiastic gardener, Mr. Edington, about ten years ago. The first object worthy of special mention is the large and well-arranged Rose garden, which is situated to the right of the pleasure ground, and is well sheltered from cold winds. Some hundreds of standards, half-standards, and dwarf Roses, embracing all the newest and finest varieties, are thriving in the best possible health and vigour, and at the time of my visit were a glowing and varied mass of exceptionally fine blooms. This garden is approached by four rustic arches, which are beautifully clothed with climbing Roses and Honey-suckles, all wreathed in sweet disorder.

A few steps brings us to the herbaceous border, which is about 100 yds. in length, and all alight with many charming things, all of which are accurately and plainly labelled. Mr. Ashwell takes a deep interest in this class of plants, and he is ably seconded in his efforts by the practical knowledge and assiduous attentions of his gardener. Near this is the kitchen garden and glass houses, the former of which is producing heavy crops of both fruits and vegetables, whilst a fair representative collection of small, but serviceable plants, supply the needs of the family. The vineries are carrying good average crops of nicely finished fruit, very noticeable being Duke of Buccleuch (perfect in bunch, berry and colour), Black Alicant, Gros Colmar, and Muscat of Alexandria, are all well done; Tomatos in variety occupy the back wall, and are carrying heavy crops of remarkably fine fruits of Dedham Favourite and Hathaway's Excelsior which are especial favourites. Melons are grown upon the single rod system, each rod being allowed to carry one fruit only, the plants being planted much nearer together than in the ordinary way; the result is satisfactory, for we noticed many fine handsome fruits. Hero of Lockinge and Scarlet Premier, are the varieties most esteemed. An adjoining house contains some good Queen Pines, and a long row of frames contains a fine healthy lot of Chinese Primulas, which will play their part in due course.

I cannot refrain from mentioning the remarkable and interesting rock garden. Here nature has been assisted by art to constitute a beautiful effect. The site chosen is that of an old brickyard, which was in full working before Mr. Ashwell came into possession of the estate. The stone principally employed is much weathered boulders of Limestone from the locality, some of which are extremely picturesque, worn, and perforated. With the exception of a few portions, no attempt has been made to follow any system of stratification, as the principal object was to provide nooks, recesses, and pockets of a fitting character for the plants, at the same time studying picturesque effects as far as possible. The back grounds are occupied with Rhododendrons, and other flowering shrubs, behind these being a sufficient number of larger Conifers to afford some shelter. Recesses or alcoves are provided at intervals, and devoted to special plants, such as those abounding

in peat districts, others growing on swamps, &c., all of which have their peculiarities carefully studied and suitable soils supplied; these constitute a series of highly interesting features, which are still further increased by the nooks of Daffodils, Lilies, Hellebores, Primroses, which, with many others, yield a continual succession of flowers from early spring to late autumn.

At the present time the lovely little *Acæna nova Zealandica* is most charming hanging from the rugged sandstone, whilst in conspicuous places are large patches of the common Heath, and in various positions are nice plants of *Ramondia pyrenaica*. Some of the stones are very interesting on account of the *Asplenium rutamarari* growing in the crevices, and huge patches of the *Thymus lanuginosa* creeping over them in graceful fashion. The back walks and banks are covered with numerous British Ferns; in one snug recess is a large patch of *Primula glaucescens* in fine health. There is a delightful waterfall of about 30 ft., and this is the only attempt made at geological formation; and over a natural looking series of projected ledges the water falls into a basin on the bog level, where water Lilies and other aquatics are in the most robust health. The water supply is obtained from a large tank, which is capable of accommodating great quantity of both rain and waste water of the place; it is filtered, and supplies this charming spot with its crystal drops. On a ledge well shaded, and under the influence of the saturated atmosphere, *Campanula Cenisia* is quite at home, as also is the white variety of *Silene acaulis*, and under an overhanging ledge *Myosotidium nobile* is in perfect health. The whole is a most charming piece of work, and is the result of much study on the part of Mr. Edington. There is a wide expanse of well kept lawn, a judiciously arranged flower garden, and many other noticeable objects of interest too numerous to describe in a brief article of this description.—*J. H. Walker.*

NEW SWEET PEAS.

A BATCH of bunches of flowers of new Sweet Peas, raised by Mr. Henry Eckford, Boreatton, Salop, came to the meeting of the Royal Horticultural Society on August 24th, but no one could get a correct estimate of their beauty, for they had travelled badly, and the flowers were much disfigured. It was impossible that the Floral Committee of the R. H. S. could take any notice of them under these circumstances, but it may be relied upon that they are good and distinct, and really represent new additions to this most useful class of hardy flowers. I have been to Boreatton and seen Mr. Eckford's seedlings, and I have no hesitation in stating that he has secured a wonderful break of seedlings, some of which will be certain to make a name for themselves in course of time. I made a note of the following as being well deserving of attention:—Purple King, the standards bronzy purple, with distinct margins of purple, the wings and crest bright purple, a fine and showy variety. Zulu King, shining maroon standards, shaded purple wings, very fine. Boreatton, shining pale maroon standards, purple wings shaded with violet, very fine. Perfection, dull rosy carmine standards, flaked with white, the blue wings pencilled with white; novel and distinct. Blue Beauty, rosy salmon standards, shaded with maroon, pale blue wings and keel; very pretty and distinct. Elegant, bright pinkish salmon standards, pale pinkish salmon wings; a distinct and pleasing variety. Apple Blossom, bright rosy pink standards, with blush wings; novel and pretty. Empress of India, pinkish salmon standards, with blush wings; and Her Majesty, pinkish salmon standards, delicate blush wings. This list does not represent all that Mr. Eckford sent, but all that I could describe with anything like accuracy, owing to the flowers having suffered in the course of transit.

In addition to the foregoing, Mr. W. Bull has distributed the following varieties of Mr. Eckford's raising:—Cardinal, shining crimson-scarlet; Indigo King, dark maroon-purple standards and clear indigo-blue wings; Princess of Wales, shaded and striped with mauve on a white ground; Bronze Prince, the standards rich shining maroon, deep bright purple wings; Lottie Eckford, white standards suffused with purple, the wings white, prettily edged with blue; and Queen of the Isles, bright scarlet standards flushed and mottled with white, the pale wings flaked and margined with rosy purple.

I am decidedly of opinion that Sweet Peas are sown much too thickly. When visiting Mr. Eckford at Boreatton, three years ago, I found that he adopted the practice of sowing his new Sweet Peas singly, with the result that they made large bushy plants, and flowered both freely and finely. I was forcibly struck with the size the plants made, and what a great space an individual specimen filled. As a general rule, Sweet Peas are sown much too thickly, and often in poor ground that has not been stirred deeply, and the result is they flower and then seem to decay; they are too crowded and the soil does not sustain them as it should do. Let them dig deeply and well manure the ground, and then sow thinly, so that each plant may have free room in which to develop. Let them pick off the blossoms as they decay, and they will be rewarded by a vigorous and healthy growth and a continuity of bloom that will surprise them.—*R. D.*

ON JUDGING.

At the monthly meeting of the members of the Preston and Fulwood Horticultural Society, held on Saturday evening, at the "Old Legs of Man" Hotel, Preston, under the presidency of Mr. John Newton, a paper entitled "How to Judge Fruits, Flowers, Vegetables, and Plants" was read by Mr. Samuel Heaton, gardener to C. P. Huntingdon, Esq., of Astley Bank, Darwen. There was a good attendance. After a few introductory remarks from the chairman, Mr. Heaton spoke of the many advantages arising from exhibitions of all kinds; they tended to advance the social and intellectual interests of the community, and to enhance the value of the varied productions. He then referred to the importance of selecting competent judges at shows, and said that they should be persons not only experienced in horticultural and floricultural pursuits, but well read, and have a good general knowledge of subjects outside their particular calling. Proceeding, reference was made to a few of the rules observed in judging fruit, flowers, vegetables, and plants. With regard to Grapes the berries should be large, regular, well formed, and thickly coated with bloom; no foot-stalks or stems should be observable. The bunch should be compact, free from blemishes, spots, rust, or rubbing; should have its shoulders equal to two-thirds of its length, and taper downwards. A Melon, when cut open, should possess good flavour, thinness of rind, and depth of flesh, and when uncut shape and odour were to be considered. In Peaches, Nectarines, and Apricots, size, shape, colour, and quality were the chief features. Apples should be well ripened, nicely shaped, firm to the touch, and when cut have a small core, be juicy and aromatic. The same remarks applied to other fruits.

Turning to flowers, Mr. Heaton confined himself to Chrysanthemums, Dahlias, and Roses. A good Chrysanthemum had abundant petals, compact and of good quality, regularly and gracefully disposed within a circular symmetrical outline, had freshness of colour, purity, and brilliance of bloom. The Dahlia, when viewed in front, should be a perfect circle, the petals broad at the base, smooth at the edges, thick and stiff in substance, perfectly free from indentures, and cup a little, but not so much as to show the under surface. The rows should be regular, each one forming a perfect circle without any vacancy between them; all in the circle should be the same size, uniformly opened to the same shape, not rubbed nor crumpled. Looked at sideways, the flower should form two-thirds of a ball, the centre should be perfect, the unopened petals lying with their points towards the centre. The rows of petals should lie one above another, almost covering each other, and the more they were covered so as to leave them distinct the better. Though cupped, must be shallow. The size of the flower when well grown should be not less than 4 ins. in diameter, and the colour should be dense whatever it might be. If tipped or edged, it must be free from blotches, splashes, or indefinite marks of any kind. So far as concerned Roses, without eutering into the numerous varieties, they should possess good and distinct colour, petals thickly set and regular, centre full and complete, under petals good, and bloom circular shaped. Size was also important, as well as scent in the scented kinds.

Mr. Heaton then touched upon the qualities to be observed in Cucumbers, Tomatos, Celery, Leeks, Onions, Cauliflowers, Cabbages, Carrots, Turnips, Potatos, and Mushrooms, remarking that size in all vegetables was

of great importance. Coarseness reduced the value, whilst good condition showed tenderness, succulence, and firmness. Collections of plants were judged by their general appearance and healthy condition, their quality measured by their commercial value combined with the labour and skill bestowed upon them, variety in bloom and foliage, and by their natural and graceful appearance.

The reading of the paper was succeeded by a discussion, in which Messrs. Swan, Roberts, Frisby, and others took part. The difficulty of the task allotted to judges at floral exhibitions was referred to, and it was pointed out that anyone who undertook such a position should have a thorough knowledge of plant and vegetable life, should know the commercial value of the varied products, and should be able, providing his decisions were questioned, to give a good reason why he had awarded the prize to a particular plant or collection of plants, to a certain dish of fruit, or to a specific tray of vegetables. They should know the qualities of the respective descriptions of fruits, flowers, and vegetables, and above all should possess the characteristic of firmness. A hearty vote of thanks was accorded to Mr. Heaton for his paper.

NOTES ON LILIUMS.—IV.

My last chapter was brought to a close with a promise to refer further to the remainder of the long-flowered section, *L. longiflorum*, for though the two kinds there cited may be regarded as the most useful for general purposes, yet some gems remain, and seeing that with a little care they may be grown to perfection, I have deemed it prudent to give them here with brief cultural details. Before giving those for which special culture is the best, it may be well to include

LILIUM LONGIFLORUM TAKESIMA (Jama-Jura), and *Liu-Kiu*, both fine forms, for which the ordinary treatment of the type does very well. The former grows about 20 ins. high and is distinguished by its purplish stems and also a purplish tinge on the outside of the trumpets; the last named variety has flowers larger than the type and more reflexed, it also is an excellent kind, and all delight in a rich loamy soil. For one of the finest, if not the best of the group, we will look at

LILIUM LONGIFLORUM WILSONI, a truly magnificent Lily, growing when well established from 3 ft. to 4 ft. high, it is easily distinguished from the other members of the long-flowered section by its flowers, which are situate at right angles with the stem, and by their great length, which is from 8 ins. to 10 ins.; in point of purity and fragrance it is not surpassed by any of its allies, it is one of the desirous, and all should embrace it, not only on account of its giant proportions, but because it is the last in flower of the longiflorum varieties. Another rare gem is

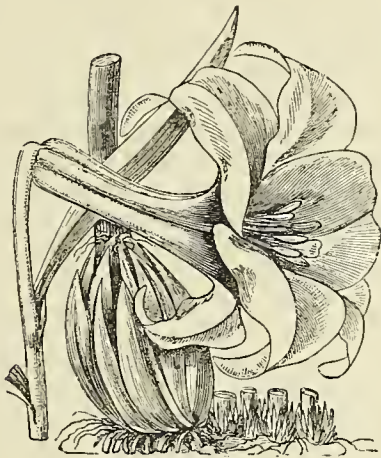
LILIUM LONGIFLORUM NEILGHERIENSE, a most lovely form from the Neilgherry Hills, at a great elevation, and such being the case, it is not so extremely hardy and frost resisting as the rest. It succeeds well in equal parts of sandy loam and peat, and grows 2 ft. to 3 ft. high, the long handsome trumpets, which are produced several on a stem, varying in colour from pure white to soft sulphur-yellow; it is an exquisite form and most admirably suited for cool greenhouse culture, from which frost may be excluded. But while speaking of those needing a little more care than the majority, who will blame me if I mention what Mr. Baker has justly designated "The Prince of the longiflorum section," viz.,

LILIUM WALLICHIANUM (for, be it remembered, I had only intended giving such as may be grown with any ordinary care). It comes from the Himalayas, and though not perfectly hardy may be grown in pots with comparative ease; it delights in very sandy peat, and should be potted moderately firm, and at no time (except when sending up the flower stem) should it receive more water than will keep the soil fairly moist; a free and abundant drainage is also very essential to its well being. It grows 2 ft. or 3 ft. high and has elegant pure white trumpet-shaped flowers. Then, for a moment, to turn from this lovely gem and gaze on the magnificent

LILIUM JAPONICUM, also called *Brownii*, we have another veritable Prince among our hardiest Lilies, for in this species we find all that can be desired in respect to hardiness, easiness of culture, with bold vigorous habit and sound constitution, and given a good sound generous loam or loam and peat (of the latter about one-

third) making all rather sandy, its flowers will equal those of longiflorum *Wilsoni* for size, and are about 10 ins. long, growing 2½ ft. high; the immense flowers are pure white internally with chocolate-coloured anthers; externally, the flowers assume a rusty purplish hue, with the points of the petals slightly recurved. I know of no Lily that can equal, much less surpass, this noble Japanese species for its massive bearing. Passing on we find a most lovely though somewhat delicate and fragile species next in

LILIUM KRAMERI; its slender bearing at first sight reminds one of a delicate form of *L. auratum*, and, indeed, its foliage bears a strong resemblance to some of the forms of that truly noble and somewhat varying species. In other respects, *Kramer's Lily* stands unique



LILIUM WALLICHIANUM.

in colour; it is a soft rosy blush, and unspotted, attains 2 ft. and even 3 ft. high when well suited, and has flowers some 6 ins. in length, and gracefully recurved. In short, this is one of the most beautiful and chaste of all known Lilies, and need I add that such a remark is not duly considered ere it was penned, for, though the genus is extensive, and the species and forms multitudinous, *Kramer's* has still the above named characteristic, which makes it so distinct from any other in cultivation. Plant it in very sandy and fibrous peat, and select a shady sheltered nook; in winter time place a handful of short litter or fibre over the bulbs, and thus secure them from excessive rain or frost. There is a variety of this species with pure white flowers—a



LILIUM KRAMERI.

purity not often met—and such as may be found so freely in the longiflorum exists in this, thus forming the most exquisite companion for the type which could possibly be selected, in habit and general requirements it is similar. At present this is very scarce, and I may add must not be confounded with

LILIUM KRAMERI ALBIDUM, which is usually sold for the true pure white variety. *Albidum* is white inside with a faint suffusion of rose; externally, the last named colour predominates, and while a most beautiful and pleasing Lily, I regard its varietal name as a misnomer, and calculated to mislead and disappoint those who may not be intimately acquainted with its actual colour. Another variety called *roseum* has soft rose-coloured flowers, which fully bears out its distinctive name.

LILIUM LONGIFLORUM HARRISII.—The next Lily to which I shall briefly refer, and whose time of flowering wholly depends on circumstances, is *L. longiflorum*

Harrisii, also called "floribundum" and the "Easter Bermuda Lily." This, from a floriferous standpoint, surpasses all other Lilies, and is, in fact, the nearest approach at present to what may be called perpetual flowering. I doubt not there are many like myself who have been somewhat puzzled about it, and certainly I was to such an extent when *Harrisii* made its debut in this country, that I pronounced it as a myth. I have for years been acquainted with the forms of *L. longiflorum*, and was amused when a certain representative of a London firm failed in his endeavours either to sell me, or make me believe in the so called "new species." Flowering specimens were before us, and I pronounced them "*L. longiflorum eximium*, and below the average height of that," and eventually my verdict proved the correct one. There is, however, no occasion to fear that *L. Harrisii* is a very fine Lily, and most distinct. It grows 3 ft. high, and produces numerous pure white flowers as in typical longiflorum, and as soon as the old flower stem shows signs of decay, another flower stem will be pushing forth.

Those of your readers who know but little of the free-flowering properties of this Lily, should refer to *THE GARDENING WORLD* for the 12th of June of the present year. In that issue is contained a figure of *L. Harrisii* with 145 blooms on a single stem, and though this may only be a most extraordinary record, and an isolated example after all, yet it shows the extreme freedom of flowering. I have, at present, some good bulbs of this handsome Lily which have already flowered twice this season, and that within four months. The first flowering took place in April, and the second early in August, and I doubt not but that these will flower again later on. The bulbs are planted singly in pots in rich loam, and as soon as the flower stem reaches 1 ft. high I begin to encourage it with weak liquid cow manure. If this Lily could be worked in for Christmas time, what a grand addition it would prove, and what a sensation a few hundreds of its flowers would create in Covent Garden about the 20th of December. According to my present experience of it, you cannot give it a too liberal treatment, and this liberality must not be abandoned when the first flowering is complete, for it is at this time that the second, and consequently the weaker spike, is pushing forth and needing extra nourishment. I have also observed this same character in typical longiflorum, i.e., of pushing forth new growths after the collapse of the old ones; the lapse of time, however, is much greater in the case of the type than in the variety *Harrisii*.—J.

FEEDING AND DISBUDDING THE CHRYSANTHEMUM.

(Concluded from p. 7).

Having done so much for the plants, the work is not completed. Every cultivator knows that as long as the Chrysanthemum is growing it is a plant which requires attention, and unless this is given great loss will follow. The next and most important work of all is

DISBUDDING,

It is, without doubt, the leading feature, or the most important item in their cultivation; the feeding, although it takes the lead of this, is of actually secondary importance, but both are so closely connected, that we cannot get on with one without the other, that is where high cultivation is desired. First we feed in order to secure a strong and vigorous plant which will produce a largely developed bud. Next you select the proper bud according to the variety, and then the bud has to be supplied with the necessary nourishment to cause it to swell and develop itself into a perfect flower. I shall not presume to lay down any exact rule to go by in disbudding; this can only be attained by careful examination and long experience. Chrysanthemums that are grown for the quality of their flowers, are furnished with from one to three stems, according to circumstances. If the plants were struck early, and have not been pinched or stopped at any time during their growth, they will branch into three stems during July or August, some later than others according to the variety, and will show a bud on the main point of the stem. This bud should be removed, unless an early bloom is required, or, if allowed to remain, the stem will throw out three shoots just the same. Generally speaking, most of the finest varieties of the incurved section will do best on the next bud

that is formed, that is, provided buds appear on the end of those shoots. If the plants have been grown without a check, I have known them to break side shoots as many as three times before the terminal bud comes. If you want a medium sized compact bloom take the terminal, but if you want a large flower take the crown bud which comes previous to the terminal bud. I have known many instances in which early propagated plants have given some trouble in this respect. The only way I can find out of the difficulty, if the buds are early, is to take out the crown bud and secure the terminal bud.

THE TIME TO DISBUD.

To make myself clear, I would remark that the last week in August is early enough for the generality of blooms to be secured; but for the late varieties, such as F. A. Davis, Eve, Lucifer, and others of that class, these should be taken the first week in August, that is, if they are wanted in bloom with the others; and, if well treated, will produce a very large flower. Where a bud shows itself say, in the third week of August, and it is seemingly perfect in all its parts, it is a good plan to keep that bud; I am now alluding to show blooms, but in stopping the plant take off two shoots, and allow one to grow alongside the bud for a while: if the bud develops itself satisfactorily and requires the full flow of sap into it, this shoot should be taken away. Another very good plan is to work the process of disbudding on a sort of compromise principle, but by adopting the plan just alluded to, as by doing so you thus secure two chances, whereas if all the shoots were removed you would only have one on each stem. Now, suppose we take a plant having three stems, by the end of August, or early in September, from each of these three stems three more will branch out, making nine in all; at the point of these stems will be produced the buds, five to each point. If all were allowed to remain some would not be even and well finished; therefore the best plan is to reduce the number of shoots to six, which is two to each stem, and as soon as ever the buds are formed look them over, and with a small pointed knife or pin, remove all except the one you wish to retain from each shoot. The sooner this process is performed the better after the buds are formed, for the finer will those become that are left on the plant. To have a stand of even blooms on the exhibition table, where you have a collection of small and large blooming varieties, a little judgment is required in choosing the proper buds from each plant, ever remembering that the largest variety requires the medium bud, while the smaller kind require the larger bud left on the plant, and the best treatment. As a rule the largest bud will be found in the centre of the buds formed at the points, while the medium sized bud will be found on the side of the centre bud at the end of the shoots.

INDIVIDUAL CHARACTERISTICS.

It is also necessary in disbudding to keep in view, as much as possible, the individual characteristics of each variety. As for instance, White Globe and Golden Jardin des Plantes, both grand old varieties and well adapted for exhibition, are better taken somewhat earlier if they are to be had in bloom with some of the others for that purpose, that there might be an uniformity in their blooms; mistakes are often made in disbudding which need not occur if it be borne in mind that it is not the number of breaks on a plant that has anything to do with the quality of the flower, but catching the bud at the proper time. Those who grow flowers for market of course adopt the principle of culture which pays them best. The Japanese section is becoming more popular every year, and ought to be grown by every one who takes a delight in Chrysanthemums, their colours being so bright and distinct; these can be grown and disbudded so as to make some splendid heads of bloom. Many of this class can be grown on the axil bud system. If very large heads of bloom are required and they are wanted to bloom early, such sorts as Triomphe du Nord, James Salter, Elaine and several others, that is providing their stems are thinned to about four or five to a plant, and the side shoots that grow up the stems be taken out, as these will rob the buds. Much more might be said about these useful autumn flowers, but if I have said anything helpful to anyone, I shall feel amply rewarded for any trouble I may have taken. If it were needful a few varieties might be mentioned, but as the family is so very extensive and numerous, and the catalogues are within the reach of everybody, I will omit mention of any.—E. Austin.

THE CULTIVATION OF THE SHOW PELARGONIUM.*

THE Pelargonium, as we know it now, is a much superior subject to the Pelargonium of our grandfathers, and of the old Cape species there are very few in cultivation in gardens as compared with olden times. The Pelargonium can be raised or propagated by means of seeds, cuttings, or in the case of the tuberous-rooted sorts by pieces of the roots cut in lengths, but the most common way is to grow them from cuttings. For convenience I will divide my paper into sections, and the first I shall devote to the soil or compost. There is a great diversity of opinion as to which is the best sort of compost to grow the plant in, some of the champion growers using one kind with success, and some another. I will, with your indulgence, enumerate two different examples as practised by two old and successful exhibitors, viz. Mr. Cock, of Chiswick, and Mr. Cattlegue, of Chelsea.

Mr. Cock recommended good turfy loam, pulled or chopped to pieces, and mixed with short stable litter that had been previously saturated with manure-water. This was thrown into a heap to ferment, and covered over with slates or tiles to prevent the ammonia from escaping. After laying for three weeks it was mixed with the loam in equal parts, and again thrown into a heap, and covered over with more loam. It was then allowed to remain for twelve months, and when the time for using it came round, an equal part of leaf-soil, and one peck of silver sand was added to the barrowful of compost—rather a long but, no doubt, a good process of preparation. Mr. Cattlegue recommended two barrowfuls of good maiden loam, one barrowful of cow-dung, three years old, and one peck of silver sand, adding for the final shift one peck of Bone dust.

I will now state as near as possible the compost I use with, as some of you are aware, a fair amount of success, viz., two parts of as good loam as I can get, one part of leaf-soil, a portion of old Mushroom-bed manure, with sufficient sand to keep the whole porous.

PROPAGATION.

Propagation by seeds is only practised by those who wish to secure new varieties, either as a hobby, or for commercial purposes. The seed should be sown as soon as it is ripe in soil a little more sandy and finer than is used for general purposes. Cover the seeds slightly, and place them in a gentle heat until they germinate, afterwards removing them to a shelf near the glass to keep them from becoming drawn, and prick them off into 60-sized pots when large enough. The subsequent cultivation will be the same as recommended for cuttings. Some growers do not take their cuttings until after the wood has become ripe, and they cut the old plants down; but this I believe to be a great mistake. The latter end of June, or the beginning of July, in my opinion, is the best time, choosing sturdy short-jointed shoots about 3 ins. long. Place them either singly in small pots, or five or six round the edge of 48-sized pots, using the same sort of compost as recommended for seed sowing. Place the cuttings on a shelf, or in a frame, with the exception of the fancy varieties, which should have a little more sand and a slight amount of heat, this class being more tender and difficult to grow.

Most of you will have noticed that by continual watering some of the roots will become bare and exposed to the light; these will, if in a moist and humid atmosphere, throw up suckers similar to the Chrysanthemum, and which may with ease be taken off and potted, but I do not recommend this mode of propagation, simply because they are more liable to sport. By the beginning of September the cuttings or seedlings should be well rooted or established, and should be potted off, or if struck in single pots be repotted into small 48's; they should again be placed in a house or frame near the glass (and I may here say that the Pelargoniums should at all times, until they come into flower, be kept as near the glass as possible) and kept close for a few days until they have taken to the new soil; after this they should receive an abundance of air so as to keep them dwarf and sturdy. A 5 in. or 6 in. pot is large enough to bloom one year old plants in, and they should receive their final shift at the latter end of January, or in the beginning of February. The plants, through the winter, should be kept in a house

from which the frost can be excluded, but by no means must they be kept too warm—a temperature of from 40° to 45° at night, with a slight increase in the day time is sufficient. During the months of February and March it is very beneficial to close the house at three p.m., and syringe overhead.

By this time the pots will be full of roots, and they should receive assistance in the form of occasional applications of manure water, or what I prefer better, a dusting of Standen's manure, say a thimble-full to a 6-in. pot, given about three times during the growing season. A little of this manure is also very beneficial mixed with the compost for the final potting.

STOPPING AND TRAINING.

We will now for a few moments turn our attention to stopping and training, this depends entirely upon when you want the plants to bloom, and what size you require the plants to be. If required to bloom in June they should be stopped in March for the last time, and in April to bloom in July, as it takes about three months to get them into bloom after stopping. As the young shoots grow and the flower spikes appear, they should be nicely staked, so as to keep the sappy growths from breaking. As soon as they come into bloom they should either be well shaded from the bright rays of the sun, or removed into a cool conservatory, as nothing suffers sooner from the sun whilst in bloom, than the Pelargonium.

AFTER FLOWERING.

We will now consider the after management of the plants. As soon as they have done blooming they should be put in the open air, where they will get as much sun as possible and very little water, so as to well mature and ripen the growths. They should remain thus until the wood is hard, then be cut down to within about two eyes of the old wood, and be placed in a cold frame. Here they should remain until they have "broken nicely," or, in other words, made new shoots about 1 in. in length, then, if possible, they should be removed into a house where a drier atmosphere can be obtained than in cold frames. If all is going on well the roots should now have become active, and the plants must be taken out of the old pots and the soil reduced (according to the activity of the roots), so that you can repot into the same size, or a size less pot.

Some growers recommend the entire removal of all soils from the roots, but it is a plan I never adopt, unless the soil is very sour or the roots are in a stagnant condition. After removing all the soil, several varieties refuse to take to the new compost, and gradually die away. But if you have to resort to this practice, it is a good plan to wash the roots in luke warm water, and whilst damp to dust them well with silver sand, this will promote a reaction in the roots, and cause them to make a mass of young fibre. If convenient, they will now do better if kept a little closer for a fortnight, so as to get them well established before winter sets in. Great care is also very necessary at this time in watering.

POTTING OLD PLANTS.

I think a few words now about the final potting of old plants will not be out of place. First, what size is the best to finish large or exhibition plants in? a 7 in. or an 8 in. pot is quite large enough for any plant; I have seen excellent specimens 3 ft. across exhibited in London, in that size. Secondly, the compost must be a little rougher and have a little more manure added, either cow or horse manure, or some of the artificial manures now in use. Thirdly, be sure to pot moderately firm, the water will then not pass so quickly away; at the same time use clean pots, and crock well, so as to prevent the soil from getting soddened. Training and stopping plants for exhibition must be rigorously attended to, beginning by placing neat stakes close to the rim of the pot, and in as near a horizontal line as possible, so as to get a good foundation for the bottom, it is then a very easy matter to fill up the centre. In stopping, you must use your own judgment, not forgetting that nearly three months is required from the last stopping to get them into bloom. Great care is always necessary in watering, as in bright hot weather they will take any quantity, still, if the weather sets in cloudy, wet and dull, and the plants are very wet, much of the foliage will turn yellow and eventually fall off; a little fire-heat, with sufficient air, will soon remedy this evil.

* Read by Mr. Robert Hall, gardener to R. W. Garland, Esq., Storth Holme, Rammoor, before the members of the Sheffield and Hallamshire Gardeners' Mutual Improvement Society, August 11th, 1886.

GIVING AIR.

At all times let the Pelargonium have as much air as the state of the outside atmosphere will permit, with the exception of when they have been newly potted, as nothing brings green fly sooner than a warm, close, humid atmosphere. I forgot to mention, when speaking of watering, that in using manure-water never give it too strong, but weak and often after the pots are full of roots, and discontinue as soon as the blooms begin to expand; a little soot-water will give the foliage a dark green, healthy appearance.

INSECTS.

The green fly is the most troublesome insect which we have to deal with, and slight fumigations should be resorted to every week or fortnight, particularly in the spring and early summer months. Dipping overhead in a solution of soft soap and tobacco-water occasionally will, in a great measure, keep this pest down, laying the plants on their sides for a few hours so as to keep the soap from the roots, syringing afterwards with clean water.

VARIETIES.

There are a great number of varieties in cultivation now, but I will simply give a list of what I am growing at the present time:—Prince of Wales, Madame Thibaut, King of Purples, Zephyr, Fairy, Illumination, Marie Lemoine, Digby Grand, Emperor of Russia, Ulysses, Kingston Beauty, Huntsman, Nellie Hayes, Monarch, Purple Prince, Grand Duchess, Mrs. Lewis Lloyd, Sophia Dumaresque, Volante Nationale, and Vesuve, all of which are good and distinct.

GARDENING NOTES FROM SCOTLAND.

Vegetable Garden.—At the present time a special effort is made in most parts to get a good supply of vegetables planted, and on the way for winter and spring use. Cabbage, Turnips, Spinach, and Lettuce are among those which are in most places indispensable all the year round, but now, as the season is advancing, one is anxious to see the allotted spaces established with growing crops. The past season was one very full of complaints regarding the crops referred to, but, except being late, I think we have had about the best season of vegetables which we could desire; abundance of extra quality has characterised the past season. The growth of some kinds for winter seem to be getting gross, and may want checking by "healing over," or raising up their roots and treading them firmly in the ground again. This applies to Savoy, Curled Kale, Broccoli, and early Brussels Sprouts—they are now forming sprouts which may be ready for use in the course of a week or two. Opinions vary much in the north respecting the time of planting the main crop of Cabbage for the following year, but as seasons have to be studied, whether of a growing character, or the reverse—such as last year, it being one of the longest winters within our recollection. With Cabbage it is a sound practice to have at least two lots planted at different periods, say early in September, and about the end of the month. Last year we made a plantation of some 600 or 700 plants about the first of the month, and about 1000 early in October. The latter did by far the best, and were as early as the first lot planted. The plants were planted with extra care, the use of fresh soil to the roots was given in process of planting, the ground being of a clayey texture, and as good a return has been given as one could desire.

Trenching.—If ground requires trenching it should have it, always remembering that if the sub-soil is strong and tenacious, very little should be brought to the surface at present, but be well turned over in the bottom roughly, and if there is a good store of old waste soil, the sharper the better, which can be turned into the trenches, it will be of great advantage to future crops. Rubbish heaps, where vegetable matter has accumulated and well rotted, may be got rid of in the trenches, trodden down, if necessary, and immediately under the top spit a good coating of old manure should be placed. The plants will not reach this till far into next spring, when they will start into rapid growth. We believe in liberal manuring for Cabbage, but put down so that the roots will not reach it during their autumn growth. Some prefer firm soil for their autumn planted Cabbage, clearing off the Onions, hoeing and

raking the soil, and planting strong plants which have been previously pricked out. We have often done this, but it is quite a different thing planting anything in soil which has at one time been deeply and well cultivated, and in that which has not; some of our non-trenching friends can refer to their present success, but for that it may be easily proved that the soil had probably for many years been deeply trenched, and frequently too.

We have information from an agriculturist who took a farm where the "high rents" did not allow a living for his predecessor, but a change from what he called "surface scratching" to "deep tilth" has worked wonders on the land, crops, and we may add, the farmer's exchequer. We know what market men get out of untrenched ground, but we know the amount of manure which has been buried in the land, which enables them to push a spade downwards 2 ft. or more, and such may be called "made ground." Some market-men, however, trench, and are delighted with the result. We have never met any northern cultivators who objected to the practice of trenching, and we would be sorry to advise them to the contrary, but not to bury valuable manure so low that the plants cannot reach it in time to be of value to them. Turnips do not require rich soil. After the early Potato crop has been removed is very suitable, and now the plants should be carefully thinned, if not already done, kept quite free of weeds, and the surface kept open and healthy. Spinach does well with the same treatment; crowding at this season leaves the crop in bad condition to stand severe frost. Lettuce should be placed on a sheltered border, or a ridge thrown up sharply (like a low Potato pit), and the plants placed thickly thereon. Hardy kinds, such as Brown Cos, Hammersmith, Brown Dutch, &c., should form a large percentage of them. A good coating of fine ashes and soot should be strewn among young plants.

Mushroom Beds.—The present time is very suitable for forming beds for Mushrooms in the open ground. A ridge of stable manure, put up from 2 ft. to 3 ft. high, the length of which may be according to requirements. A few yards long at one time gives a large supply of Mushrooms for a household, and a piece added every few weeks will keep up a regular supply. Much disappointment is often experienced by using old spawn which has exhausted itself, and the vendors of this article who have secured a name to themselves for good quality take care that their customers are not supplied with spawn which has long been in store and may have wasted itself. Exhausted manure which has become inert is another source from whence disappointment may come. The stable manure is often dried and turned till it is of no more value than withered grass. Chopped straw and turfy soil often has produced the finest crops of Mushrooms seen. A little turf in manure is advantageous at any time, as it gives a longer period of bearing; wet manure, with offensive smell, is very unsuitable. Mushrooms are grown in smaller proportion in northern parts than in the south. The large tracts of ground in the latter district, used by market men to raise Mushrooms on, no doubt has been imitated by private growers; but old sheds or any such buildings may often be turned to good account for Mushroom growing. When under cover of such the crop can be easily reached in all weathers, without the necessity of uncovering, perhaps snow first, and the littery mess which is associated with outdoor cultivation. Potatoes in pots to be used at Christmas, in their young unripened state, should not be checked by exposing the haulms to stormy weather; breakage of the tops while in active growth is most injurious to the crop. These grown in the open ground, where hoops and mats can be placed at pleasure, or frames placed over them to ward off frost, aids the object which is desired. When a few dozen pots are grown they can be removed under protection.—*M. T.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

Tree and other Carnations for winter and spring flowering are very useful, and though to obtain early plants, the best plan is to layer them, or insert cuttings in frames much earlier in the season than this; it is not too late now if a few frames are at command. Such varieties as Souvenir de Malmaison, a superb Carnation, which some think difficult to grow, can be treated in

this way now with success, but any operation of the kind should not be delayed much longer, or the results will be less satisfactory.

If an old plant can be obtained, either purchased or as a gift from some fortunate neighbour who has plenty, and who probably prefers young plants every two or three years, it should be plunged in a frame of light sandy soil, quite up to the collars, and then the branches and stems can be pegged down and treated in the same way as recommended a short time since for layers out of doors; or cuttings can be taken 4 ins. or 5 ins. long, but not extending into the hard wood—though it should be fairly matured. These can be inserted in light soil and placed in a frame kept shaded and close for a few days, and preferably placed in a cool shaded position while the weather continues so warm.

In the after culture of this and most of the other Carnations in pots, it is wise to employ a very moderate amount of manure in the soil for the early stages; indeed, some prefer assisting the plants at all times by supplies of liquid manure rather than by having too much in the soil about the roots.

Bulbs are now coming into the hands of the vendors, and all who intend devoting some space in their greenhouses and conservatories to these useful plants should send their orders early, as they are more likely to get good bulbs than later in the season, when, perhaps, the stock is getting short and all the best have been selected.

To have bulbous plants in their best form it is important to secure sound, heavy, well-matured bulbs, and without that the best cultivation is of little use. At the same time, amateurs should never go to the other extreme and imagine that bulbs do not profit by good attention and a careful consideration of their requirements, for even good specimens may be spoiled. After the bulbs are received, those intended for earliest flowering should be potted at once, and plunged outside in ashes near a wall or in any sheltered position. The others must be kept in cool airy drawers or on shelves, but it will save some time if the majority of those for indoor decoration are potted at once, and it is easy to retard them as late as is desirable by allowing them to remain under their covering of ashes outside, and shifting them in batches under glass for forcing.—*Scolytus.*

DON'T BUILD TOO FAST.

THE florist is almost invariably a chronic builder. His stock increases, and to house it he feels obliged to build; to build costs heavily, and, with the exception of the few months after spring sales, a large proportion of the trade are hard up, pinched for cash, and therefore work at a great disadvantage in buying supplies, fuel, etc.

Don't build too fast, but when you do build, put it in to stay. Don't build too many temporary houses; there are too many chicken coops connected with our florist's places now. They are a drawback instead of a benefit. Always remember that "a little well done is better than a great deal half done." You will find by experience that a small place in first class shape and well handled will produce more dollars than a large one in poor condition and only half attended to.

Many of our smaller florists carry over stock which is of little value, merely because they do not wish to throw it away. Don't do it. Don't house a plant that you do not see a clear prospect of gaining a profit from. Don't put in a plant that is not in vigorous health; it will cost you more to nurse that invalid to health than it would to propagate and grow a new plant. Don't fill your houses with a plant because it propagates easily. Work to grow that only for which there is the best demand, and discard anything not of practical value.

Have a small, well-built, well-equipped place, rather than a large collection of shaky, poorly-equipped houses. When you have money to spare and your small place is in first class shape, if business is good and the demand growing, build, increase your business, have enterprise and be up with the times; but when you do build, do it wisely and well.

Now is the time to put your place in shape for the coming winter. Don't wait until it is nearly time to expect frost and then be obliged to rush it through in any sort of shape in order to save your stock. Take it in hand now, take time and do it well. Have a little lee-way; don't wait for the last moment. These repairs always take longer than at first supposed, and there are enough chances of failure in our business without adding any unnecessary ones.—*American Florist.*

HECKFIELD PLACE.

IN one of his "*Lessons for the Day*," Mr. Moncure D. Conway, says, "There is a beautiful angel called Art, able to surround life with idealizing forms and colours, and introduce man into an enchanting islet which anticipates the perfection of the world. Before the mind has trained itself into a knowledge of the principles of picturesque beauty, and cultivated a susceptibility to poetic and artistic creations, it is apt to suppose that Art can only build round man a palace of illusions. But it is a realm of realities Art creates for us. It works on the emotions, and if any feelings be awakened and excited, it matters not whether it be material or a spiritual object, the effect is the same, the joy is the same." I was reminded of this passage when looking through the grounds of Heckfield Place, Winchfield, a few days ago. Here is a garden that instantly strikes the visitor as representing something out of the common way, something rarely seen, and when seen is remembered as representing a series of striking pictures, not one of which is common-place, and yet, at the same time, thoroughly in harmony. Perfect order reigns everywhere. The visitor walks about Heckfield and wonders where the rubbish-yard can possibly be. It would doubtless be found if anyone looked for it; it is very easy to find it in some pretentious places, because it is almost impossible to visit the frame ground or kitchen garden without seeing it, but at Heckfield it is kept quite out of sight, as if there was no necessity for it.

Then, again, everything appears to be seen at its best, whatever the stage of development or season of the year. The reign of order is perennial, the best possible is the one controlling aim that inspires the worker all the year round. Nature has done much for the grounds, the sweep of rounded hill and pleasant valley would remain if the hand of man were stayed, and the place fell into neglect, but the smooth sward, the well kept walks, the openings in the trees, through which can be caught glimpses of distant loveliness, the kept ground, which appears to fall away almost imperceptibly into the park land beyond; the ingenious devices by which "distance lends enchantment to the view"; the marked individuality of every specimen tree, so that its charms shall be revealed in all their fullness, and the thriving condition of subjects not often found in pleasure grounds of this character, all attest to those touches of art, "which anticipates the perfection of the world." If you want to enjoy a garden, go to Heckfield, and having seen it, be satisfied with what is witnessed, and go nowhere else for a week after at least, if you would escape the disturbing influence of violent contrasts.

I think if there is one pleasing feature at Heckfield more than another it is the planting at the north-western end of the lake. It is all the handwork of man, and yet the material is so naturally disposed that one can imagine it was once a thicket, from which much of the worthless undergrowth had been cleared away, leaving only that which would beautify the slope of turf. Eucalyptus, Bamboo, Cedar, and others stand out prominently, thriving with native luxuriance as if indigenous to the district. Congenial situation, suitable soil, and constant care bring about these results. Here are *Phormium tenax variegatum* finely developed that has stood out for years, and clumps of *Bambusa Metake* that have occupied this position for four or five years at least. Of the *Eucalypti*, *E. rubra* is the hardiest; but the winter of 1886 that killed so many fine specimens round London, left those at Heckfield almost unscathed. Here, too, is a remarkable specimen of what Mr. Wildsmith states is *Juniperus Burkei* 14 ft. to 15 ft. in height, and stated by Mr. Anthony Waterer to be one of the finest in the country.

THE TERRACE GARDEN.

Take that wonderful terrace garden. I can imagine visitors going to Heckfield expecting to see a flower garden much upon the lines of the old style that prevailed twenty years ago, with well defined lines, segments, zones, circles, &c., as if the most perfect geometrical precision was consonant with the most charming effect. But what one really sees is a subdued blending of subjects in such exquisite adaptation, that the first exclamation is, "How beautiful!" Succeeded by, "How simple!" Whether they be embroidered beds, looking in the full flush of the summer sunlight like cushions of jewels reposing upon the green sward, or beds filled almost entirely with flowering plants; simplicity is the prevailing feature. The planning and planting of these beds must be work of immense

labour; but every detail, however small, appears to be harmonious. There is no glare; a subdued harmony of soft beauty and fitness is on every hand. I greatly liked some beds having centres of *Fuchsias*; they were charming. Here in raised stone beds, and also in those on the turf, were vigorous specimens of *Phormium tenax variegata* that have stood out unharmed for several winters. Dotted about on the grass lawn are specimens of *Retiosporas* planted four years ago, when quite little, and now 4 ft. in height and finely coloured. In the way of suitable bedding plants, *Amaranth*, a pink-flowered *Zonal Pelargonium*, deserves a note of approval; here is a brilliantly coloured *Iresine* almost scarlet, looking more like an *Alternanthera*, which originated with Mr. Coleman at Eastnor Castle; it is very bright indeed, and looks to be a sport from *I. Lindeni*. *Princess Beatrice Begonia*, a mule hybrid, bearing a profusion of pink flowers, should be mentioned as being employed here as a charming "dot" plant; it is one of Messrs. Sutton & Sons' novelties. And what a delightful plant for carpet work is *Sedum acre elegans*, it is seen here to the very best advantage. Mrs. Gray is one of the best white *Violas*; it was very effective mixed with dwarf *Ageratum*. *Lobelia*, Heckfield Favourite, is very dwarf and compact, and of an extremely pleasing shade of blue. *Herniaria glabra* is a very useful carpet plant, because so hardy and persistent; and is employed for both summer and winter work as an edging to beds. The visitor leaves the garden reluctantly, for at every turn some charming detail awaits the eye.

Running athwart the walled-in kitchen garden is a gravelled walk, having on either side a closely trimmed hedge of *Cupressus Lawsoniana*, and between it and the walk a border 3 ft. or so in diameter. Growing close against the hedge on either side, and tied closely into it, are single and *Cactus Dahlias*, and at their foot another piece of ornamental gardening formed of dwarf subjects, among them Sutton's *Princess Beatrice Begonia* in the midst of little panels of *Sedum acre elegans*.

PLANT HOUSES, VINERIES, &c.

These and the kitchen gardens are in the same perfect order. There is a vinery just within the pleasure grounds in which the vines are said to be seventy years old, and they bear most useful bunches, and colour well. There is one vinery planted with *Lady Downe's*, and a few years ago Mr. Wildsmith brought the shoots of the vines down to the bed on the other side, and so rooted them at both ends. Then he set to work later on and cut them away on the side on which they were planted, and they are now heels upwards. What a kind of topsy-turvy business! But the Vines like it, and go on producing bunches in the regular way as if one might take the greatest liberties with nature, and she show no signs of annoyance or outraged feelings. Grapes, and good Grapes too, are always a feature at Heckfield. *Tokay*, *Gros Maroc*, *Buckland Sweetwater*, *Golden Queen*, *Mrs. Pince*, *Muscat of Alexandria*, *Gros Colmar*, *Madresfield Court*, &c., are all to be found here, and very fine too.

There are good crops of fruit on the open walls—*Peaches*, *Nectarines*, *Apricots*, *Plums* and *Pears*; the *Early Beatrice Peach* on the open wall deserves special mention. *Pears* are a great feature at Heckfield; they abound on every hand—on walls, on arched wire trellises, as cordons, and as pyramids. The best crops are found on *General Todleben*, *Beurre Diel*, *Winter Nelis*, *Jargonelle*, *Beurre Clairgeau*, *Glou Morceau*, *Josephine de Malines*, *Pitmaston Duchess*, &c.

There are lines of *Sweet Peas* perennially blossoming; the secret being that all the seed-pods are kept picked off, and the plants devote their energies to the production of flowers instead of seeds. The leading shoot also is pinched back, and the plants become more branching in consequence.

Chrysanthemums in pots are a really wonderful feature. Of late years Mr. Wildsmith has become an exhibitor of *Chrysanthemums*, and this season he is growing from 600 to 700 plants in pots, the large majority of them plants on single stems to produce exhibition flowers; in addition there are numbers of bush specimens. The plants are full of promise, and the tall stemmed ones are tied to wires stretched from tall supports, in addition a tall stake is placed firmly in the ground behind each pot, and the plants secured to it. Mr. Wildsmith should make his mark at *Chrysanthemum* exhibitions this autumn. The kitchen garden crops are on a level of equality with everything else, and it is rarely a piece of ground is seen vacant.

I may conclude by stating that Mr. Wildsmith's noble employer, Lord Eversley, a grand old man in every sense of the word— hale and hearty, though over ninety years of age, takes a deep interest in the gardens of Heckfield, and is as proud of their beauty, fitness, and perfection, as is his lordship's able and energetic gardener, Mr. Wildsmith.—R. D.

RHODODENDRON BALSAMINÆ-FLORUM RAJAH.

Of all the very fine hybrid varieties of greenhouse *Rhododendrons* which have been raised by Messrs. James Veitch & Sons, we know of none more distinct and in every way beautiful than the subject of the accompanying illustration, *R. balsaminæflorum Rajah*, which has flowered in the Chelsea nursery this season for the first time, and, needless to say, has received the stamp of undoubted worth from the Floral Committee—namely, a First Class Certificate. Besides being a valuable acquisition from a decorative point of view, it is a plant to which more than an average amount of interest attaches, inasmuch, as with the double white, double pink, and double yellow flowered varieties which preceded it, it came out of the same pod of seeds as produced those novelties. To obtain four such good and distinct plants from one cross, affords an illustration of one of the happiest "hits" on record, and to Mr. John Heal is due the honour of making the cross which led to such grand results. The form of the flowers, so distinct from the others, is well shown in our illustration, and when we say that the colour is a rich orange-scarlet, little else need be said in its praise.

KINGSWOOD WARREN.

Most of our readers know something of Epsom, its breezy downs and celebrated race-course. About four miles from the grand stand, through a pleasant country rich in wild flowers, among which the fine patches of crimson heath, blue *Campanulas*, and yellow *Hypericums* are conspicuous, lies the estate of H. C. Bonsor, Esq., M.P. for the Wimbledon division of Surrey. The estate itself is a fine one, consisting of some 1,200 acres, but it is only the gardens with which we are concerned, therefore, entering the lodge, we proceed up the long straight avenue beneath aged *Scotch Firs*, *Larch*, *Oaks*, *Beeches*, and *Spanish Chestnut*, to the noble mansion seen in the distance. The avenue, which has a beautiful undergrowth of *Birch*, *Bracken*, and other woodland plants, forms a much better approach than it would if planted with formal shrubs, and, besides, gives pleasant walks beneath the trees and among the *Heather* and *Bracken*. From the front of the mansion, on the side of which stands a very

CURIOUS OLD OAK,

With nine stems, a beautiful view up the glade to the church on the estate is to be obtained, the view being through fine old *Larches* and *Firs* with their natural undergrowth, and in the foreground a very fine specimen of *Araucaria imbricata*. This, like a peep from a garden through a wood to the church beyond, is a very charming feature, and one not easily matched in a private establishment. From the south-east front, which is laid out in terraces, a fine view is obtained over a pretty country studded with high *Beech* trees, which seem to do so well in Surrey, and sweeping round to the left, we come upon the extensive new pleasure grounds now in the course of formation, and which, when finished, will add much to the beauty of the scene in this direction, although the fine clumps of aged *Firs* and *Oaks* in the park on this side seem to say that for stately effect it will be long ere the newly planted can offer attraction sufficient even to command a small share of attention in the presence of those fine old fellows.

THE FLOWER GARDEN.

On the other side of the house is the bedding plant arrangement, which is wisely restricted to some long beds planted in ribbon border fashion, and running beside the gravel walk. The beds are planted with *Pelargoniums* principally, and looked very effective with their backing of tall shrubs and fine coniferous plants, the specimens of *Wellingtonia gigantea*, about 40 ft. in height, midway, being a marvellously fine and perfect one. The flower beds are moreover planted with standard *Roses*, which are now, and have been for

a long time, very beautiful. The space, therefore, is made to do double duty, a plan which might more generally be adopted with advantage. On the opposite side to the bedding plants are some fine clumps of Rhododendrons which have been blooming well, and still are grateful objects with their clean healthy foliage.

THE HERBACEOUS PLANT GARDENS,

Of which there are two, are here—as everywhere else where attention is paid to these useful and now popular plants—the showiest and most varied part of the garden. Along the broad borders, bright with varied colours, most of our popular hardy plants appear, their effect

easily cultivated, and once planted they increase in beauty every year. They, moreover, give the longest season of flowering of any section of outdoor plants, and they are effective in their borders and beds, and useful for cut flowers. With them are mingled Dahlias, Sunflowers, and Sweet Peas, rich in colour and perfume.

THE GLASS DEPARTMENT

at Kingswood Warren is mainly devoted to producing good things for the table, or for decoration indoors, and in these objects, Mr. C. Blurton, the gardener, succeeds admirably, two plants in particular being cultivated by him up to their very best, viz., the

The same heated pit is used for Gardenias which flower profusely; one large specimen, planted in a division to itself, is covered with buds, and the specimens in pots are equally fine. There is no doubt that plants generally like these shallow heated pits, and much may be done with them when properly managed as here. In

THE COOL PLANT HOUSES

Are a good show of tuberous-rooted Begonias of grand quality (Veitch's strain), some excellently grown Fuchsias, Pelargoniums, &c., and in the warmer one a well-grown lot of Ferns, in which the fine specimens of *Adiantum cuneatum*, and *A. Farleyense* predominate.



RHOIODENDRON BALSAMINEFLORUM RAJAH.

being heightened by a few silver variegated Pelargoniums being planted among them, and an edging of blue Lobelia and succulent plants; neither are a few of the showy annuals and biennials despised, but all utilised to make a showy effect and supply flowers for cutting.

Very handsome at present are the Delphiniums in every shade of blue, the yellow Solidagos, the scarlet Gladioli, the various coloured Phloxes, Antirrhinums, and Penstemons, the blue Aconites, the fine feathery white sprays of the double *Spirea filipendula*, mingled with the blue and white bushes of *Galega*, the different varieties of mauve Aster, with here and there great golden bushes of perennial Sunflower, and clumps of the orange-scarlet *Tritoma uvaria*. There is much to be said in favour of herbaceous perennials, as they are

white *Eucharis amazonica* and the scarlet *Vallota purpurea*, a large quantity of both of which are just now in bloom, and a quantity of their mingled large scarlet and white flowers, gathered for use at the time of our visit, formed a good example of their effect when used together for table decoration. Some of the plants of *Vallota* have five or six large heads of blooms, and the whole side of a house of *Eucharis* is bristling with the tall spikes of this beautiful plant.

Small plants of Crotons, Dracenas, and other variegated and ornamental plants for table decoration is another culture in which Mr. Blurton excels. There is now a whole pitful of beautiful little plants of these, which were struck in spring, potted into 60-sized pots when rooted, and are now in a heated pit getting beautiful colour into their foliage ready for winter use.

With respect to the former, which is the florists' Maidenhair, notwithstanding the introduction of so many new varieties, it is unshaken in its place as the only general favourite for cutting. In another warm house are some fine plants of Crotons, Dracenas, Marantas, Dieffenbachias, grand double scarlet Hibiscus, Ferns, and a few Orchids, among which *Odontoglossum Roezlii* is growing with remarkable vigour. The roof in this house is well covered with white *Stephanotis* and yellow *Allamanda*. The Vineries have borne, and are still bearing good crops, in which the Black Hamburg and Muscat of Alexandria form the staple, but excellent in quality also are the Bowood Muscat, Mrs. Pince's Black Muscat, Buckland Sweetwater, Madresfield Court, &c.

In the Vineries Figs are well grown as bushes planted

in large square boxes, and so arranged, they are manageable, do not interfere with the Grape crops, and produce besides a very useful crop of Figs, which by proper working may be had in succession.

The Peach, Melon, and Cucumber houses are in good order; the frame-ground outside full of young stock, such as Pelargoniums for winter flowering and *Dendrobium nobile* hardening off, and the shelter outdoors for greenhouse plants reveals a very fine lot of Azalcas, Chrysanthemums (both late and summer-flowering), the fine old *Sparmannia africana*, the white and yellow Marguerites, winter-flowering Carnations, Kalosanthes, Bouvardias, a very large and healthy stock of *Sonvenir de la Malmaison* Carnation, and many other good things, which prove that in the busy time of pleasure ground extension to provide for the future is not forgotten.

THE KITCHEN GARDEN.

This is well cropped, and, moreover, embellished with hardy flowers as far as possible. The Pears are very plentiful, Plums equally good, but Apples are scarce. Most other crops are fairly good, and the large beds of Onions are excellent. The three kinds grown here are Bedfordshire Champion, Giant Zittau, and Brown Globe, and all are of the best quality and very fine for keeping. Carrots, too, are of the very best, and Peas still hold out in the rows, which have been very productive.

On turning from Kingswood Warren, we could not help saying that we had had the pleasure of inspecting a very good garden, and one which in a year or two promises to be even of more importance than it is at present.

GLENSTAL CASTLE.

SITUATED about eleven miles from Limerick, on the western side of the Keeper mountains, and standing at a considerable elevation amidst magnificent woodland scenery, is Glenstal Castle, the modern country residence of Sir Croker Barrington, Bart. I fear that no description of mine will give your readers anything like an adequate idea of the natural beauty of the landscape about Glenstal, which is approached from Limerick by way of Murroe. As soon as one enters the carriage drive through a very pretty lodge entrance emblazoned with the arms and crest of the Barrington family, the little lawn on either side of which is prettily ornamented with a tastefully arranged group of flower beds, as well as a few shrubs, with a little lake and rustic bridge dividing the lodge from the park, as far as the eye can reach for trees, is seen a large park, with trees promiscuously dotted about with an abundance of braeken growing on the undulating surface. The Park contains a quantity of deer who were basking in the sun by the side of one of the lakes that abound in it, the lake referred to being graced with some fine swans and the sun shining at the time of my passing them added much to the general appearance. After about half a mile of this naturally wild but beautiful scenery we pass through a gate, and are then within the garden boundaries, and note the stately growing Beeches, Chestnuts, Silver Firs, Oak, and other trees which form the background, with an occasional conifer on either side of the drive, whilst in front and forming an irregular outline are some magnificent clumps and borders of

SCARLET RHODODENDRONS,

Some of which must be from 15 ft. to 20 ft. in height. I have many times heard of the grandeur and perfume of these Rhododendrons whilst in flower, and could form some idea of what they must be like, as the groups extend for nearly a mile. When in flower they must be worth going some distance to see. Sir Croker Barrington very kindly invited me to see them, but I have not yet been able to do so whilst in bloom, but if I am so fortunate some season, I will endeavour to give your readers some idea of their beauty. Among the Rhododendrons are some clumps of *Fuchsia Riccartonii*, 8 ft. or 10 ft. in height, and grand they looked, whilst more recently some other varieties have been planted, and which are making a good start. I have only given a description of one entrance, *i.e.*, the one through which I passed, but I was told that the drive by way of Newport is superior to that leading to the Murroe gate, and in another direction is a large clump of Rhododendrons, which Sir Croker informed me contained 100 varieties of Waterer's best seedlings. Altogether there is about four miles of walks through Rhododendrons, all

of which are growing in the most satisfactory manner, and in the natural soil without any preparation.

On passing into the open, we approach the castle by a circuitous route, and on the terrace, looking down upon us, are some mounted cannons, one of which came from Sebastopol. Leaving the castle to the left, we enter the spacious stable-yard and well-fitted stables and offices attached thereto. Again emerging into the garden—which it may be as well to state I need not have left only to get accommodation for my horse—and proceeding towards the flower and kitchen gardens, on the right is a miscellaneous shrubbery, particularly noticeable in which was *Rhus cotinus*, in nice bushes about 4 ft. in height, the golden Elder, a lot of *Berberis* in variety, Phillyrea, Bay Laurel, Box, with variegated Hollies, Retinosporas, and other dwarf-growing things in front. Branching away to the right by a shady pathway, with woodlands on either side, we proceeded for some distance downhill to

THE FLOWER GARDEN.

Walks abound in various directions, and also seats in shady nooks; and outside the garden from the main path for some distance is a rustic trellis covered with a climbing Rose. The flower garden is an oval in shape, with a gravel path running round about 25 ft. from the hedge which surrounds the enclosure. On this outside strip are mostly circular beds, each one of which is filled with one kind of plant only, such as Heliotrope, Mignonette, *Nemophila maculata*, *Anemone japonica alba*, just commencing to open its flowers; *Schizostylis coccinea*, Petunias, scarlet, white, and pink Pelargoniums, of each a separate bed; whilst another bed is filled with a new white Foxglove. In or about the middle of the lawn, forming the centre portion of the garden, is a magnificent Cedar of Lebanon, and a little on one side is a large Picea that I did not recognise, but which is condemned, as it obstructs the view from the terrace. Irregularly placed are beds of various simple shapes, filled with zonal Pelargoniums, Roses, which have been a failure this year, the plants nearly dying; variegated Pelargonium Flower of Spring, intermixed with *Viola cornuta*, and with a suitable edging; bronze-leaved Pelargonium Marshal MacMahon, mixed with a white Viola, a seedling raised at Glenstal, very like Mrs. Gray. A very noticeable bed of horse-shoe shape was filled with *Tagetes signata* punila with *Perilla nankinensis* intermixed. Leaving the flower garden by the same gate as we entered, and bearing away to the left, we approach the castle by

THE ALMA WALK,

So called because it exactly corresponds with the manner in which our troops approached the heights of Alma; and not by any means a bad idea, as in this direction it would have been impossible to have placed a walk unless steps had been formed so steep is the ascent. In front of the castle is the principal lawn, with an occasional conifer planted in it, of which Picea Nordmanniana and Pinus excelsa are the most striking. Again entering the downhill path previously referred to, and about half a mile from the castle, is a bridge spanning a small rivulet leading to a lake, of which a good view is now obtained, and in the centre is seen a small island planted with Rhododendrons, whilst on the sides are Dogwood, &c. Just below the bridge is a large Gunnera growing most rampantly, and on the parapet of the bridge are several boxes filled with Pelargoniums, Lobelias, Mesembryanthemum, &c. Immediately after crossing, and at right angles there with, a path leads to the kitchen gardens, whilst the main walk leads to another part of the pleasure grounds, which is not kept up. In this part are many nice conifers, such as Cupressus macrocarpa C. Lawsoniana, Thuja Wareana, T. Lobbii, Pinus excelsa, P. insignis, Abies Pinsapo, A. Nordmanniana, Retinospora obtusa, and others. Dividing this pleasure ground is a wall with iron pallisades, against which many creepers are trained, and entering the principal walk we wend our way to

THE KITCHEN GARDEN,

Or rather gardens, for it is in four divisions arranged in terraces, each one having about a dozen steps leading to the next, which makes a very singular looking garden when viewed from the bottom. From one end to the other of the principal walk are flowers on either side, the two lower ones having ordinary bedding plants; as for instance one of them had, as an edging Viola Pilgrig Park, followed by Lobelia speciosissima, variegated Pelargonium Flower of Spring, succeeded by a row of scarlet zonals, followed by Pentstemons, and backed

up with single Dahlias. The two top gardens have a mixture of herbaceous plants and hardy annuals, many of which were past their best at the time of my visit, but the following were all noticeable, some of them particularly so:—*Achillea purpurea*, *Spiraea palmata*, early-flowering Chrysanthemums, *Hemerocallis flava*, Godetias of sorts, *Tradescantia virginica*, *Chelone speciosa*, herbaceous Phloxes, Poppies, several clumps, particularly striking being a double white variety and a single scarlet, each petal having a black blotch; Pentstemons, Potentillas, Saxifrages of the large-leaved type, Chrysanthemum Dunnettii fl. pl., and *Schizostylis coccinea*, which is here hardy. One of the borders is backed up by a hedge of *Fuchsia Riccartonii*, and the other by a row of Sweet Peas, and in front of the former border is a row of *Lilium auratum*, planted out in March last year, and a lovely sight they were; on the largest I counted nineteen large flowers, not by any means discreditable even to a pot plant. *Lilium speciosum*, however, is not so good this season as last.

I must not omit to mention a stately old *Taxus baccata*, which has weathered many storms, for it is said to have occupied its present position for 1,000 years, and measures at about 3 ft. from the ground, 12 ft. in circumference, and spreads over 40 ft. of ground. It is but right to say that some of the branches have been broken off by snow at different times; its age seemed to me fabulous, but I was assured of its authenticity. It cannot be said to be vigorous, but is still growing sufficiently to make it an interesting object, and likely to be so for years to come. Bush fruits were abundant, but Apples and Pears are thin, with some exceptions on the wall trees. Returning to the lower kitchen garden we find

THE GLASS ACCOMMODATION

In some recently erected substantial glasshouses built by Messrs. Boyd, of Paisley, in those builders well-known style. We first entered a greenhouse gay with dwarf Balsams, Petunias, Tuberoses, and Begonias, &c. Fuchsias standing on the centre stage added much to the general appearance of the structure, and noticeable amongst them were two nice samples of the variegated variety Sunray; Tropaeolums, some nice *Lilium auratum*s, *Dracaenas*, congesta, rubra, and australis. Carnation Souvenir de la Malmaison is particularly at home here; *Francoa appendiculata*; a nice collection of zonal Pelargoniums, of which Imogen was to me the best; Kalosanthes coccinea, *Vallota purpurea* throwing up its flowers spikes; some nice serviceable sized *Aspidistra lurida variegata*, and a good plant of *Lomaria gibba*. Besides those mentioned were a variety of other things, all reflecting the highest credit upon the able head gardener, Mr. Hume.

On the roof are some things starting well, particularly two Marechal Niel Roses, planted outside last March, and brought in through the brickwork, and a *Taesoniana manicata*; whilst in one corner are about fifty Orchids, principally *Odontoglossums*, but I will pass them by without saying more than it was quite plain that they did not present that happy appearance the other occupants of the house did—*Laelia majalis* excepted, which is doing well; and better than one would think was *Coeogyne cristata*. This greenhouse is floored with a neat design of Mintou's fancy tiles.

Leaving the greenhouse we enter the earliest Vinery, the feature *par excellence* at Glenstal from a cultural point of view. As I have previously stated this range is new, and the Vines alluded to were only planted out in March 1884, but right good use they have made of their time. Most noticeable are some good Muscat of Alexandria, which by this time are thoroughly finished off perfect in bunch and berry, the former ranging from 3 lbs. to 5 lbs. in weight. White Tokay is very fine indeed, and as here grown is a noble looking Grape; Gros Colmar, not yet ripe, bears medium sized bunches and large berries, and, lastly, but not by any means least, is that oftentimes precarious variety, Golden Champion, with bunches weighing from 2 lbs. to 4 lbs., and in point of size, colour, and finish, far surpassing any I ever saw, even at South Kensington or Regent's Park shows, or, as a matter of fact, anywhere. Passing on to the later house, I noted creditable examples of Black Hamburg, Mrs. Pince's Black Muscat, Lady Downe's, and West St. Peter's, most of them just commencing to change colour.

The stove is also near at hand, a hip-spanned structure, just inside the door of which trained to the roof is a magnificently flowered plant of *Passiflora quadrangularis*, and other climbers are *Stephanotis floribunda*,

out of bloom, Allamanda Hendersoni, and Hibiscus rosa sinensis fl. pl., whilst on the stages were a small plant of Lasiandra macrantha floribunda, some medium-sized specimens of Gymnogramma Laucheana, Eucharis, Fittonias argyreneura and Pearcei, nice plants in pans. Dracenas hybrida and splendens, &c., Adiantums cuneatum, and its sub-variety Pacottii, Curculigo recurvata variegata, and a nice lot of young Crotons, completes the things that call for special mention. There are, however, many other things that are usually to be met with in stoves.

The frames contain a nice lot of useful stuff for winter work, such as Camellias, Epacris, Solanums, Skimsea japonica, Salvias, Cinerarias, Cyclamens, Primulas, &c., all looking as if good returns may reasonably be expected from them in due season; also Chrysanthemums plunged in ashes. I have reserved mention to the last because I went there last, of

A MAGNIFICENT GLEN,

Which is reached by re-crossing the bridge previously referred to. This is Sir Croker Barrington's favourite resort, and well it may be. On the left is a little rivulet only just trickling along at the time of my visit, but which in winter, and after heavy rains swells to larger proportions. The glen, I may say, is naturally formed, and varies from about 80 ft. and more to the summit of the sides. Both from the top and at either side of the glen spring tall Beech, Ash, Oak, Silver Fir, and other trees, and which completely overhang and effectually shade the glen, which is allowed, other than keeping the walk through it clean, to remain perfectly wild. No description will accurately convey to the reader a true estimate of the extreme beauty and grandeur on either side, more particularly on the right. At one time you see immense stones, many of them green with moss, and freely interspersed through them Lastræa felix femina, and some few Blechnums at intervals; at another time the rocks form an unscalable wall 10 ft. to 15 ft. in height, standing up majestically perpendicular, and overhung with Ferns and periwinkle, and this kind of scenery extends for three miles. About a mile from the side I entered are two badgers' dens, and not far from this spot are two stones which fell down, one about 10 ft. long and 8 ft. thick and deep, and the other nearly as large. I give these measures by guess to convey as true an estimate as possible of the solid and noble appearance of this natural rockery, which requires to be seen to be fully appreciated. By the kind permission of the owner I had a look through

THE INTERIOR OF THE CASTLE,

In which I saw some very old tapestry that interested me much. One of the pieces represented a flower, another a fruit, and a third a vegetable market; and yet another one represented a pig just about being killed. On a sideboard in the dining room were many pieces of plate won by Sir Croker's sons at boating matches, and in the drawing room were many choice oil paintings and other valuable articles.

In bringing these notes to a close, permit me to say that everything in the garden reflects the highest credit upon Mr. Hume for the able way in which he manages, with a comparatively small staff of assistants, the various departments under his care, and as well bears abundant testimony of the great interest the owner takes in the place, and the thorough way in which he does everything he takes in hand.—*E. Dumper.*

GARDENING MISCELLANY.

Harrison's Eclipse Pea.—It is but little time that market gardeners have to spare for writing, especially at this season of the year, but as no mention has been made of this valuable variety in the numerous "Notes on Peas," which have appeared in the THE GARDENING WORLD, I venture to give my experience of it. I may say that market gardeners are very cautious about sowing new varieties, but I was this year induced to try a few of the above. I sowed it side by side, and on the same date, with an old tried market favourite in this district, namely, Kentish Invicta; both varieties came up well, and ran a very close race up to the time of flowering, when Invicta took the lead by about three days. I at once pronounced it as not being worthy of a place by the side of my old friend, but, judge of my surprise, when

I found Eclipse ready for gathering at least a week earlier than Invicta. This point, in itself, is sufficient to commend it, as the old proverb, that "the early bird catches the worm," holds good even with Peas. But it is also an abundant cropper, the pods are large and well filled, while the flavour is all that can be desired. This fact I know, not only from having tasted it myself, but from customers asking for it a second time. I may just add, that it is a round blue variety, height about 3 ft.—*W. Harvey, Spalding.*

Marie Louise Violets.—I send you a bunch of Marie Louise Violets, our plants of which are very fine this season, and are now throwing up quantities of blossoms. To know that these, with the Neapolitan and Comte de Brazza, will yield a rich harvest of flowers from now till next May is very gratifying to one who has to produce quantities of flowers in winter.—*John Crawford, The Gardens, Coddington Hall, Newark.* [The first bunch of the season that has reached us, and very fine indeed.—*Ed.*]

Earwigs and Chrysanthemums.—Anyone wishing to satisfy himself in regard to Earwigs doing damage to the young leaves of Chrysanthemums has only to take a light, and he will soon see them at work, as your correspondent, "A Gardener," describes. I have caught hundreds by taking some hot water in a bowl and shaking them into it, a boy holding the light; but I have found a much better plan of getting rid of them. I take a good-sized piece of paper, crush it up gently between the hands, so as to leave a nice lot of little hiding-places. I then place it in the plant a few inches from the bottom. In the morning I go round with half a pail of hot water, and gently taking out the papers, shake them over the water. A few days ago I caught in one piece of paper thirty-three Earwigs, six large caterpillars, and one snail; in another piece, twenty Earwigs, six daddy longlegs, and two woodlice. Anyone trying this plan will be surprised at the quantity of vermin that can be destroyed by these simple means in a short time.—*A. P.*

Sulphide of Potassium as an Insecticide.

—Seeing this article advertised in your pages and having seen its use recommended in two other gardening papers, I thought I would try it, and with your permission I will give my experience of it. I mixed up four gallons, putting $\frac{1}{2}$ oz. to the gallon of water (the directions on the bottle says from a $\frac{1}{4}$ oz. to $\frac{1}{2}$ oz.), I well syringed a quantity of Tea Roses in pots out of doors; I then treated in the same way my Marechal Niels growing under the roof in a greenhouse. In the morning I went to see the result. I found the green-fly all alive and none the worse for the syringing out of doors, so I was prepared to find them alive in the greenhouse, but I found more than I expected; I found my newly painted house spotted all over with dirty brown spots wherever the mixture had touched it, and it will not come off. Well, I thought I would try a stronger dose, so I put 1 oz. into a gallon of water and dipped some rose tips covered with green-fly into it, holding them under long enough to get thoroughly wet, this I repeated three times at intervals of an hour, still they were alive, I then put another ounce into the water, gave three more dips, an hour between each, and next morning they were as lively as ever. Will some of your readers give their experience of this article, as no doubt others have tried it? It acted no better with mildew.—*A. P.*

Carnations Indoors and Out.—After returning here from a run through various parts of England and Ireland, I have just now seen the note of "Dianthus," p. 826. When I spoke of satisfactorily growing Carnations in the open air—the best kinds—I expressly spoke of doing so in beds, or borders, not in pots, which your correspondent only considers. I regret your correspondent should make such an insinuation as "I am afraid I gave him credit for some knowledge . . . which he does not possess," after I had expressly stated what my object was—its extended culture. I decline any further correspondence with "Dianthus."—*W. J. Murphy, Clonmel.*

Pentstemons.—From Mr. John Forbes, of Hawick, comes a dozen varieties of Pentstemons, once again illustrating the superior climate of the north as compared with our own for the cultivation of these brightly coloured and handsome autumn border flowers. While the hot dry weather with us has prevented the free development of the spikes, those from Mr. Forbes' nursery are tall and massive, and unexceptionable in form

and brightness of colours. We need not give the names of the varieties sent for all are pretty.

New Potatoes Certificated at Chiswick.—At a Meeting of the Fruit and Vegetable Committee, held at Chiswick on September 8th, present, John E. Lane, Esq., in the chair; Messrs. Woodbridge, Norman, Smith, Saltmarsh, Paul, Burnett, Silverlock, and Miles, the collection of Potatoes growing in the garden was examined, and, on being cooked, First Class Certificates were awarded to the following varieties:—Fyvie Flower (R. Farquhar, Aberdeen); white kidney, rough skin, yellow flesh, medium size, heavy cropper. Seedling A 1 (A. Harris, Woburn, Beds.) large white kidney, smooth skin, white flesh, good cropper. Bouncer (T. Laxton, Bedford); white round, smooth skin, white flesh, very handsome, moderate cropper. Maggie (J. Murdoch, Rothiemay, N.B.); large white round, smooth skin, white flesh, deep eye, very heavy cropper.

A New Cactus Dahlia.—From Mr. W. B. Hartland, Temple Hill, Cork, we have received a bloom of a new Dahlia, belonging to what, for want of a more fitting designation, is called the Cactus section. It is of medium size, very neat, of a rich dark shade of maroon in colour, and slightly perfumed; altogether a distinct and very good novelty.

Solanum Jasminoides.—This excellent old climber is not to be despised, and should, where convenient, be grown in a cool greenhouse or conservatory; the more room that can be afforded for it, the more flowers will be the result. At the present time, and forward till winter, healthy plants, both large and small, will be producing large panicles of its beautiful white flowers, which always appear graceful either on the plant or cut for vases or wreath making, &c. When well-grown and healthy, you can always depend upon it to run too for white flowers, and this alone should give it a position in all places where flowers are wanted in quantity. In some districts this plant is grown out-of-doors, but to get it pure white a glass protection is necessary. It delights in a good rich compost, and should always be replenished every spring. It also requires well cutting back after flowering, to keep it strong and also within bounds.—*W. G.*

Rudbeckia purpurea.—It is fitting that attention should be directed to this particular species, seeing that it is a composite flower and one which is widely distinct from all else in the garden at this time. In the natural order Compositæ we have so much of the yellow, orange, and gold, all very beautiful in their way, but still needing some infusion of other colour to break the monotony, and we find a marked feature in the above. It grows fully 3 ft. high, and has distinct deep reddish purple flowers, some 4 ins. across, which makes it very effective. It is a bold and vigorous-growing species and very little known, and its flowers continue far into the autumn months. It succeeds well in any good border soil.—*J.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

It will now be advisable to look to the stock of plants specially grown for autumn and early winter flowering, such as Begonias, Centropogons, Libonias, and others of a kindred nature; and if, through force of circumstances, they must still be kept in the cold pits, different treatment must be adopted. In the first place it will be advisable to water earlier in the afternoon, syringe lighter, and close in good time, so that the plants may receive the fullest benefit of the sun, and also help to maintain a higher temperature through the night. Less air must also be admitted; in short, more care must now be taken, or many of the more tender will be apt to lose the greater part of their foliage, a matter to be greatly deplored, as it renders them quite useless for decoration. Our stock of Eupatoriums is still outside, also the Salvias. The high winds are apt to prove rather destructive with these unless protected, which they should be by being placed alternately with rows of Chrysanthemums which are staked, and which are able to resist squalls of wind and rain such as we have experienced within the last few days.

Libonias, to flower freely, must be thoroughly ripened, and for this purpose must be placed where they can be well exposed and ventilated. Our stock of

Poinsettias are making good headway, and as the pots are quite full of roots, it is advisable to give them an occasional dose of weak liquid manure to help them to retain as much foliage as possible; later on they may receive more generous treatment. *Euphorbia jacquiniæ-flora* must also be kept staged thinly to thoroughly ripen its wood, if good wreaths of flowers are to be expected. The stock of double *Primulas* will now require to be placed on shelves in the intermediate house, where they will make much better progress than if kept in a cool house; the single kinds will now have their pots well filled with roots, and may be assisted with doses of liquid manure according to fancy. Keep a good circulation of air in whatever position the plants may be placed, as the damp will quickly lodge upon the foliage, causing rot and consequent disfigurement of the plants.

Keep a sharp look-out over the propagating boxes, and in case of noting failures, replace with fresh cuttings at once. The earliest batch may now be removed from their shady quarters, and thoroughly exposed to the sun. Where *Bouvardias* are subject to planting out, it will be advisable to carefully lift at once, placing them after potting in a heated pit where they can be kept shaded and quite close until established. A good batch of single *Tulips*, *Hyacinths*, and other bulbs should be potted without further delay, reserving the doubles in each case for the next potting. Treat them the same as advised for Roman *Hyacinths* a few weeks since, when at the expiration of about six weeks they must be examined, and those which have made sufficient growth be removed to the cold pits.

THE FRUIT HOUSES.

The anticipated swelling of the second crop of Figs has commenced, and we are supplying the trees with liquid manure water, that the fruit may be as fine as possible; of course no one can expect it to be so good as the first. Next season's crop will, we hope, benefit by this attention by giving us a larger and better supply. It will be found advisable to look over the *Grapes* which are still hanging in the succession houses once or twice a week, for the removal of any faulty berries, if left even for a day most likely several berries must be sacrificed. Any shanked or faulty berries will also be better removed from the Lady Downe's Vinery, the lateral growths be gradually pruned back, so that light and air may thoroughly play upon both fruit and foliage; this will greatly tend to long keeping in good condition.

The stock of Cucumbers for winter fruiting have been potted on, and are kept in a cool pit close to the glass, so that they may be as hardy as possible by the time they are required for planting out. The *Tomatos* for autumn and winter fruiting have been potted on, and are now growing and showing fruit in the early Peach house; they are trained to sticks, and can be removed to warmer quarters as required to keep up the supply. French Beans in the pits, while the weather keeps open, will be better if the lights are entirely removed from them, if coddled they quickly become drawn and spoiled. Prepare as soon as possible materials for making the first Mushroom bed in the house.

THE KITCHEN GARDEN.

The much needed rain in the shape of three most violent thunderstorms has given the ground a thorough soaking, which we hope will now carry us on to the end of the season without further resort to the water-barrows. So soon as the ground becomes workable we intend to finally earth-up the early *Celery*, and also attend to the late batch by adding another good coating of soil. Care must, of course, be taken that the hearts of the plants are dry before this operation is performed or it will be apt to rot.

Spring-sown Onions, as a rule, are now ready for storing. Where they are roped it will be advisable to place them in spare pits or frames, or on the inside border of the Vineries from which the fruit is cut, that they may quite ripen; but as we possess a large, dry, well-ventilated loft in which to store ours, we simply choose a dry day, draw them, and remove the tops at the same time. They are then carried to the loft and spread out in a single layer, and generally keep sound and well. I am glad to say that this season the crop is perfectly sound and free from the attack of grub or mildew. In case of the seeds which were lately sown being attacked by slugs, dust at once with soot or gas-

lime; the latter we prefer and always use—in fact, have done so to-day. As soon as the *Asparagus* beds required for forcing show the least sign of ripening, let that required to give the first cutting be mown over to ensure rest. We have cut our first dish on October 14th, but it is not all seasons which will permit of this.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Potting Cool Orchids.—During the next six weeks Orchid growers should, in my opinion, make every effort to re-pot or top-dress *Odontoglossums* and cool-house Orchids generally. I have done this at different seasons, but found no period of the year so suitable as September, or, if August be dull, with frequent showery days or nights, it will do no harm to begin earlier, especially where the quantity to get through is considerable. Many prefer to re-pot their plants in February, and if it happens to be a mild month, no harm will be done, neither will the young growths benefit so much from the fresh peat and sphagnum moss. Why I prefer September is, first, because we have several weeks before severe firing will become necessary, the temperature of the houses remaining more uniform, and the atmosphere charged with moisture for several hours more during the twenty-four, than at any other season. The young growths of the majority will now be about half made, or in the state when they require more nourishment than can be supplied by the roots attached to the base of last year's bulbs, and commence to push out several from their base to complete the bulb and support the flower spike, which will soon make its appearance. Fresh compost for these to enter at once gives them the chance of drawing a good supply of food during the whole period of growth and flowering, which can not be obtained until this period is half over, if the potting is left until February.

The first thing is to secure a compost of good fresh fibry peat, as free from earthy matter as possible, in fact, as good as that used for *Cattleyas*, and fresh sphagnum moss, which has been carefully picked over and washed, to free it as much as possible from dirt and slugs. Some add to this sand, broken crocks and charcoal, but the advantage of these is questionable if not injurious. The only season I used this so-called opening material, the plants did anything but so well as usual, therefore, I never used it again, and, if ever a plant comes under my care potted in such a compost, the earliest opportunity is taken to shake it entirely out.

The pots should be well washed and dried before using, and the drainage thoroughly cleaned. Fill the pots more than two-thirds full of drainage, covered with some clean moss. The size which each plant will require must be left to the judgment of the operator, but a good rule is to allow room for two years growth before the bulb will touch the rim of the pot, unless the state of the roots is so bad that they can, without injury, be got into a smaller size, and allow them room to ramble amongst the fresh compost.

Any sour decayed compost which can be got away without danger to the roots must be removed, or this will soon get into such a state that no root can live in it, and the fresh peat will soon be as bad. Keep the base of the plant well above the rim of the pot, and place the compost carefully round the roots sufficiently firm to keep the plant steady, but avoid pressing it too tightly, as the roots like to wander easily through it. A few heads of moss should be left above the peat, which will soon commence to grow, and give the whole a fresh appearance. Clip all loose pieces of moss and peat off the surface to give it a neat and finished appearance. Give a good watering from a rose-pot before replacing on the staging, which, together with the glass and wood-work, should receive a thorough washing. A sharp look out must be kept for slugs, or the young roots will be eaten before they can enter the compost, and growth severely checked. Keep the house well damped and shaded for a time, with a free circulation of air (but not so as to cause a draught to be felt) night and day.—*W. R. W.*

Two Fine Miltonias.—It is a common thing to hear Orchid-growers say "I do not care for *Miltonias*," but they can hardly have in their minds two such grand things as those of which we have flowers from the collection of R. H. Measures, Esq., at Streatham—viz., *Miltonia Morelana atrovirens*, with grand flowers 4 ins. in length, the sepals and petals rich vinous purple, and the lip dark rose veined with crimson, the area round the column being pure white; and *M. spectabile bicolor*, with pure white flowers nearly as large as the other, the only colour in it being a crimson blotch at the base of the lip. Accompanying them are

the best form of *Odontoglossum hastilabium* we ever saw, with twenty-eight flowers on a spike; an equally extraordinary *O. grande*, a fine example of the best form of *Cattleya Harrisoniæ*, with seven flowers on a spike, and the neatest and prettiest marked form of the now favourite *Oncidium Jonesianum*, which Mr. R. C. Fraser, the gardener and Orchid grower, informs us grows and flowers remarkably well at The Woodlands.

HORTICULTURAL SOCIETIES.

ROYAL HORTICULTURAL.

GRAPES and *Dahlias* were the special features of the show held on Tuesday and Wednesday last, and in conjunction with sundry other subjects of a more miscellaneous character, made up an exhibition of an admirable and attractive character. In public interest the *Grapes* decidedly took the lead, and the lengthy list of prizes offered for single dishes of all the best sorts brought out a very good show indeed. The numerous handsome bunches staged proved a constant source of attraction to the crowds of people passing through the conservatory during the day. Some of the samples had been to the Crystal Palace, and were not quite so fresh as we like to see them; but, as a rule, there was not much to find fault with. Mr. W. Taylor again beat his successor at Longleat, Mr. Pratt, in several classes, and in every case showing superbly finished examples. In a good class of Black Alicantes, Mr. Taylor was first with a pair of finely-shaped, heavy bunches, good in berry, colour, and bloom—in fact, models of what perfect bunches should be. A smaller but still very good sample from Mr. J. Hollingworth, gardener to J. F. Cambell, Esq., Woodseat, Uttoxeter, came in second; and Mr. W. Howe, gardener to W. Tate, Esq., Parkhill, Streatham, was a good third.

The *Alnwick Seedlings* were a very fine lot, and here again Mr. Taylor was first, with superbly finished specimens; Mr. J. Drinkwater, gardener, Farley Hall, Cheadle, coming second, with neat bunches and fine berries; and Mr. Goodacre third, also very good. It was rather late for good Black Hamburgs, consequently this was not a particularly good class, though little exception could be taken to the winning dishes shown by Mr. J. Roberts, Gunnersbury Park, Mr. Hudson, Gunnersbury House, and Mr. Spencer, gardener to H. C. Moffatt, Esq., Goodrich Court, Ross. That Black Prince is losing favour was seen in the poor entry of only two lots, the best of which, a very neat pair of bunches, came from Mr. C. Goldsmith, gardener to C. A. Hoare, Esq., Kelsey Manor. Buckland Sweetwater made a very good class, notwithstanding that there were no samples among them equal to those shown last year by Mr. Allan, of Gunton. Mr. T. Lockie, Cakley Court gardens, Windsor, who more often beats all comers with Melons and Cucumbers than with *Grapes*, carried off the first award, with fine bunches of a rich amber coloured berries; Mr. J. Roberts coming in second; and Mr. H. W. Ward, Longford Castle gardens, third, in very good style. With Duke of Buccleuch, Mr. Allan, showing large bunches and large well ripened berries, secured the highest award; Mr. Wallis and Mr. Goodacre coming next. The popularity of Foster's Seedling was testified by the number and fine quality of the bunches staged. With a very perfectly finished sample Mr. J. Roberts came in first, and there was little to choose between the second and third prize lots from Mr. Miles, Wycombe Abbey, and Mr. H. W. Ward, whose bunches might all have been cast in the same mould, though Mr. Miles' were somewhat the freshest.

The *Gros Colmars* were all good, and especially the grand sample from Mr. Elphinstone, Shipley Hall Gardens, Derby, which was placed first; and very fine too, were the other winning lots, from Mr. Miles and Mr. S. T. Wright, gardener, Glewston Court, Ross. The *Gros Guillaume* prizes, went to Mr. Ward, Mr. Spencer, and Mr. Miles, the former showing large well-shaped bunches, but somewhat rubbed. *Gros Maroc* is coming to the front rapidly as a show Grape, and Mr. Taylor showed it as we have never seen it before, very handsome in all respects. Needless to say, he was well first, Mr. Wallis coming in second, and Mr. Elphinstone third, and both good. Lady Downe's was a large and good class, in which Mr. T. Osman, gardener, Ottershaw Park, Chertsey, was a good first, Mr. Hollingworth second, and Mr. Wallis third. With *Madresfield Court*, Mr. W. Taylor again came to the front; Mr. Bury, gardener, Tewkesbury Lodge, Forest Hill, second; and Mr. Goodacre, third. Mrs. Pearson, not a taking grape, was nicely shown, however, by Mr. Osman, Mr. Roberts, and Mr. Wallis, who secured the awards. A better class was Mrs. Pince's Black Muscat, very good samples of which, shown by Mr. Pratt, Mr. Horsefield, gardener to Lord Heytesbury, and Mr. Miller, Rood Ashton, took the prizes in the order named. With Muscat Hamburg, Mr. Goodacre as first; Mr. Cooper, Widmore, Bromley, second; and Mr. Horsefield, third, all showing well. The best class in the exhibition, was that for Muscat of Alexandria, which brought out some grand dishes. Two massive bunches shown by Mr. Pratt, came in first; Mr. R. Gray, gardener, Chevening, Sevenoaks, being

second; and Mr. Roberts, third, with exceedingly good samples.

There were only a few classes for Dahlias, one for each of the sections, but they were sufficient to bring out a very fine lot of blooms. For twenty-four show or fancy varieties, Mr. Turner was first in an uncommonly good class, showing large blooms, perfect in style; and close up came Messrs. Keynes, Williams & Co., Salisbury, and Mr. J. Walker, Thame, who were bracketed equal second; and Messrs. Rawlings Bros., Romford, third. With twenty-four Pompons, shown in bunches and most tastefully displayed, Mr. Turner again came in first, and here again the judges could not decide between the merits of two collections for second honours; consequently, Messrs. Keynes, Williams & Co., and Messrs. Cheal & Sons, Crawley, Sussex, were placed equal; and Messrs. Paul & Son, Cheshunt, third. They were all very fine, but scarcely superior to the corresponding class for singles, in which the competition was keen between a few growers, and all the flowers of great beauty. The Messrs. Cheal & Sons were first here with one of the finest collections we have seen, the flowers being large, good in form, fresh, bright, and well varied in colour. Mr. Turner was second, and Messrs. Paul & Son third.

At the meeting of the Floral Committee, First Class Certificates were awarded to Messrs. Cheal & Sons for Dahlia Mrs. Kennett, a very showy and distinct single variety, of a sulphur ground colour prettily striped and flaked with crimson. To Messrs. Keynes, Williams & Co. for Dahlia Colouist, a show variety of good shape, with reflexed petals, fawn and orange, flushed with crimson purple, and purple wire edged. To Messrs. Cannell & Sons for Dahlias Black Knight, deep maroon; Lady E. Dyke, yellow; and Charming Bride, pink flushed with rose, all belonging to the Cactus section. To Messrs. Rawlings Brothers for Dahlia Mrs. Theobald, a very neat bright rose-coloured show variety. To Messrs. Veitch & Sons for Davallia retusa, a handsome Sumatran Fern; and for Phrynium jucundum, a Maranta-like plant, with showy green and white variegated leaves; and to Mr. Ballantyne, gardener to Baron Schroder, The Dell, Egham, for Vanda Dearei, a very distinct species with the sepals and petals creamy white shading off to yellow on the margins, and the lip a beautiful shade of lemon.

Amongst miscellaneous subjects, we noted a very fine collection of some 240 spikes of Gladiolus, showy Asters, Pyrethrums and Delphiniums from Messrs. Kelway & Son; an extensive display of Dahlias of all kinds, handsome Lilies, and showy autumn flowering herbaceous plants from Mr. T. S. Ware; a fine collection of herbaceous plants, Dahlias, and cut shoots of various hardy trees and shrubs from Messrs. Paul & Son; cut Roses from Messrs. W. Paul & Son, Waltham Cross; a large and very attractive collection of Dahlias of all sorts from Messrs. Cannell & Sons; Tea Roses from Mr. Prince, Oxford; a nice collection of Lilium auratum varieties from Mr. W. Gordon, Twickenham; another bold group from the New Plant & Bulb Co., Colchester; a pretty display of hardy tree foliage from Messrs. C. Lee & Son. Mr. G. F. Wilson exhibited the true Lilium auratum glypetalum, which is distinguished by the great breadth of its leaves and petals. Messrs. F. Sander & Co. sent a pretty group of Galeandra Baueri; and Messrs. Hooper & Co., Covent Garden, received a cultural commendation for a flowering plant of Dasylium glaucum, with a very fine spike of greenish flowers.

At the Fruit Committee meeting, Messrs. Veitch & Sons, Messrs. Paul & Son, and Messrs. Cheal & Sons, exhibited interesting collections of Apples; Messrs. H. Lane & Sons, half-a-dozen very fine fruiting Vines in pots, and a large collection of Plums; Mr. W. Roupell, Roupell Park, Vines in pots, and some good bunches of Madresfield Court; Messrs. W. Thomson & Sons, Tweed Vineyard, Clovenfords, a good sample of Duke of Buccleuch Grapes grown with the aid of their Vine and Plant Manure; Mr. W. Bannister, The Gardens, Cote House, Westbury-on-Trym, a bunch of a seedling Grape, between Muscat of Alexandria and Black Hamburgh, a Hamburgh in shape, but a Muscat in colour.

Mr. Mortimer, Swiss Nursery, Faruham, showed about a dozen fruits of Sutton's Improved Green-flesh Melon, a medium sized, heavily netted variety, thick in flesh, melting, and well flavoured.

Prizes were offered by Messrs. Sutton & Sons for six Carrots, and twelve Tomatos; and by Messrs. James Carter & Co. for nine Tomatos. No less than thirteen dishes of Carrots were staged, the variety being Sutton's Early Gem, a short horn of undoubtedly fine quality, being a quick grower, large, smooth, and good in colour. The prizes were won in the following order, by Mr. Richards, Somerley Park; Mr. Meads, Beckett Park; and Mr. Lye, Symonton Court, Newbury. In the same firms Tomato Competition, Mr. J. Lockie came in first with Sutton's Main Crop; Mr. C. J. Waite, and Mr. T. A. Beckett second and third with Sutton's Perfection, both large, smooth and handsome sorts. In the Messrs. Carter's competition, the variety shown was Carter's Perfection, also a large handsome-shaped red variety, and in a good class, the awards went to Mr. T. A. Beckett, Mr. Waite, and Mr. L. Harris, Bradenham. Messrs. James Veitch & Sons staged a good collection of Carrots.

DUNDEE.

THE annual exhibition of the Dundee Horticultural Society was held on Thursday, September 2nd, and, for the first time for several years, in the open air, with results that proved most gratifying to the promoters. The entries were in excess of last year, and the arrangement of the products in the three large marquees left nothing to be desired. The central marquee, 300 ft. in length by 45 ft. in breadth, was devoted to pot plants and flowers. The tent on the east of it was occupied with fruit, honey, and flowers; while the one on the west was set apart for vegetables. As may well be supposed, the central marquee was the centre of attraction, containing, as it did, choice collections of the flowers of many lands. The display of tree Ferns, Palms, and large-foliage plants presented quite a grand and impressive appearance, the refreshing greens being set off to great advantage by contrast with gorgeous groups of Begonias, Fuchsias, Lilies, Vallotas, Cockscombs, Pelargoniums, Chrysanthemums, Hydrangeas, &c. All were tastefully arranged, and the cut flowers were set out in vases and Hyacinth glasses—no vulgar and obnoxious bottles and tins being seen. The foremost group of pot plants consisted of four pots of summer-flowering Chrysanthemums, for which Mr. William Kennedy, gardener to Provost Ballingall, gained the first prize. These remarkable plants excited much admiration. They were not only large, but firm and shapely in form, and of decided colouring, throwing the other competitors far in the shade. Mr. Kennedy also showed six cut white Chrysanthemums which measured from 14 ins. to 16 ins. in circumference, and the breadth, fineness, and substance of the petals were specially noteworthy. To gardeners, the most conspicuous feature of the show was the competition between two redoubtable prize takers for the best "table, 18 ft. long by 8 ft., of stove and greenhouse plants, for effect." The first prize fell to Mr. Peter M'Arthur, gardener to John Leng, Esq., Kinbrae, and the second to Mr. William Allison, gardener to W. F. Low, Esq., Seaview. There were difficult points in both tables worth study. Both were crowned by a Palm, supported by splendid Dracenas. Mr. Allison's were too dark in colour, while Mr. M'Arthur's were of a brilliant blood-red. There were no less than seventy beautiful Crotons on the two tables. Mr. Allison showed rare and valuable specimens of Lycaste Skinnerii alba and Saccolabium Blumei majus. He also carried off the first prize in the interesting contest for nine stove plants; Mr. Peter Marshall, gardener to ex-Provost Robertson, Balmore, another worthy prize-taker, coming in second. Both groups of plants were admirable specimens. Conspicuous among Mr. Allison's were Cycas revoluta, Stephanotis floribunda, and Crotons Andreanus, Interruptus, and Queen Victoria. Mr. Marshall among his nine showed Phormium tenax variegata, Coprosma Baueriana, a remarkably fine Statice purpurea, and, perhaps, the largest Cycas revoluta in the show. The competitions for the six prizes for six stove and greenhouse plants were also much admired. The Fuchsias were not many in number, but exceedingly graceful in habit and beautiful in flower. Mr. Hector J. Watts, gardener to the Misses Thow, Craigmore, who gained the first prize for three, had some splendid specimens. In Asters the competition was extensive and keen, as all the flowers were in fine form and condition. The single Dahlias have grown greatly in favour, and the nine bunches, for which Mr. James Hunter, gardener to John Lyall Grant, Esq., Richmond Hill, Aberdeen, gained the first prize, were specially noticeable for the taste displayed in their arrangement. The Dundee shows are never complete without Messrs. James Cocker & Son's Roses. As usual these enterprising Aberdonians were in the front with exquisite examples of this favourite flower. Among their numerous exhibits were also a number of Tea Roses. Messrs. Cocker were also first with double Dahlias.

Messrs. John Stewart & Sons exhibited a fine collection of ornamental Conifers, arranged in a group adjoining the Committee's tent. Amongst the best specimens of the collection were Picea concolor, a silver Fir from the Rocky Mountains, with leaves of a striking glaucous hue; Thuja occidentalis lutea, a golden-leaved variety of the North American Arbor vitæ, which is likely to become a general favourite owing to its extreme hardiness; Juniperus siuensis aurea, a fine specimen of the golden variety of the Chinese Juniper, a plant which seems to thrive in very exposed situations in Scotland; Prumnopitys elegans, a Yew-like plant, with bright green foliage, a native of the mountainous districts of Chili, but which has proved itself hardy only in the most favoured situations in this country; and a number of Ellwanger's or the Tom Thumb Arbor vitæ, of dwarf habit and feathery appearance. Messrs. W. P. Laird & Sinclair showed a magnificent collection of stove and greenhouse plants, exotic Ferns, double, single, and pompon Dahlias, bedding Violas, &c. For the competition tables the firm stood alone, and to their credit staged a rich collection of plants, which for wealth of colour, diversity of foliage, and tasteful arrangement attracted considerable attention. In the centre of their table was placed a magnificent specimen of Dracena Lindenii, a variety whose graceful foliage rendered it peculiarly adapted for the position. It was well supported by superb specimens of Croton Chelsonii, C. volutus, C. Williamsii,

and C. Lady Zetland, the bright golden foliage of which presented a pleasing contrast with the dark red colour of the Dracenas, several of which, such as D. Mrs. Freake, D. nigrescens, &c., were well worthy of notice. Among the more prominent plants were fine specimens of that most graceful of all Palms, Geonoma gracilis, Maranta Veitchii, Dieffenbachia Baurei, Anthurium ornatum, and Alocasia Sanderiana, the latter of which is a charming variety, of recent introduction. The ground work of this table was composed of small Palms, Ferns in great variety, and the graceful hanging Mosses lent a pleasing effect to the whole. They also staged a large collection of plants for exhibition, containing finely coloured Crotons, Dracenas, Palms, &c. For twelve exotic Ferns, they gained the premier position with beautifully grown specimens of Adiantums, &c. The twelve plants for table decoration brought forward a large number of entries, and with perfect specimens of Crotons, Aralias, Dracenas, and Palms, this firm was again placed first. The Messrs. Croll, as usual, exhibited largely and took several prizes. Their Gladioli were very fine, as also were their Roses, and their Pelargoniums also gained a first prize. On their table were choice blooms of Roses, fine double Dahlias and Carnations, a choice assortment of hardy Chrysanthemums, the curious pitcher plant, Crotons, Palms, and Caladiums. Amongst the nurserymen's exhibits the place of honour fell to Messrs. Storrie & Murray, of the Clarendon Park nurseries, the judges having unanimously recommended a special prize for the excellent and effective arrangement of their table. The features of the table consisted of a series of semi-circles richly and effectively filled with Carnations, Dahlias, Marigolds, choice dress sprays, &c., backed by a large and varied assortment of choice stove and greenhouse plants, Ferns, &c. Of special interest, too, was a section of a herbaceous border prepared for the exhibition of a new label introduced by Mr. Storrie. This consists of a galvanised iron support, so arranged that an ordinary wooden label, while securely held in position can at any time be removed, replaced, or renewed.

The first prize for a collection of eight dishes of fruit was won by Mr. Williamson, gardener to J. H. Rigg, Esq., Tarvit; and the second by Mr. W. Brown, gardener, Abercrauey. Mr. A. McKinnon, Seone Palace, was a very successful exhibitor with Grapes, securing first prizes for four varieties, and four single bunches of Black Hamburgh, Muscat of Alexandria, any other black, and any other white; and the best collection of hardy fruits shown by gardeners came from Abercrauey; while among amateurs, the leading collections came from Mr. D. Henderson, Taybank, Newburgh, and Dr. Robertson, of Errol. Mr. Brown, of Abercrauey, was also first for vegetables.

CRYSTAL PALACE.

THE visitors who assembled at the Sydenham Palace on Friday and Saturday last, had every reason to be satisfied with the magnificent display of fruit and flowers there provided, and many as have been the horticultural triumphs in the way of exhibitions that have resulted from the liberality of this company, it is doubtful if in recent years they have had anything to surpass that held last week, all the arrangements for which were admirably conducted by Mr. Head, the superintendent.

Prizes of £12, £8 and £4 were offered for a collection of fruit, not less than twenty dishes, and very seldom is such a fine competition seen, the second and third prize fruits being such as would have taken a high position in any ordinary show. Mr. Goodacre, Elvaston Castle, Derby, was very strong, however, and although he had formidable antagonists to contend with, he succeeded in winning the coveted first prize with ripe and clean samples of Queen and Smooth Cayenne Pineapples, Black Hamburgh, Muscat of Alexandria, Alnwick Seedling and Foster's Seedling Grapes, Conqueror and Hero of Lockinge Melons, Wallburton and Bellegarde Peaches, Elrue and Victoria Nectarines, Gladstone Apples, Kirke's Plums, Warrington Gooseberries, Jargonelle Pears, Brown Turkey Figs, Hemskirke Apricots, Morello Cherries, white Dutch Currants, and Filberts. Mr. McIndoe, Hutton Hall Gardens, Guisborough, had to be content with the second prize, but though he had a large collection, and some fine fruits, he also had some smaller ones that lost him the premier place. Mr. J. Roberts, Gunnersbury Park, also had an even and most creditable collection, for which he gained the third prize, several other good exhibits necessarily passing unnoticed. In what might be termed a compensation class, which was for twelve dishes, Mr. J. Roberts won an amply merited first prize, with Marquis of Downshire Peaches, Moorpark Apricots, Morello Cherries, Bleuheim Orange Melon, La Gros Sucre Strawberry, William Tillery Melon, Brown Turkey Figs, Victoria Nectarine, William's Bon Chrétien Pears, Charlotte Rothschild Pine, with Gros Maroc and Muscat of Alexandria Grapes in excellent condition, Mr. McIndoe was again in the second position; Mr. Miller, gardener to W. H. Long, Esq., M.P., Rood Ashton, being third. With eight dishes of fruit, Mr. Pratt, Longleat, Wiltshire, won first honours, his grand Muscat of Alexandria Grapes being the strongest part of his collection; and Mr. Pullman,

Frampton Court Gardens, Dorchester, was an easy second.

Grapes were very numerous and some were extremely fine, as in the class for five varieties, two bunches of each, in which Mr. W. Taylor, gardener to W. Chaffin, Esq., Bath, was fortunate enough to surpass the products of the Vines formerly under his charge at Longleat—that is to say, the Grapes from his young Vines were placed first, and those from Mr. Pratt were second, awards that no one could dispute, for the Taylorian productions were in splendid condition in all points. They were Muscat of Alexandria, Alicante, Gros Maroc, Madresfield Court, and Alnwick Seedling, magnificently coloured and of an unusual size in bunch and berry, except, perhaps, the Madresfield Courts, which were rather undersized in the latter respect. Mr. Pratt was, of course, a good second, but he was several points behind the first; and Mr. Elphinstone, Shipley Hall Gardens, Derby, was third, his Gros Colmars being very handsome specimens of that variety. The quality of the Grapes in the ten variety class was not so good, though some of the bunches were fine. Mr. Goodacre was the successful competitor, contributing Lady Downe's, Alicante, Duke of Buccleuch, Muscat of Alexandria, Muscat Hamburg, Golden Queen, Foster's Seedling, Madresfield Court, Alnwick Seedling, and Black Hamburg. Mr. Ward, Longford Castle Gardens, Salisbury, and Mr. Wildsmith, Heckfield Gardens, Winchester, were awarded the other prizes in this class.

Black Hamburgs were good, especially Mr. Pratt's leading bunches, though Mr. Moorhouse, gardener to J. W. Temple, Esq., Tunbridge Wells, and Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common, were also good exhibitors. Mr. Pratt's premier Muscat of Alexandria were also a good way ahead. Mr. Elphinstone had some beautiful samples of Gros Maroc, which were first in their class, and Mr. J. Bury, gardener to J. Richards, Esq., Forest Hill, secured a similar position with excellent Madresfield Court. Mr. Howe had the best Alicante, and in the any other white variety class Mr. Wallis, Keele Hall Gardens, Newcastle, was first with Mrs. Pearsons, finely ripened; Mr. Ward being first in the any other black Grape class with Alnwick Seedling—very beautiful. A handsome basket of Black Hamburgs gained Mr. Howe another first prize, and Mr. C. J. Goldsmith won similar honours in the white variety class for a beautiful basket of Muscat of Alexandria.

Pineapples were extraordinarily fine from Mr. C. Ross, Welford Park Gardens, Newbury, who had two grand fruits of smooth Cayenne, weighing over 9 lbs. each. Peaches, Nectarines, and Plums were very numerous, Messrs. McIndoe, Elphinstone, Divers, Hanagan, Wingfield, and Richards winning the principal prizes, while the Apples and Pears, though not in first-rate condition, were fairly represented by Mr. F. Butler, gardener to H. J. Thomas, Esq., Sittingbourne, who took three premier prizes. Tomatoes from Mr. C. J. Goldsmith, Mr. C. Jennings, and Mr. A. Waterman were of fine size; and the fruiterers' collections, all of which came from Brighton, included a great variety of choice fruits.

In connection with the fruit show there was also eight classes appropriated to cut flowers, Gladioli, Asters, and Hollyhocks being very abundant and bright. There were also groups of early Chrysanthemums, Mr. N. Davis of Camberwell, and Mr. W. Piercy of Forest Hill, having the two best collections. The miscellaneous exhibits from nurserymen and others were also important.

GRAND NATIONAL DAHLIA SHOW.

The National Dahlia Show, held in connection with the above, seems to improve both in the number of the competitors and the merit of the blooms they exhibit, for certainly the recent exhibition would compare very favourably with any that had been held before. The show and fancy blooms, the special favourites of the florists, were superb in the stands from such noted Dahlia establishments as Mr. C. Turner's, Slough, and Messrs. Keynes, Williams & Co., Salisbury, who were adjudged equal first in the main class. Mr. Walker, of Thame, also contributed well, and took some of the leading prizes. Amateurs were fairly well represented, though they were not quite so strong as we have seen them, and such well known Dahlia growers as Mr. H. Glascock and Mr. Garratt, of Bishops Stortford, were placed in second and third rate positions.

Pompon varieties were beautifully shown by Messrs. Turner; Keynes, Williams & Co.; J. Cheal & Son, Crawley; Paul & Son, Cheshunt; J. Henshaw, Harpenden; Glascock, West, and others, while several of the above named firms, with the addition of Mr. T. W. Girdlestone, Sunningdale, had single varieties in admirable condition.

The premier Dahlias were John Standish (show) from Mr. J. Walker, and Henry Eckford (fancy) from Messrs. Keynes, Williams & Co., both very handsome well-formed blooms.

The Turner Memorial prize was won this year by Mr. F. G. West, Cornwall, Brentwood, with twelve show and six fancy varieties; but there were only three stands entered, and the prize was not contested as might have been expected.

First Class Certificates were awarded to the following:—Messrs. Keynes, Williams & Co., for show Dahlias—Defiance and Colonist. Mr. Charles Turner, Royal Nursery, Slough, for show Dahlias—Bendigo and Florence; and Pompon Dahlias—Dandy and Don Juan. Mr. J. Tranter, Upper Assenden, Henley-on-Thames, for show Dahlia—Nellie Tranter. Messrs. Rawlings Brothers, nurserymen, Romford, for show Dahlias—R. T. Rawlings and Mrs. Theobald. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for single Dahlias—Mrs. Coninck, Amos Perry, and Chilwell Beauty. Messrs. Cannell & Son, Swanley, for decorative Dahlias—Charming Bride and Black Knight; and single Dahlia—Chilwell Beauty. Messrs. J. Burrell & Co., Cambridge, for Pompon Dahlia—Alice.

Obituary.

WE regret to record the death, on Aug. 30th, in the Isle of Wight, of Mr. JOHN COX, for many years gardener at Redleaf, Penshurst, Kent, and a well-known practitioner of the old school. Mr. Cox was born seventy-two years ago in the village of Buckland, Berkshire, and commenced his gardening career, under his father, at Cornbury Park, in Oxfordshire, and in 1836 was engaged for his first head place by the late Bishop Spencer, in Derbyshire, with whom he remained until the bishop went to India, in 1841. Before going for a time into Knight & Perry's nursery at Chelsea, Mr. Cox put a knapsack on his back and went for a walking tour through the counties of Hereford, Monmouth, Gloucester, Warwick, and Worcester, calling at the principal gentlemen's seats on the way. In October, 1842, he went to Thame Park, Oxford, as gardener to the Baroness Wenman, and about five years later went to Redleaf, which was very greatly improved under his direction, and where he stayed until a few years ago, when failing health compelled him to retire. For many years Mr. Cox was a member of the Fruit Committee of the Royal Horticultural Society, and a judge at the Royal Botanic and other London shows. His pet subject was pomology, and in his time he wrote a great deal, in various publications, on fruits and fruit culture. He was also the raiser of the Redleaf Russet Apple—a small, well-flavoured variety of the Golden Knob type—in season during the early months of the year. Mr. Cox had a strong penchant for small, highly-flavoured Apples, and for some years after the establishment of the Fruit Committee, it was always a close race between him and the late Mr. J. B. Whiting, of the Deepdene, as to which should take the prizes frequently offered at the meetings for the best flavoured fruits. Both used to bring up the fruits in their pockets, and it was seldom that anyone got in before them. He was buried in Brading churchyard, on September 2nd, and has left a widow (aged seventy-four) and daughter to mourn his loss.

HOME OF REST FOR HORSES.—At the request of a much valued contributor to our columns, we venture to depart from our usual custom of confining ourselves to subjects exclusively connected with horticulture, in order to bring under the notice of our readers a good and humane institution, for which the support of the benevolent public is sought. The objects of the Home are:—1. To enable the poorer classes, cabmen, tradesmen, and others, to procure, on moderate terms, rest and good treatment for animals that are failing from over-work or other accidental causes, and are likely to be benefited by a few weeks' rest and care. A little timely relief of this kind will enable nearly used-up horses to do further work with comfort for years, and thus save their owners unnecessary outlay in purchasing others. 2. To provide animals for such poor persons for temporary use while their own are resting, a small amount being charged for such loans, and a strict guarantee of good treatment being exacted. 3. To provide an asylum for old and infirm animals, the owners of which, instead of destroying or selling them for further labour, desire to place their worn-out faithful servants under good treatment for the remainder of their days, paying a remunerative charge for such accommodation. It is proposed to make the Home self-supporting as far as possible; but as it is known that many poor persons will avail themselves of this charity, to save their animals from cruelty, or from being consigned to a knacker's yard, annual subscriptions and donations are earnestly solicited, and may be forwarded to Jacob Montefiore, Esq., 35, Hyde Park Square, W., treasurer; or S. Sutherland Safford, Esq., hon. secretary, 15, Soho Square, London, W.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—R. Young: 1, Epidendrum varicosum; 2, Stanhopea inodora; 3, Oncidium pulvinatum; 4, Cattleya Eldorado Wallisii, showing very good cultivation; 5, Gongora atropurpurea. Cosmopolitan: 1, Polypodium cambricum; 2, Adiantum cuneatum; 3, Nephrodium Molle; 4, Pteris longifolia; 5, Pteris serrulata cristata; 6, Pteris aquilina. B. P.: 1, Eschynanthus grandiflorus; 2, Phyllanthus nivosus; 3, Cassia corymbosa; 4, Coccobola platyclada; 5, Magnolia fuscata; 6, Medicago, species not recognised.

WHAT IS IT?—D. H.: It may be Rosa rugosa, but it is quite impossible to say without seeing the flowers. Could you not send us one?

STOCKS.—X.: It is quite fair to show all the flowers the plant produces if they are in condition, and only the roots are cut off. The judges were quite right in our opinion.

LILIAM AURATUM.—J. H.: No.

COMMUNICATIONS RECEIVED.—G. S. A.—R. G.—F. W. F.—R. H. M.—B. F.—W. P. L. and S.—W. T. F.—A. O.—S. and S.—W. G.—S. P.—W. H.—R. Y.—H. K.—W. E., Cilgwyn.

TRADE CATALOGUES RECEIVED.

SUTTON & SONS, Reading.—Autumn Catalogue of Bulbous Flower Roots.

COMPAGNIE CONTINENTALE D'HORTICULTURE, Ghent, Belgium.—Catalogue of New and Rare Plants.

BENJAMIN SODDY.—243, Walworth Road, London, S.E.—Choice Hyacinths, Tulips, Crocus and other Dutch Bulbs.

W. DRUMMOND & SONS, 58, Dawson Street, Dublin.—Autumn Catalogue of Dutch Flower Roots.

LUCOMBE, PINCE & CO., Exeter.—Catalogue of Bulbs, Roses, Fruit Trees, &c.

LONDON SEED TRADE.

September 8th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report to-day's market steady. There is a better trade for Trifolium, but in small quantities. Tares move slowly and at less money. The trade for Mustard is apparently over. Rape seed is very cheap; Hemp and Canary firm; White Millet is scarce; and Feeding Linseed cheaper. The condition of the new Blue Peas in some cases are bad, and the prices lower than last week. Clovers are at a standstill.

COVENT GARDEN MARKET.

September 9th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	2	0	3	6	
Cherries, $\frac{1}{2}$ sieve					
Currents, $\frac{1}{2}$ sieve					
Grapes, ... per lb.	0	6	2	0	
Melons, ... each	1	0	2	0	
Peaches, per doz.	2	0	6	0	
Pine-apples, St.					
Michaels, each.....	2	6	8	0	
Pine-apples, Eng., lb.	3	0	4	0	
Plums, $\frac{1}{2}$ sieve	1	0	2	6	
Strawberries .. per lb.					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	3	0	
Beans, French, per lb.	0	4			
Beet, per dozen	2	0	3	0	
Cabbages, ... per doz.	2	0	2	6	
Carrots, per bunch ..	0	6			
Cauliflowers, English, per dozen	3	0	5	0	
Celery, per bundle ..	1	6	2	6	
Cucumbers, each	0	6	0	9	
Endive, French, doz.	2	6	3	6	
Herbs, per bunch.....	0	2	0	4	
Potatoes, Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.					
Horse Radish, bundle	3	0	5	0	
Lettuces .. per dozen	1	6			
Mushrooms, p. basket	1	0	2	0	
Onions, per bushel ..	4	0	6	0	
Parsley, per bunch ..	0	6			
Radishes, per dozen ..	1	6			
Small salading, punnet	0	4			
Spinach, per strike ..	2	0			
Tomatoes, per lb.	0	9			
Turnips.... per bun.	0	6			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	2	0	4	0	
Arum Lilies, 12 blms.	4	0	6	0	
Bouvardias, per bun.	0	6	1	0	
Carnations, 12 blooms	1	0	3	0	
Carnations .. 12 bun.	3	0	6	0	
Cornflower .. 12 bun.	1	6	3	0	
Delphinium .. 12 bun.					
Daisies, common, 12 bunches	2	0	4	0	
Eucharis, per dozen ..	2	6	4	0	
Forget-me-not or Myotis, 12 bunches ..	2	0	4	0	
Gardenias, 12 blooms.	2	6	4	0	
Gladioli .. 12 sprays	1	0	2	0	
Heliotropes, 12 sprays	0	6			
Lapageria, red, 12 blms.	1	0	2	0	
Lavender, 12 bunches	3	0	5	0	
Lilium longiflorum, 12 blooms	4	0	6	0	
Liliums in variety, dozen bunches	12	0	24	0	
Marguerites, 12 bun.	3	0	6	0	
Mignonette, 12 bun.	1	0	3	0	
Pansies, 12 bunches ..	1	0	3	0	
Pelargoniums, per 12 sprays	0	9	1	0	
—scarlet, 12 sprays ..	0	3	0	6	
Primula, double, bun.	0	6	1	0	
Pyrethrum, 12 bunches	2	0	4	0	
Roses .. 12 bunches	2	0	6	0	
Roses (coloured)	0	9	1	0	
Roses, Tea .. per dozen	0	9	2	0	
Stephanotis, 12 sprays	1	6	3	0	
Sweet Peas, doz. bch.	1	6	3	0	
Sweet Sultan, 12 bun.	3	0	4	0	
Tropeolums	1	0	2	0	
Tuberose, per dozen.	0	4	0	9	
White Jasmine, bun.	0	6	0	9	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	0	
Balsams per doz.	3	0	6	0	
Begonias, per dozen ..	6	0	12	0	
Cockscombs, per doz.	3	0	6	0	
Cyperus, per dozen ..	4	0	12	0	
Dracena term., doz.	3	0	6	0	
—viridis, per dozen	12	0	24	0	
Evergreens, in var., per dozen	6	0	24	0	
Ferns, in var., doz. ..	4	0	18	0	
Ficus elastica, each..	1	6	7	0	
Foliage plants, various, each.....	0	10	2	0	
Fuchsia, per doz.	3	0	6	0	
Gladioli, 12 pots	6	0	9	0	
Hydrangea .. per doz.	6	0	12	0	
Liliums per doz.	12	0	30	0	
Lobelia, per dozen ..	3	0	4	0	
Marguerites, per doz.	6	0	9	0	
Mignonette, per doz.	4	0	6	0	
Palms in variety, each	2	6	21	0	
Pelargoniums, doz ..	6	0	12	0	
Pelargoniums, scarlet, per dozen	3	0	6	0	
Petunias, per doz.	2	0	6	0	
Rhodanthe, per dozen	6	0	9	0	

VEITCH'S BULBS FOR EARLY FORCING.



JAMES VEITCH & SONS.
ROYAL EXOTIC NURSERY,
CHELSEA, S.W.

The following varieties are specially selected, and the best adapted for very early forcing:—

HYACINTHS.

EARLY WHITE ROMAN 15/- per 100; 2/- per doz.
NAMED EXTRA EARLY VARIETIES 10/- per doz.

NARCISSUS.

EARLY PAPER WHITE 10/6 per 100; 1/6 per doz.
EARLY DOUBLE ROMAN ... 10/6 per 100; 1/6 per doz.

EARLY SINGLE TULIPS.

DUC VAN THOL, Red and Yellow 4/6 per 100.
DUC VAN THOL, Crimson 4/6 per 100.
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EARLY DOUBLE TULIPS.

DUC VAN THOL, Red and Yellow 3/6 per 100.
TOURNESOL, Red and Yellow 7/- per 100.

JONQUILS, SINGLE, SWEET-SCENTED ... 5/- per 100.
SCILLA SIBIRICA 30/- per 1,000; 3/3 per 100.

For other Bulbs for Forcing, Pot Culture, or Planting
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Magnificent, large, solid bulbs.

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splendid condition. Per dozen, 3s. 6d.

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Is now executing orders for HYACINTHS, TULIPS,
CROCUS, SNOWDROPS, NARCISSI, LILIUMS, &c.,
at very reasonable prices.



The Bulbs are very large and of exceptionally fine
quality this year.

Please send for copy of Illustrated Bulb Catalogue, which
will be forwarded gratis and post free on application.

VICTORIA AND PARADISE NURSERIES,
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ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11
a.m., in the Conservatory, on TUESDAY next, SEPTEMBER 21st.
N.B.—Open to Fellows at Twelve o'clock, and the Public at
One o'clock.

Next Week's Engagements.

MONDAY, Sept. 20th.—Bulb Sales at Stevens' and
Protheroe & Morris's Rooms.
TUESDAY, Sept. 21st.—Meeting of Floral and Fruit
Committees at South Kensington.—Sale of Dr.
Paterson's collection of Orchids at Protheroe and
Morris's Rooms (two days).
WEDNESDAY, Sept. 22nd.—Sale of Dutch Bulbs and
Azaleas, &c. at Stevens' Rooms.
THURSDAY, Sept. 23rd.—Sale of Dutch Bulbs at
Protheroe and Morris's Rooms.
FRIDAY, Sept. 24th.—Sale of Imported Orchids at
Protheroe and Morris's Rooms.
SATURDAY, Sept. 25th.—Bulb Sales at Protheroe and
Morris's and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, SEPTEMBER 18, 1886.

PLUMS.—Those non-domesticated housewives who have failed this year to store their cupboards with good, fresh, wholesome Plum preserve certainly have but themselves to blame. The crop has been universally so heavy that great quantities have fallen and rotted under the trees, simply because the price obtained in the markets was too low to repay the cost of gathering and transit to market. Of course, it is a grave misfortune that such should be the case; and although the fruit has been selling cheaply enough in our towns, yet it is evident that far more should have been consumed in the direction we have mentioned. Possibly, housekeepers prefer to purchase their preserves from the manufacturers now to making their own—a great and, in the end, costly mistake, no doubt; but when so many of our women grow up without the least knowledge of the elements of domestic work and of economy, and are also too dainty or too affected to undertake these household duties, it is not to be wondered at if jam-making is ignored in the home circle, and the most costly method of purchasing from the shopkeeper preferred.

We may remind our readers, however, that having had a fair Plum crop last year and a very heavy one this year, that there is little hope we shall see any considerable quantity of this fine fruit for some three or four years. No doubt, in private gardens, wall trees, never too heavily laden if properly treated, will carry fair crops as usual, and in the market orchards there will be occasional sprinklings; but all past experience shows that heavy Plum crops come but once in about five years. Thus housekeepers have been very unwise in not fully utilising the cheap crop so freely given this

year. Later, instead of being privileged to eat their own genuine preserve, they may be partaking of material of which one-half is Plum and the other half something else not easily defined.

It is unfortunate that in the case of Plums a certain and, perhaps, not altogether an exact prejudice should exist against eating them largely in a raw though ripe state. A good Plum is a rich, luscious, juicy fruit, and digestible; but without doubt several will often have relaxing effects, and this leads to alarm. Were we more generally a fruit-eating people such results would not happen; but it is an almost inevitable result when eaten but seldom. Children, and especially those resident in garden districts, who eat all kinds of fruits whenever comeatable, seldom suffer in the same way that elder persons do. Our strong meat diet rarely inclines the body to fully enjoy fruits, and we rather condemn them than enjoy them. No doubt fruit carefully and moderately consumed answers useful dietetic and medicinal purposes in the human body; but when ignored for the greater part of the year, and then somewhat freely indulged in at one short season, unpleasant results are apt to follow. If the fruit-growers ever find better times, it will, probably, be at the expense of the graziers and butchers. Still, we heartily wish fruit eating was far more popular, because it would prove at once healthful and desirable.

SYON HOUSE AND GARDENS, by the kind permission of the Duke of Northumberland, may be visited on Wednesdays and Thursdays up to the end of the month. Requests for cards of admission should be made to the Duke's private secretary, at No. 2, Grosvenor Place, S.W.

MR. A. W. HARRISON, for nearly twenty-six years secretary of the Pennsylvania Horticultural Society, died at sea, on August 22nd, while returning to New York from Liverpool, on the steamship Queen.

THE date for holding the Sheffield and Hallamshire Gardeners' Mutual Improvement Society's annual Chrysanthemum, Primula, Flower, and Fruit Show has been altered to November 15th and 16th, in view of the change in the weather, which will probably bring on an earlier bloom.

FOR STEALING thirty-four panes of GLASS out of a nurseryman's greenhouse at Wyld Green, one Daniel Tranter, a policeman, was on Tuesday sentenced to three months imprisonment at Sutton Coldfield.

MR. WILLIAM H. BOOMKAUF, son of a Dutch bulb-grower in Holland, who had established a large business in New York, as a bulb importer, died suddenly in that city on Aug. 18th.

A GOOD portion of the plants in the flower beds, in the City Park, Cleveland, is stated by the *American Florist*, to have been taken up in the trees by the sparrows, who have utilised the Allysum, Oxalis, and Lobelia for building their nests.

CORNFLOWER.—He had been at Harrow nearly a whole term, and on the match day, wishing for a button-hole of dark blue, he strolled into his favourite flower-shop. "Look here, I want a button-hole of Revelenta Arabica." "Rev—?" "Yes, corn-flour, you know—botanical name." He deals elsewhere now.

It is supposed (remarks the *American Gardeners' Monthly*), that THE ENGLISH SPARROW has learnt to read, and has been perusing Prof. Riley's statements that locusts are good to eat. Not being versed in entomology, however, they mistook cicades for locusts, and fell to work at them about London, as Prof. Ward says that they did about Washington. The cicada has thrived for centuries in spite of English sparrows, but now they are becoming educated, the locust will have to go.

A PHILADELPHIA florist says:—"It is noticeable that popular taste is running more and more toward the use of COLOURED FLOWERS IN FUNERAL PIECES. A few years ago nothing but pure white flowers were tolerated. One day Pennock Bros. sent out a pillow with a few Safrano buds in it, only to have it returned by the indignant recipient. Since that time, however, not only Safranones, but the deeper yellow Perles and Sunsets

have become popular, and some recent funerals in high society have even shown pieces made of the deep-coloured Jacqueminot Roses. Perhaps there is a change in the sentiment as well as in the colour. White flowers suggest the cold ceremonies of the grave; coloured ones, the bright fields of Paradise."

A CORRESPONDENT of *Notes and Queries* states that the name CEDAR has been given very indiscriminately to Cedars, Cypresses, and Junipers. It ought to be confined to that noble tree the Cedar of Lebanon, to which it was first given. This genus has but one true species, for the *B. atlantica*, *C. taurica*, and *C. deodara*, are mere varieties of the *C. libani*. Their cones are indistinguishable. This I learned from the late Sir W. Hooker, and his son, Sir Joseph Hooker, has confirmed it. There is no higher authority. The timber is of extraordinary durability, but it is quite devoid of fragrance. The sweet-smelling wood of which so-called Cedar pencils are made is Juniper, commonly called the Bermuda Cedar. There is a boudoir in Warwick Castle entirely wainscoted with it.

BRITISH GUANO!—A good story is told of Mr. G. H. Hawtayne, the genial Commissioner of British Guiana at the Colonial Exhibition. Mr. Hawtayne was in a shop one day recently making purchases, and asked that the goods should be sent to the British Guiana Court. "Ah!" said the shopkeeper, "I know you, and to tell you the truth, I don't think very highly of you. I gave your British Guano a very thorough trial, but for all you say in its favour it does not come up to the Peruvian." The Commissioner slid away, lost in wonder that there are men in the world who do not know of the existence of British Guiana.

PLANTS FROM ANCIENT EGYPTIAN TOMBS.—In the biological section, at the recent meeting of the British Association, Mr. W. Carruthers, F.R.S., of the British Museum, gave some very interesting facts concerning the specimens found in ancient Egyptian tombs. It was the custom to lay the mummies upon biers formed of branches of the sacred Sycamore, and then to wrap the winding-cloths over all. The friends who came to visit the tomb used also to bring wreaths of flowers and votive offerings of fruits; and all these furnish specimens to the colonists of to-day. The wonderful thing is that when they have been placed in warm water they revive, and the colour becomes as fresh and brilliant as if they had been gathered yesterday. In this way we can look upon crimson Poppies, blue Larkspur, Vine-leaves and Grapes gathered by loving hands for the dead 2,000, 3,000, and even 4,000 years ago. To our scientific men the great point of interest in these wonderful things is that most of them are identical with the species growing in the open air at the present day; so that there seems to have been absolutely no change in these plants, and it ought to be a cause of shame to us that we have not during 3,000 years materially improved our wheat.

SOCIETY OF AMERICAN FLORISTS.

AN American reader of *THE GARDENING WORLD*, who was present at the recent annual gathering of American florists, at Philadelphia, writes:—This is a Society of almost phenomenal growth. Its first annual meeting was held at Cincinnati last year, its second at Philadelphia last week, and its third will be held at Chicago next year. Three years ago who thought it possible that 600 florists, representing nearly every state in the country, from Alaska to Maine, and Louisiana to Georgia, could be brought together at any one place and time, and for one common object? Certainly, I did not. But such is the case, and the Canadas, too, are represented.

Last week's, the second meeting, was held in Horticultural Hall, a spacious building in the most central and accessible part of Philadelphia, and under the auspices of the Philadelphia Florists' Club. Papers of vital interest on Roses, Carnations, and kindred subjects, were prepared and read by specialists, and discussed by the members. Essays on new and improved methods of building greenhouses and heating greenhouses by steam and hot water, were also read and keenly discussed. The essays were the practical experience of able men, hence they were able papers, and when we bear in mind that every man and woman in the audience was a practical florist, it is easy to understand that the discussions were pithy, pointed, and extremely instructive, and no padding, platitude, or expletives were needed or tolerated.

One of the halls in the building was used as an ex-

hibition hall, and here many of the florists showed collections of Asters, Pelargoniums, Verbenas, Pansies, Gladioluses, and other flowers, of which they have especially good strains. Some of the local florists of Philadelphia contributed groups of Palms, other tropical exotics, new Ferns, Gloxinias, &c. A collection of Cactuses shown by Mr. Blanc, of Philadelphia, was quite extensive, the plants were thrifty and clean, and many of them rare. But the glory of the exhibition was Sturtevant's aquatics; two large water-tanks were filled with them. The plants comprised *Nymphaea Devonensis*, *N. cœrulea*, *N. Zanzibarensis*, *N. odorata* var. *rosea*, *N. candidissima*, *N. dentata*, and *N. rubra*; double-flowered *Sagittaria*, *Limncharis Humboldtii*, flowers and leaves of the *Victoria Regia*, and dozens of blossoms of *Nelumbium speciosum*, together with immense leaves 6 ft. to 8 ft. high above the water. Everyone of these is grown out of doors in summer.

Models of greenhouses, boilers, fumigators, methods of ventilating, glazing, and the like, together with samples of many implements and other appliances used in horticulture were exhibited, explained, much handled, and critically investigated.

Mr. La Mout, of New York, with his assistants, gave an exhibition of ingenuity and speed in making up cut-flower "pieces."

So destructive to greenhouses are our summer hailstorms, that many of the members of the society have resolved to institute a hail insurance company.

What a happy idea it was to bring the florists of America together in convention once a year. They all get acquainted with each other, and what a genial, intelligent, mannerly, and brotherly lot of people they are! There is no formality, no restriction, but all are happy, interested, and polite, and the joyful sociability of the whole convention is one of its most charming and valuable features. The florists of the west become familiar with the progressive ways and means of their brethren in the east, and the florists of the east learn many a valuable lesson from the ingenuity and push of their fellow craftsmen of the west. It is a mutual benefit to all concerned.

Philadelphia emphasised its "brotherly love," and the hospitality of the Philadelphia Florists' Club was paramount. The Club entertained the members of the convention to a day's outing and banquet at Atlantic City—a rare treat to the members from the interior States. While the convention was in busy session the wives and friends of the members were entertained and banqueted by the ladies of the Florists' Club. One afternoon was spent at "Wootton," the country home of Mr. George W. Childs, one of Philadelphia's most beloved and wealthiest citizens, and who entertained and banqueted right royally 800 members of the convention and their friends.

In fact, it was, from first to last, a week of brilliant sunshine, and peace and good will prevailed on every hand. We dispersed in love and harmony, contented with our business, proud of our associates, knowing more than when we met, and resolved to practice what we had learned.

The society elected as officers for 1887:—Robert Craig, of Philadelphia, president; J. C. Vaughan, of Chicago, first vice-president; Edwin Lonsdale, of Philadelphia, secretary; and Myron A. Hunt, of Chicago, treasurer. A vice-president is also elected from each state.

TOTLEY GRANGE.

THIS country residence is pleasantly situated on the edge of the Derbyshire moors, about five miles from Sheffield. It was built some few years ago by its owner, Thomas Earnshaw, Esq., one of the many successful business men of Sheffield, who have judiciously selected a site that is well beyond the smoke radius of that town, which is so noxious to both animal and plant life. We approach the Grange from the Baslow Road through a pair of massive iron gates, on the right of which stands the pleasant and well-built lodge. On each side of the well-kept carriage drive are sloping grass banks; beyond the left bank runs a belt of ornamental trees and shrubs, which prevents the public gazing from the highway on to the Grange and its pleasant surroundings.

Passing the Grange, about 200 yards on the west side, is the kitchen garden and glass department, which is chiefly devoted to the production of fruit, and

I may add that no expense has been spared in the construction of fruit houses. The first house we enter is a span-roof Vinery, 20 ft. by 12 ft., containing twelve Vines, all Muscat of Alexandria; each Vine bore eight bunches, which would average two pounds each, well finished. This small house was a picture such as I shall not soon forget. The next house, which is similar in dimensions to the last, is devoted to greenhouse-flowering subjects, amongst them being several plants of *Francoa ramosa*, a very useful old plant, too seldom seen in collections. The next two houses we entered, are about the same dimensions; the first devoted to Cucumbers, the other containing some well-grown stove plants, Ferns and Orchids. We next enter a Tomato house 93 ft. long: the bulk of the plants in this house are Reading Perfection, which has been bearing abundantly since last April. Single fruit of this variety have been cut weighing 20 ozs. The quantity of Tomatos sold from this house in 1885, after supplying the demands of the family, realised upwards of £30.

The next range of houses we enter, is about 90 ft. in length, which is in four divisions. The first two compartments are devoted to early Peaches and Grapes, all of which had been gathered at the time of our visit; in the third compartment there was a splendid crop of well-finished Grapes. The varieties were Black Hamburgh, Muscat of Alexandria, Madresfield Court, Foster's Seedling, and Black Alicante; in the fourth compartment, which is devoted to Peaches and Nectarines, the trees were carrying heavy crops of fine fruit. We next enter another range of Vineries about the same length, which is also divided into four compartments, in three of which the vines are in splendid condition, bearing heavy crops of mid-season and late Grapes; the fourth house has lately been planted with Gros Colmar, which have not yet established themselves. Mr. Earnshaw does not consume the whole of the produce from the above mentioned glass, and I have been furnished with a statement of the produce which was sold last year: Peaches and Nectarines, 497; Cucumbers, 1,220; Grapes, 1,056 lbs.; Tomatos, 618 lbs. The total amount realised from the above, was £224 5s. 5d. Mr. Jefferson, the gardener, is a worthy scion of a grand old stock, under whom he received an early training in the cultivation of fruits, &c.—J. W. S.

THE PLUM CROP.

MR. SKINNER, one of the largest growers in the country, and who has dealt in Covent Garden for over half-a-century, affirms that he has never known a year at all approaching this for both Plums and Damsons, and, indeed, stone fruit generally. Usually large quantities are imported into London from the Continent, but there is this year such a glut from English grounds that the Continental growers are altogether out of it. There are no foreign Plums in the London market. Indeed, it is reported from some quarters of Kent that great quantities of Plums are being allowed by the owners to rot upon the trees, as they find it does not pay them to gather and send them to market. Growers complain that this waste is due to the exorbitant charges of the railway companies, who are reaping a rich harvest from the splendid crops of our own grounds while they are actually bringing down prices in the market by giving an advantage to Continental growers. This is not the case this year with Plums and Damsons, since, as it has been said, there are no Continental fruits of these kinds on our market.

But all such fruits as foreign growers find it worth while to send over here can be sent at rates lower than those charged to our own growers. For example, it is said that Pears and Apples are being conveyed from Belgium to Covent Garden at from 4d. to 5d. a bushel; from Maidstone 6d. is the charge. Thus it would seem that it is not only the foreign Sugar trade that is being fostered by a bounty system; there is a bounty system for the benefit of the foreign fruit trade also, and this is applied by our own railways. The plea for this very unsatisfactory state of things is, that if our railway companies did not cut down their rates to foreign growers, the traffic would be taken by steamers. They are, in fact, compelled to this reduction by competition; that may be so, but, one would think that where competition does not compel this reduction, common fairness to rival traders should. If this is not sufficient, some other means must be adopted, so at least the English growers think, and they are understood to be

casting about for these other means. Some of them, whose grounds are in the neighbourhood of Sittingbourne, have been endeavouring to organise a service of fruit barges brought up by steam tugs. The cost this way, if it were practicable, would not amount to half the railway rates, it is said.

The first experiments, however, do not appear to have been altogether successful. It is a tidal creek that runs out from the Thames towards Sittingbourne, and the difficulties of tide have occasioned the loss of a market to the first cargo. With ripe fruit this, it is clear, may sometimes prove serious, and may possibly thwart this reversion to a mode of transit familiar to the days before railways. It does not, however, seem to be as yet quite certain that a little scheming and contriving as to the time of dispatch may not overcome this difficulty. Among growers to whom water carriage is not available there are proposals of combination to provide means of land transit apart from railways, should argument fail to secure fair terms. Meanwhile, it would be interesting to know, if some statistician would tell us, what sort of a tax Londoners are paying

mental origin have made their appearance in collections. In this country it is not often seen used as a bedding plant, but in most of the Paris parks and public gardens very handsome beds are frequently seen, the plants being kept low by cutting them hard back every season.

A FRUIT-TREE NURSERY IN KENT.

"KENT: the Garden of England." Is it? Well, every Kentish man will tell you so, and none more emphatically than the guiding spirit of a firm whose headquarters are at Maidstone, and whose speciality in business is the raising of Fruit trees for the million, in a parish not far distant from that old-fashioned county town, yet one of the most fertile, in a district as famous for its Hops and other produce as the county is celebrated for its Cherries and fair women. The line from Sevenoaks to Maidstone passes through a country of great interest to all concerned in fruit production, and the highest class of land cultivation; but it is when nearing

round figures, 100,000. The great and still growing popularity of Denyer's Victoria is testified by the number here grown, some 30,000, mostly standards, the remainder being fan-trained to meet the demand for that class of tree. Belgian Purple, The Czar, and Blue Prolific are also held in high repute as market Plums, and raised in large numbers. Kentish Bush, a local sort, is also in great demand, as it makes a handsome tree, and is a grand cropper. As a late variety, Mr. Bunyard thinks highly of Rivers' Archduke, an oval-shaped purple fruit, of good quality and a tremendous cropper. The leading Damson is Crittenden's or Farleigh Prolific, a local variety believed to have been found in a hedge, and of which we gave an illustration in our last volume, p. 73. Whatever may be its origin, there is no gainsaying its merits or its popularity among growers for market, for none yield more heavily or more constantly. A few years ago this used to be budded like the Plums; but it is now raised from suckers, which are allowed to grow freely for two or three years, when they are cut down close and then make clean, straight stems. The varieties we have named by no means represent all that the Messrs. Bunyard grow, only those raised in large numbers for market growers; all the choice garden varieties are represented in trees of various sizes and shapes, and all admirable of their kind.

Though raised in smaller numbers than Plums by some 15,000, the Apples are by far the more interesting feature, being represented by a greater number of varieties, and held in higher estimation for their longer season of usefulness. The stocks in use are Rivers' Nonsuch, the English, the Broad-leaved, and the Doucin, the greatest number being worked on the first-named, while only a few sorts are budded on the last. The various sorts are used for specific kinds, but the bulk are budded on the Nonsuch, which Mr. Bunyard finds the best, and layers from stools, selecting the strongest stocks for the strongest growers, such as Blenheim Orange and Warner's King, &c., and putting the weaker growers on the English Paradise.

Of the varieties that more immediately came under our notice, we may mention the Early Strawberry, a well-flavoured, early variety of a rich crimson colour, not much known in the south but a favourite in Scotland, and being a good bearer should be worth growing as a market variety. A first-rate poor man's Apple is Potts' Seedling, an enormous bearer of large-sized fruits, even little trees not more than 3 ft. high carrying fruits of grand quality. Ribston Pippin on the Paradise was very fine, both in growth and the fine quality of the fruits, and certainly shows no signs of dying out here. Granadier, a variety brought into notice a year or two ago, is a very fine Apple, and unlike many varieties, bears fruit and makes a good growth at the same time. The best early variety is Mr. Gladstone, a new sort which originated in the neighbourhood of Kidderminster, and which, though small, is wondrously rich in colour, and makes a telling dish in a collection of fruit in August. Stirling Castle, like Lord Suffield, of course, requires no commendation, as, to use an Hibernianism, "they speak for themselves"; but Domino, a large culinary variety obtained from the midland counties, must be noted as an immense cropper. Histons' Favourite, which seems to belong to the Hawthornden race, is also liked for its free-bearing proclivities. Hornead Pearmain, a Sussex Apple, is recommended as a good-keeping culinary variety, not large, but good in quality, and a good cropper. The Queen, Messrs. Saltmarsh's new variety, proves to be a fine acquisition; and Cardinal, another new introduction, is of a most lovely colour. Lady Sudeley, the fine variety sent out by the firm last year, is seen in strong force, and will become a favourite, having high quality and richness of colour to recommend it. Such recognised good culinary kinds as Ecclelville, Lord Derby, Lord Grosvenor, Loddington Seedling or Stone's Apple, Lane's Prince Albert, one of the very best; Keswick Codlin, and New Hawthornden are seen in great abundance; and among dessert sorts not already mentioned, Cox's Orange Pippin, Duchess's Favourite, and Ingestrie Yellow or Summer Golden Pippin were specially noted by reason of the fine quarters of thrifty plants.

Pears are grown to the extent of some 40,000, mainly as standards, but with a good proportion each of pyramids, espaliers, and cordons, and, like the Apples and Plums, show high-class management, the espaliers, four years old and upwards, being perfect models of



HIBISCUS SYRIACUS.

on this one item of fruit alone, through the high rates of carriage rendered to some extent necessary by the extravagant cost of our railway construction, and the enormous sums which were originally paid to the landowners along their lines of route in order that towns might be planted and industries developed, and a fabulous value thus given to the estates of these same landowners. It would at least be curious, if not startling, to see how large a part of every sixpence we spend in Plums goes to help out the dividends on that tremendous outlay of capital, to say nothing of the fruit that is rotting on the trees because we parched and heated Londoners cannot get at it.—*Daily News*.

HIBISCUS SYRIACUS.

At this season, few of our hardy flowering shrubs present a more attractive appearance than the old-fashioned plant, commonly known in gardens under the name of *Althæa frutex*; and there are few plants better worth planting in mixed shrubbery borders. It is perfectly hardy, grows to a moderate height, about 8 ft., stands pruning freely, has pleasing foliage, and flowers with wondrous freedom. In colour the flowers vary from pure white to dark purple, and during the last few years many handsome double varieties of Conti-

Barming that the grand crops on either hand seem to claim the largest measure of our admiration.

Arriving at Barming station one morning at the end of August, and on what proved to be one of the hottest days we have experienced this season, we were met by the "guiding spirit" of the firm aforesaid; none other than Mr. George Bunyard, one of the most enthusiastic of pomologists, and most courteous and kindly of men, and under his guidance we were soon in the nursery, and deep into the details of fruit-tree propagation.

Extending their landmarks in various directions, as the exigencies of business required, and the land could be obtained, the Messrs. Bunyard's nursery now reaches up to Barming station, and the first crop on this piece consists of 45,000 stocks of various kinds, which, at the time of our visit, were in the hands of the budders. The nursery covers an area of some sixty-six acres, and is closely cropped; the cultivation all through being of the most admirable description. Trees and Shrubs of an ornamental character, and of the usual description, are grown to a considerable extent; but Plums, Apples, and Pears are the staple products, and occupy by far the largest acreage. The stock of Plums in various stages of growth, from the bud to the 6 ft. standard ready for orchard planting, numbers, in

good training. We noted but few varieties, but must not omit mention of Madame Treyve, one of the best of all the early varieties. In Petite Marguerite, the Messrs. Bunyard have an American variety which promises to make a fine market Pear for the first and second weeks in September. It is somewhat like the old Autumn Bergamot in size and shape, has very delicate flesh, and a delicious flavour.

While walking through the immense quarters of Apples, Pears and Plums, scattered all over the nursery, it is impossible to pass without comment the large brakes of trained Peaches and Nectarines, and Cherries, and the fine clean-stemmed standards of the latter fruit; large breadths of young Gooseberries are also seen. Of this fruit, the firm have had as many as 200 varieties, but they are now reducing them to at least one half that number. The main market variety in Kent and Middlesex is Lancashire Lad. Of Currants the principal sorts grown are red varieties; and Knight's Early Red, an upright grower which is first ready to pick, Raby Castle, Scotch, and Red Dutch command the most attention. Filberts and Cob Nuts, as becomes a Kentish nursery, are also very largely grown. The new orchard house, a substantially built structure, 60 ft. long and 30 ft. wide, contains fruit trees in pots and planted out, most neatly trained, and carrying grand crops of fruit. Near at hand too, is an extensive and well-built new range of offices and packing sheds, which will greatly facilitate the dispatch of orders, and being near the station save a great deal of road carriage that formerly had to be undertaken. Mr. Bunyard is fortunate in having a soil in which most things grow kindly, and make an abundance of fibrous roots, while not being of too fattening a character, so that a well-ripened growth is assured, and the trees move well into better land. The clean, thrifty character of the stock is no doubt in a great measure due to the admirable system of surface stirring, which is constantly going on, the trees being all planted with the greatest precision in rows about 3 ft. apart, which admits of frequent horse-hoeing.

COTTAGE GARDENING.

THE annual exhibition of the Oxford Gardeners' Society was held on Saturday last at Ashton-under-Lyne, and in every respect was a great success. The exhibitors were for the most part cotton operatives who have plots of land in the neighbourhood of the Oxford Mills, and the exhibition was held in the Lecture Hall. In the afternoon the exhibition was opened by Mr. Bruce Findlay, of Manchester, who said he had been asked by Mr. Rupert Mason to appear there to say a few words on the subject of cottage gardening and the allotment system. When he came there his feelings, he confessed, were tinged with melancholy, inasmuch as when he last came there a few years ago, the late Mr. Hugh Mason was living, and full of health and energy, and it was theirs now to deplore his loss and absence. Many of them would know that he (Mr. Findlay) had been connected with the Horticultural Society of Manchester for thirty years, and many of them would have visited the grand exhibitions there at Whitsuntide and on other occasions; and he only thought it right to say that whenever he appealed to the late Mr. Mason for support in anything, it was always generously given. With reference to cottage gardening and allotments, they who lived in the neighbourhood of large towns were cut off very much from the beauties of nature, but there was a law of compensation even in that. They tried to bring the country into the towns as much as possible, and he thought those who lived in towns had a higher appreciation of the beauties of nature than those who constantly were surrounded with nature in her loveliest forms. When the people of towns went into the country they derived a pleasure from the beauty of the landscape, the balmy freshness of the air, and the brightness of the serene blue sky, which the habitual residents did not enjoy.

Cottage gardening shows were increasing and multiplying throughout the land. There was scarcely a village but had its cottage gardening show. It was a grand thing to have in a house anything that brought out the spirit of love and attention. A plant would do that. It was possible to get as tenderly attached to a plant as to a child. Six months prior to his death, the late Charles Kingsley evinced considerable emotion when he found that a magnificent Beech tree had been blown down by a storm: "I have," said he,

"looked at, loved, and admired that tree for forty years, and now look at it lying prostrate!" Touching cottage gardening and allotments, he gave a lecture seven or eight years ago, in Manchester, and this was published. Seeing that it was on the subject before them, he would, with their permission, read a few extracts:—Whatever relates to the improvement of the soil, and its profitable appropriation, is of the very highest importance. It is well known that the agricultural labourers of this country have not the same interest in the soil as they once had. Every village and district in the country readily affords examples of patches of land having been consolidated with a larger tract belonging to some wealthy person in the neighbourhood. Though this is a necessary consequence of the improved state of agriculture, the decay of the cottar tenantry is an evil which has been always insufficiently appreciated. There can be no doubt whatever, that where practicable, it is consistent with sound policy, to let the English labourer have a small share of the land. History speaks loudly on this point, and traces the melancholy fate of the most powerful empires and states to the cutting off of every particle of the soil from those who were so closely attached to it.

Various schemes have been propounded, having for their object the improving the condition of the agricultural labourer, many of which seem to be incompatible with his capacities, whose powers are altogether centred in the soil, and in sowing and reaping its products. Out of this element he is timid and helpless, but in it all his powers seem to be gratified. The desire he evinces to become possessed of a patch of land to cultivate on his own account is little short of a passion, and it seems important to retain him in that to which he has served so long an apprenticeship. Some there are, I am aware, that have condemned the allotment system as Utopian. Inconsiderate friends, again, in talking and writing about it, have pronounced it to be the realisation, in a great measure, of the state of perfect existence which poets have sighed for, and that which will sooner or later possess the whole land: but poets, as a rule, are but ill qualified judges of what is practically beneficial, and in the allotment system there is no poetry except that which springs from hard work. If anything will "possess the land" it is the same hard work. If aught will deepen the green hue of our crops, or cause them to wave more luxuriantly, it is the contents of the manure-tank carefully and judiciously applied. Those who expect to see every man indiscriminately enjoying himself "under his Vine and Fig tree" are sadly mistaken. The allotment system itself would throw out thousands as unworthy to touch the soil which it has appropriated to its most useful purposes. The scheme of allotments has been urged as a moral and social agent, and as an excellent means for the relief of poverty, and as the best school for the rising generation belonging to country labourers; and could it be adopted there can be no doubt whatever but that it would be a great blessing to this class of people. This subject has occupied the attention of almost every writer on rural economy, but the benefits to be derived will not fully appear in any case where spade husbandry is not strictly carried out and the greatest cleanliness maintained. Ireland has been often mentioned as a country of cottage allotments, and it has been asked is there anything there to induce its adoption elsewhere. Ireland may have its allotments, but certainly they are not cultivated; and so long as it remains a theatre of tumult and disorder, how can the arts of peace be prosecuted to a degree to give us any indication of what is really good or bad in the undertaking? It is scarcely fair, therefore, to form any opinion of the allotment system from the picture presented to us by Ireland. The labouring classes in that country prefer idle, reckless, and exciting scenes to the cultivation of their crops. Fairs, funerals, weddings, or whatever else diverts for the hour, have always had charms for them which the most urgent necessities of their families have failed to dispel.

With what venerable and historical associations was not horticulture in its study in this country connected? Who could forget the words of the poet, "God the first garden made, and man the town." You will remember reading how, in ancient days, in the earliest times, there were gardens described as of great beauty and extent, such as that of Ahasuerus, with its splendid Lilies and Pomegranates; and of the gardens of the King of Judah, the fragrance of whose flower and

spices were blown about by every wind. The great garden of Damascus, again, existed as long ago as 3,000 years. So, as time rolled on, we find in every age and amongst every people, gardens were cultivated. Every nation that boasted civilization, elegance, refinement, taste, had shown ever a love for gardens and gardening. Look at the Greek nation, for instance, with its garden of Adonis, still a household word in the nineteenth century. To come down to our own times. Not a year passes away but every country in the world is searched and ransacked, in order that new plants, flowers, and seeds, may be brought to this country. The warm shores of the Mediterranean sent us their productions; our colonies were laid under loyal contribution to supply us. The Indies and Himalayas sent many a rare and valuable specimen. California, China, and Japan, and innumerable other countries had sent us their rich treasures, and thus it was that we were able to congratulate ourselves on the advanced state of our gardening in these days. We ought then, I think, to feel grateful for the science, the skill, the enterprise, and the knowledge which has been brought to bear, in order to produce these splendid effects, and to arrive at the present high position, which horticulture enjoyed. It is highly esteemed amongst a large number of gentlemen engaged in cities and towns all the day as a delightful recreation. The lessons learned among the works of nature, are of peculiar value in the present age. The restlessness and din of the railway, principles which pervade its operations, and the spirit of accumulation, which threatens to corrode every generous sensibility, are modified by the friendship of the quiet plants."

POT ROSES FOR MARKET.

IN a capital paper on this subject read at the recent meeting of American Florists at Philadelphia (of which a notice will be found in another column from the pen of an old friend now resident in the States), Mr. Robert Craig says:—A very important question to consider is, "What varieties should be grown?" There are many grand Roses which are not suitable for market. The requisite qualities in a Rose for the purpose are, good habit and freedom of bloom, with good constitution and vigorous growth, so that it may not take too long to get a good sized plant; the addition of fragrance, is, of course, always desirable. Among the very best hybrids to grow are General Jacqueminot, Magna Charta, Paul Neyron, Merveille de Lyons, Baroness de Rothschild, John Hopper, Anna de Diesbach, Madame Masson, Queen of Queens, Pæonia, and Duchesse de Morny; the latter two varieties do not produce particularly fine flowers, but they are of such good habit and freedom of bloom as to merit growing in large quantities. Of the hybrid Teas none are superior to La France, Pierre Guillott, Lady Mary Fitzwilliam, Antoine Verdier, and Countess of Pembroke. In the Teas, none are better than Perle des Jardins, Madame Welch, Marie Van Houtte, Etoile de Lyons, Madame de Vetry, Madame Cusin, Coquette de Lyon and Marie Guillott. The latter variety is one of the most profitable; its flowers are pure white, and of good substance; it pays to grow it for flowers in summer alone, and it is the best white Tea for pots in spring; it requires a stony, clayey soil. Coquette de Lyon also deserves special mention; it has been called the "Yellow Hermosa," and the name is appropriate for it flowers as constantly and abundantly as that well known sort. In the Bourbon and Chinese classes, we may grow Hermosa, Agrippina, Archduke Charles, Souvenir de Malmaison, Bourbon Queen, and Queen of Bedders; and in the climbers, Tennessee Belle, Gem of the Prairies, Baltimore Belle, Reine Marie Henrietta, Gloire de Dijon, and Marechal Niel. With the exception of the three last named, they should be planted out-door in summer. Very strong plants make a fine appearance when trained on trellises in oval form.

The Polyantha Roses are dainty little beauties and well worth growing. The best are Mignonette, Madame Cecil Bruner, Little Pet, and Perle d'Oro. A few of the Moss Roses are desirable; the best for pot culture are Countess Murinais, Glory of Mosses, Cristata, Princess Adelaide, and Henry Martin. The latter, although not producing first-class flowers, blooms so easily and freely as to well merit a place on the list. If grown under glass in pots, they will bloom well the first spring, which is not the case (excepting Henry Martin) if they have been planted outdoors; under the latter treatment they are likely to produce only blind shoots.

Coquette des Alps (hybrid Noisette) is not only first-class in pots, but will give satisfaction as a vigorous grower and bloomer when planted out. It is surprising that it is not more largely grown. Coquette des Blanches is also distinct and good. American Beauty promises to be very valuable, but has not yet been sufficiently tested as a market pot Rose. Of one thing I am thoroughly convinced, and that is that the operator confining himself to eight or ten varieties in the hybrids, and to twelve or fifteen in the Teas, will realise more money than one endeavouring to grow a great number of kinds.

GARDENING NOTES FROM SCOTLAND.

Vegetables in Stirlingshire.—It is a notable fact that where liberal prizes are offered for exhibits in any class, numerous exhibitors readily show an emulative spirit and come to the front with really fine produce. This was manifested lately at Stirling on the occasion of the annual horticultural exhibition, several cups and liberal prizes being offered, which brought forth a really creditable display. Vegetables were, perhaps, the most striking feature of the show, and to see the excellent collections of twelve sorts, impressed one with the idea that the gardeners in that district had little to learn in the production of edibles. We have seen no such produce this season. Adjudicating was a most difficult matter, all the lots being of the highest excellence. Onions, of perfect form, solid, and ripe, 13 ins. to 16 ins. in circumference; Leeks thick, solid, and well blanched, from 10 ins. to 15 ins. long; Celery large, but proportionately solid and finely blanched; Carrots, several kinds, long and short, were remarkably fine, clean, and free from the mischief frequently done by grubs; Peas, about the finest in quality that I have ever seen; a green high-flavoured kind with from nine to eleven Peas in each appears to be a great favourite in the district. I wish some of our horticultural friends would say what kind this is that is so well adapted for the exhibition table, and, no doubt, a favourite on the dining table. Telephone, Telegraph, and others were well represented, but not at all equal to the indomitable green one referred to. I noticed the same Pea at Camelon and Falkirk in the same county, also of the highest excellence. Potatoes were remarkably fine, the Village Blacksmith (in appearance somewhat in character with his namesake) was represented in nearly every class. I gave a description of this Potato last year, which has sprung into favour very rapidly. Cauliflowers were large, and in most cases sound and good. Cucumbers were not remarkable; in fact, we rarely see these fine in quality at any exhibition, so unlike the perfect pea-green, bloom-covered, baton-looking examples which were more common a quarter of a century ago at great shows. Along with vegetables of high-class culture were some fine Hamburgh Grapes, Buckland Sweetwater, very perfect, good Muscats, and others, but the earlier kinds very properly predominated. Tables of plants, and an excellent assortment of cut flowers made up a creditable show.—*M. T.*

Garden Walks.—It is very seldom one meets with walks in Scotch gardens which are either smooth or firm, or elegant in appearance. The reason in most cases is that good gravel can scarcely be found, the staple article being generally loose, free from binding material, and dull in colour. In the western counties of England the same difficulties are often experienced, while in the southern counties one invariably sees walks of the most desirable character. While we look upon walks in any place as necessary evils, and should not be formed except where it is desirable to perambulate the grounds, yet where they are wanted the greatest pains should be taken to make them sightly and enjoyable; and we need hardly remark that badly kept walks and ragged edgings gives any place—however well managed in other respects—a very offensive appearance.

Salting to kill weeds answers for the time being, and to some extent cleanses the gravel; but this method of keeping things in order is very difficult to follow up, and though it saves expense in labour, yet we know well from experience that a few tons of salt for weed-killing costs more than hand-weeding of several miles

of 6 ft. walks, especially if women are employed, who are very much better adapted for weeding than men; I never could endure the sight of men on their knees pulling tiny weeds. Turning walks in the neighbourhood of London is a common practice as well as a good one, and I know some squares at the West-end which have been turned annually for many years, and are now looking well. They are well rolled after the turning and levelling, which is followed up frequently after rain during the season, which almost keeps weeds extinct. The turning process we strongly adhere to, but it does not always suit the kind of gravel.

Hoeing and finely raking the surfaces of the walks is often seen to make a fine, smooth surface; but rolling soon after rain has soaked the walks is necessary, and must be followed up. On some parts where we have used salt it is now acting—as it always does in the course of time—as a potent manure. We have good gravel, which was shipped from Southampton by a vessel chartered for the purpose; but now we find that the best Kensington gravel from London can be delivered at a sixth less cost. It is very remarkable at how comparatively little more expense one can get consigned to such a distance Kensington gravel to the actual cost of the same article dug, sifted, and carted in the county in which it is found. A few hundred tons goes a long way spread on engine ashes, and the trouble of keeping a clean, smooth surface afterwards is very little.—*M. T.*

Protecting Tender Vegetables.—It may not be out of place to recall the fact that during last September on several nights we experienced severe frost for the season, and many who might have protected some of their tender crops and favourite flowers, were “caught napping,” French Beans, Vegetable Marrows, Ridge Cucumbers, Tomatoes, &c., were among the list of vegetables. Tomatoes which have set fruit and are likely to swell it off to a size which can be cut and ripened under cover of glass, may have all lateral growths trimmed off, extra large leaves reduced so that the fruit may be well exposed to sun during the day, and mats or similar protective material may be placed over the plants at night. It takes several degrees of frost to reach the plants when they are secured to walls, but by protection as indicated, they are safe for some time to come. Plants which are in the open ground, such as French Beans, Vegetable Marrows, &c., may have sticks stuck in the soil, and others placed crosswise to keep protecting material clear of the foliage.

Dahlias and similar tender plants can have their blooming period prolonged by placing sticks round the plants, and taking trouble to cover and uncover. It, however, requires a little enthusiasm to have patience with this. We know, however, anxious amateurs who expend a vast amount of labour on their Stocks, Asters, Pansies, Roses, and many other pets, to be in condition for the exhibition table. Many who have shewn these on exhibition tables in our district know with what pleasure, anxiety, and suspense too, they have worked and are working to keep their pets in order for showing; if we are to prolong the existence of our useful and ornamental plants, we must now take precaution against frost.—*M. T.*

Seedling Tuberous Begonias.—Some very fine flowers of seedling Begonias were exhibited by Mr. Thomson, Drumlanrig, at the flower show in Edinburgh last week. Many of the flowers were of enormous size, and the colours very rich and beautiful. There is every prospect of these very free-flowering plants becoming more and more cultivated every year, and certainly they have much to commend them. Easily grown, providing endless variety of shade and colour, lasting months in bloom, and keeping free from insect pests, tuberous Begonias are invaluable for greenhouse and conservatory decoration. To my mind the single varieties are more graceful and pleasing to the eye than the double ones, though there are some very fine things among the doubles. All amateurs and others possessed of conservatories or greenhouses to be made gay, should go in for tuberous Begonias. Such things as Cinerarias, Calceolarias, &c., that are especially subject to green-fly, should be less grown when there are so many shades and colours, shapes and sizes to be obtained from a few dozens of Begonias raised from seed with little trouble and expense. Pelargoniums, too, though so varied and beautiful, are always a source of trouble in a conservatory, as they must either be removed to another house for fumigation or else the conservatory must smell of stale smoke for a week or two

after a needed fumigation. Begonias have everything to commend them, and it is satisfactory to know that Messrs. Laing and others are making specialities of them.—*Scotia.*

Duchess of Buccleuch Grape.—It is some time since this Grape was shown as well, or in such quantity, as it was at Edinburgh last week. Several very large and finely coloured bunches were exhibited. One especially fine bunch, was said to be about 6 lbs. in weight; the berries being golden, it presented a splendid example of this exquisitely fine flavoured Grape. Several other very good bunches, all well-coloured, were staged, and also a very large bunch not so well up in colour. Though looked down on by some growers because of its small berry, there can be no doubt, that all who value high quality, in regard to flavour, should cultivate the Duchess of Buccleuch. *Scotia.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

Ground is still being cleared of summer crops, and will thus give space for planting from the seed beds in preparation for the winter supply. We have repeatedly given some hints on this subject, but it is of considerable importance and it is one that is too often neglected by amateurs; many failures with crops in the dull season being attributable to want of care in matters connected with autumn planting. It should always be borne in mind that to have vegetables which will endure exposure to a severe winter, they must be grown sturdily and hardily, for if “drawn up” weakly and soft they will certainly be unsatisfactory, and probably when supplies are most in demand, the stock will be almost destroyed by frost. It is a mistake to grow the seedlings in very rich soil or too shady places, as they are then liable to make a strong growth that does not become properly hardened, and when placed out in their permanent quarters they either receive a check, which has an injurious effect throughout the season, or they continue so sappy that the first more than usually sharp frost renders them useless. Seedling vegetables in the beds for winter should have a rather poor soil; they should be well thinned (or, preferably, sown thinly), and when planted out the ground selected must be rather firm, and should not have been manured recently. It will be found that all winter crops are the most hardy and satisfactory in open fields than in sheltered gardens, and applying this to practice, in the latter, the most exposed positions should be always selected. These remarks apply to all vegetables grown out of doors, but those of an exceptionally tender character, such as Cauliflowers, cannot be trusted out unprotected, however well they are prepared, and it will be necessary to employ hand-lights for covering two or three together, or they may be placed in frames, but the lights are the best, as they can be removed at pleasure, when the weather is fine, and the plants are by that means, more fully exposed.

Earthing up Celery will need attention now, and this is an operation which requires some care, or the results will not be what are desired. The leaves should be drawn round the heart of the plant, so that the soil does not get into it and cause decay, which is very liable to occur. The object is to obtain solid, heavy, well-blanched “heads,” and this cannot be done unless the plants are well grown and properly earthed. If once decay commences the finest specimens are quickly spoiled. The soil should not be wet when the earthing is done; but it is not difficult at this time of year, before the September rains commence, to choose a suitable period when the soil is moist enough to bind together as it is banked up, and yet not so wet as to form a brick-like mass if it becomes dry.

Tomatoes have been fairly successful against walls out of doors this year, but are rather late in ripening, and it is very likely that frost will be experienced before they have all finished colouring. The early morning temperatures have been very low several times lately, and no doubt slight frost has been felt in some parts; it will therefore be advisable to cut Tomato fruits that are nearly ripe, and hang them in a dry, warm house, or place them on shelves near the glass, where they will soon ripen. Lifting Potatoes and gathering fruit are still in progress, the crops of both being excellent with us, and also in most other districts. Apples and Plums are remarkably abundant.—*Scolytus.*

THE GRANGE, STRETFORD.

CALLING at The Grange, Derbyshire Lane, Stretford, the residence of John Heywood, Esq., on the occasion of my visit to the exhibition of the National Carnation and Picotee Society (Northern Section) at the Botanical Gardens, Manchester, on August 14th, I found an admirably kept, pleasant place in one of the most popular suburbs of Manchester. The Grange is a semi-detached residence, standing in pleasant grounds of its own, which are of some extent and well laid out. On the Manchester side is the house, and the pleasure gardens lie on one side of it, with the houses forming the back-ground; and behind these the kitchen garden. The carriage drive enters at one gate, and passes out of the other. There is a bold sweep from one entrance to the stables, and this encloses a fine piece of grass lawn, kept in excellent order. In the front, and at the side farthest from the mansion, are bold groups of shrubbery, with a handsome range of plant houses completing the line up to the stable-yard in the rear of the mansion. The gardener is Mr. Roderick Elphinstone, who comes of a good gardening stock. He has been nine years in the service of Mr. Heywood, and having already made his mark locally as a cultivator of Orchids, will, I think, be heard of some day in a wider sphere of popularity.

A span-roofed conservatory, nearly square, forms the centre of the front line of glass facing south at the side of the carriage drive; it is 28 ft. long by 18 ft. in width, with a centre bed having Camellias planted out and other subjects, and there is a broad edging of Lycopodium. There is a plant stage 2 ft. in height running round the house, and on it were Camellias, Imantophyllum, fine flowering specimens of Schizanthus and Campanula pyramidalis, Yucca aloifolia, Rhododendrons, Azaleas, Cordyline indivisa, and other subjects well looked after. At the east side is a warm Orchid-house, containing Vandas, Cattleyas, Aërides, &c., with Stephanotis overhead. Further on is a pleasant little Fernery formed of tufa, with a rustic bridge over water beneath, and here could be seen Cœlogynes planted in the tufa and doing well, also Platycerium aleicorne. This excellent piece of work was designed and carried out by Clapham in his usual excellent style. This was constructed about two years ago, and is now becoming nicely furnished. Foliage Begonias also do well among the Ferns; as a matter of course the Fernery is heated by means of hot water.

Retracing our steps to the conservatory, we came to an Orchid-house, in which is a fine collection, to which Mr. Heywood is making additions. Of Dendrobiums we saw Falconeri, Devonianum, Wardianum, infundibulum, densiflorum, thyrsoiflorum, chrysotoxum, &c.; Calanthes, and Lælia anceps, of which there are some very fine well-done specimens, all the foregoing in excellent condition. Next came a division for cool Orchids—Odontoglossa, Epidendrum, cool Oncidiums, Lælia albida and autumnalis, &c. Still farther west is a hardy Fernery, making a good finish at this point.

Behind this range Mr. Heywood is building a range of three Orchid-houses, each 36 ft. in length, for exotic species and varieties mainly; one division will be devoted to Cattleyas. Close by is an old house in two divisions, at present devoted to Orchids that will presently go to the new houses. Here could be seen a capital lot of plants that will be certain to show themselves to the best advantage in their new quarters.

Next came a greenhouse in two divisions, containing Azaleas, Heaths, and a general stock of this kind of flowering plants. At the other end is a Melon-house. In the greenhouse, Maréchal Niel Rose is planted out, also Lapagerias rosea and alba. Then came two low span-roofed houses, used for storing away bedding stuff during the winter; one of them was then planted with Tomatos; and close by were some useful pits.

Then came into view a very fine collection of Chrysanthemums Mr. Elphinstone is growing; he has about 500 plants in pots, about 150 of which are fine bushy specimens. Mr. Elphinstone cuts down his Chrysanthemums when they have done flowering, lets them rest for a time, and then when they have broken into growth, he shakes the soil from the roots, and repots as he does show Pelargoniums; and he states that he gets well-formed plants carrying fine heads of bloom. That they were well grown could be plainly seen.

Next came the Vineries, one in three divisions with the border inside. No. 1 was planted wholly with white Muscats, and they were carrying good bunches;

No. 2 had, in the east side, Barbarossa and Hamburgs; and on the west, Alicante—better Grapes of the latter came on the west aspect. No. 3 contained Alicante, Lady Downes, Madresfield Court, Buckland Sweetwater, and Mrs. Pinee. That Mr. Elphinstone has had considerable difficulty in thoroughly finishing his Grapes there can be no doubt. The sloping roof starts almost close to the ground, and the lowermost bunches are very near the border in consequence. But pluck and persistence can triumph over many difficulties; and by removing a portion of the surface soil, and top-dressing with care, a better finish is secured. As it is, Mr. Elphinstone is able to cut Grapes of excellent quality.

The foregoing gives the result of a rapid glance at this pleasant place. The visitor interested in plants and flowers will find much to admire at all seasons of the year; and the orderly condition in which the place is kept, reflects the greatest credit on Mr. Elphinstone, who has given not a few indications of what he can accomplish when he exhibits at the Manchester Shows. —R. D.

THE BLACK CHAMPION CURRANT.

FIVE years ago, at one of the August meetings of the Fruit Committee, Messrs. James Carter & Co., of High Holborn, exhibited some fruit of a Black Currant, which for size, flavour, and productiveness, surpassed any other variety in cultivation. It was named Dunnett's Black Champion, and duly honoured with a First Class Certificate. Of its origin we know nothing beyond the fact that it was brought into notice by Mr. Dunnett, a partner in the Holborn firm, in whose garden, in the centre of the famous seed farm at Dedham, in Essex, it is a subject of considerable interest to visitors in the months of August and September—aye, September, for among its other sterling qualities, is that of retaining its freshness until long after other sorts are shrivelled up. We have more than once seen the fine bushes in Mr. Dunnett's garden, and have no hesitation in saying that it has no rival, and well deserves the most extensive cultivation. In habit it is a robust grower and a most abundant bearer (as seen in the accompanying illustration, kindly lent us by Messrs. Carter), producing long bunches of jet black berries, measuring nearly three-quarters of an inch in diameter, and which are particularly delicate and pleasant in flavour.

MISTAKES IN GARDENING.

AT the Bath Floral Fête, September 1st, Mr. Shirley Hibberd, at the request of the Managing Committee, gave a brief address on "Mistakes in Gardening." He said, in the few observations the title of his discourse suggested, he should not include a single word on any matter of taste. He would speak of what are commonly understood as practical matters, for, although on the subject of taste he might know where to begin, he felt fully satisfied he should never know where to leave off. So coming to practical matters, he would say that as in tailoring a man must cut his coat according to his cloth, so in gardening the best work was to be accomplished by making the best use of the materials at command. It was not to be questioned that the worst use was often made of the materials, and then gardening came to be described as a tiresome and costly process of obtaining a disappointment. Between what one would like and what is possible there was often a great gulf fixed, and one of the very first steps to success in gardening consisted in recognising the capabilities of a place, and taking the fullest advantage of them. To enter into conflict with nature is a serious business, and, therefore, it is a folly to speculate largely in the cultivation of subjects that are not adapted to the conditions at our command. It should be understood that it is not possible to grow to perfection on the same soil a great number of diverse genera of plants; a calcareous soil will not suit American plants; a hot, sandy soil will not suit show Roses; a heavy clay is a dreadful thing for Alpines, and to get Asparagus from it is not an easy matter. To a certain extent gardening is a conflict with nature from first to last, and the fact may be adduced as an argument in favour of softening the outlines of the conflict by every possible opportunity.

To alter the character of the staple soil was in many cases impossible; in others it was a slow, laborious, and costly business; therefore, it was always best to begin by humouring nature; selecting for the garden

plants likely to thrive without any special aids or contrivances. A familiar example of the difficulty of modifying the original conditions was seen in plantations of Rhododendrons in places where soil and climate were alike unsuitable, the result being a rapid deterioration of the trees from the beauty they had when planted fresh from their beds of peat in a country nursery, to miserable scarecrows not good enough for the dressing of a Jack-in-the-Green on the 1st of May. If the making of a soil for a special purpose can ever be justified at all, the Rhododendrons can offer as good a justification as any ornamental plants known to our gardens. But in truth, many such justifications may be found, and the man who can afford to gratify his whims may accomplish wonderful things verging on the impossible. But we see people who cannot afford to engage in great conflicts, making grievous and costly mistakes in doing certain things badly, when other things quite as well worth doing are as clearly at command as the present moment and the ground we stand upon. Many amateurs who love gardening attempt too much, and spread their energies over too large a surface; the result being imperfect work and superficial enjoyment. Substantial enjoyment and perfect satisfaction can only be hoped for as the result of doing things well, and with a view always, to use Greely's words, to "beat the best record." It is a key to sure success to measure first the range of capabilities, and, this being accomplished, it will be more creditable, and, therefore, more enjoyable to make the best of these than to engage in conflicts and dally with difficulties. The resources of nature are so vast and various that wherever gardening is possible abundant entertainment and a reasonable range of profit may be secured by simply planting things that are the most likely to thrive, and leaving untouched, for a time at least, all doubtful subjects. There are sandy and loamy soils of such a kindly character that almost anything we plant will thrive upon them; but, generally speaking, every place has some peculiarities, and if unsuited for some things we should like may be admirably suited for other things equally interesting and useful.

A common source of mistakes in gardening is the failure to forecast results. It is in picturing clearly the far-off effect of present work that the genius of the true landscape gardener is made evident. He sees the sapling tree as it comes to his hand for planting, and he at the same time sees it as it will be in twenty, thirty or fifty years, and he sees his groups and combinations fully developed, even at the moment of designing them, and thus it is that when he is dead and gone his work remains a living and a glorious monument. Now, many amateurs who love their gardens, and possess an immensity of knowledge of horticulture, fail in this necessary forecasting, and the beautiful pictures they make by means of costly planting, develop into incongruities and absurdities, and the mistakes are declared when it is too late to remedy them. I will take you to a garden here and a garden there—for there are thousands of such as I have now in my mind's eye—and I will ask you if downright folly ever wore more beautiful features, or more plainly declared that the way the thing was done was the very way not to do it. Here we see Pines, Firs, Cedars, Spruces and deciduous trees of many kinds, that when originally planted presented a most delightful stippling of many colours and sweet combinations of form, now jumbled in a confusion that confounds the planter, and compels one to groan aloud in a spoiled paradise, where sounds of joy only should be heard. How painful it is to see a lofty Picea or Pinus that has grown with vigour, and would have been a marvel of beauty under better circumstances, now eaten into by a forward Spruce, or threatened with extinction by an overtopping Sequoia that is itself hemmed in by a suffocating surrounding of Deodars, Yews and Cypressess! This sort of mistake is repeated in every variety of form throughout the country, and is attributable in the first instance to deficient judgment of future effect; and in the next place, to lack of courage in sacrificing many trees of secondary value in order to save the noblest, the rarest and the most interesting.

And the mention of coniferous trees reminds me of the frequency of mistakes in planting them where they are not only unlikely to thrive, but certain to perish. We may see spacious approaches, that might have been noble if planted with deciduous trees, made hideous with conifers, that in their dinginess and distress seem lost in the cold calculation of the length of years allotted them. An impartial looker-on might unhesitatingly

condemn such as bad firewood, or take the tops for cheap Christmas trees, but the owners of such things appear always to be of a hopeful disposition, and expect the branches to return that nature has removed for ever, not knowing that coniferous trees are of very limited elasticity and do not renew their youth when

tree what sort of thing it is likely to become in the course of a few years.

The needless conflict with nature in which men often delight when they take to gardening is seen in the mismanagement of things. They plant fruit trees, perhaps, and if they would but leave them alone nature would

result from my preachings on the subject ten years ago, and I expect to see much more yet, for the loudest advocates of the repressive system are beginning to believe in nature a little, and they see that it is more profitable to allow the trees to produce fruit in their own way, than to ensure a crop by purchasing fruit and



DUNNETT'S BLACK CHAMPION CURRANT.

decrepitude has come upon them, as often happens with deciduous trees. The Deodar, or the Yew, or the giant Holly that seals up all the windows of a house and makes pestilence in the family by excluding sunshine and air we will not talk about, for it is not a mistake in gardening, it is an absurdity of a more dreadful nature, and belongs to the agencies—and there are many such—that blight the world and destroy life. These stiflers, however, illustrate in the most forcible manner, the necessity of considering when we plant a

be kind and give them fruit. But they must do something, and so they pinch the trees several times in the summer, and prune them severely in the winter, and, perhaps, root prune occasionally when the trees have none too many roots, and the end of it is that they get no fruit at all, or so little that its value will scarcely pay for the sharpening of the instruments of torture. The chopping, and shaving, and bleeding, and distorting of fruit trees to make them fruitful may be said to have had its day. Certainly I have seen some good

tying it on. What is true of fruit trees is true of Roses, and many more good things that people insist on doing too much for, as though nature had nothing to do with the production of flowers and fruits. One reason why standard Roses die in gardens is that they are too severely pruned, and the powerful briar stock of which their stems consist must either be allowed to grow with vigour, or must give up existence when it has become a mere oppression. If all the pruning knives and all the cutting and clipping machines that are used

in gardens were completely abolished, nature would assert herself in the free and bounteous growth of vegetation, and an abundant harvest of benefits for the sustenance and comfort and spiritual help of man; for as compared with any one tree that is pruned in a reasonable manner ten thousand are mangled into ugly barrenness, and their owners cry out that gardening is unprofitable. When Naaman was told to wash seven times he became an emblem of man in conflict with nature. The simple course prescribed for his cure was too simple, for it meant that cleanliness is our best protection against disease. He "thought," he said, the prophet would engage in an elaborate performance to effect a cure, but the washing was a despicable proceeding; it was a too direct appeal to the renewing powers of nature.

An illustration, both of the failure to forecast results and the tendency to attempt impossibilities, is seen in many gardens where the fruit trees overtop the walls. The essence of the case is that the walls are not tall enough for the trees, and the knife is freely used to effect a balance between them. For a time the balance is very poorly maintained by the cruel employment of coercion; the best growth the trees make being systematically shortened back to effect the accommodation. But this is for a time only. If the trees thrive they will endeavour to assert themselves; in place of clean rods, rising direct towards the sky, they will throw up a thicket of spray along the top line of the wall, and look over to see if there is any help at hand. While this goes on, the growth on the top line being periodically harried by the gardener's knife, the trees will be found to bear less and less fruit, and to cast off occasionally the best placed of their lower branches. There are many miles of respectable garden walls, or walls that might be respectable, in this plight, the consequence simply of injudicious planting, as though by the word of command a tall Grenadier could roll himself up within a lady's reticule. It comes to nothing to say that walls cost money, because to make bad use of them for the butchery of trees that would be useful if reasonably treated is simply to waste the money expended, or, at least, to waste the opportunity for employing them usefully. Walls that are too short for Plums and Pears may be tall enough for Nectarines and Morello Cherries. Walls that are too short for these last may still be tall enough for Gooseberries, Currants, and Tomatos. And walls that are too short for these last may pay their rent by sheltering early Potatos. Let us have proportion in gardening, and avoid complaining loudly of failures we have invited. The last man who should complain of having lost his head is he who willingly placed it in the lion's mouth.

The pivot on which we seem to turn in this kind of blundering is the notion that the knife is a remedial agent. Generally speaking, it is an exasperating agent, making bad worse, thwarting rather than suppressing nature, and effectual only in whittling away the foundation of our prosperity in gardening. Wall trees are of necessity systematically pruned, and more or less severely trained; and because of this, all the natural growth that can be allowed consistently with the proper working out of the system, should be not only allowed but encouraged. In a great garden where the walls suffice for the needs of the trees, we see them, generally speaking, grandly developed, in the best of health, and wondrously fruitful. It is in the garden where false economy requires a short wall to do the work of one thrice the height, that we find trees that grow too much at top and too little at bottom; and that not only produce little fruit, but are vexatiously prolific in the production of vermin.

Having mentioned vermin, I am reminded of the plagues of Egypt, all of them consequent on Pharaoh's hardness of heart. It often appears to me that Pharaoh has been fished out of the Red Sea, and galvanised into an amateur gardener, for this interesting gentleman governs the Land of Goshen much as Pharaoh did, with great ability and spirit; and yet he so often tempts Providence that the plagues follow and endeavour to consume him. He plants Roses and Hollyhocks amidst overshadowing trees, and in places so sheltered and snug that no unkind breath can reach them. The result is that a garden intended for flowers becomes a sort of hotbed for mildew, and the sulphur merchant is applied to in aid of plants that are simply perishing for want of air. I am satisfied, by years of critical observation, that the plagues of our garden are in a great measure

the proper consequences of our practices; and we are convicted of inconsistency and inhospitality in that we are so mean as to curse the guests whom we have taken pains to invite. Many of the casualties with which we have to reckon are beyond our control, and are true calamities, no doubt; but air and water are needed in vastly greater proportions by plants than our customary economy acknowledges, and sure I am that Roses and Hollyhocks have been, and are very badly treated in respect of these primary necessities. The moulds and mildews and the insect enemies, in great measure, are favoured by processes of starving and suffocating within doors and without, and if you will make a few comparisons between gardens that are clean and gardens that are dirty you will find that the differences chiefly consist in the proportions of air and water. You will say we cannot take our close town gardens into the breezy country, and to that I must respond in the affirmative. But I may add that the more unfavourable the circumstances, the greater the need for forethought and for the observance of proportion. We see in gardens of smallish dimensions all kinds of things doing badly on the boundary borders that would thrive joyously if planted in the very centre of the ground to obtain a maximum of air and sunshine, and a fair share of every falling shower. "We want the centre for our games," you say. Yes, but that does not necessitate crowding the borders with plants that can never prosper except in the fullest light, and all the heavenly breezes playing about them.

Mistakes in gardening will occur so long as the art is known to man, and the ablest gardeners will make mistakes, and will often learn from them more than they learn from their successes. But, for all that, successes are much to be desired, and if they do not bring material advantage, they gratify the mind and confirm the wisdom of the adage that what is worth doing is worth doing well.—*Gardeners' Magazine*.

ORCHIDS "AT HOME."

ON THE EASTERN CORDILLERA OF THE ANDES.

Who will climb the mountains with us and see the Orchids "at home?" Let us mount our mules, and leaving the mosquito-plagued river Magdalena, direct our course towards the Eastern Cordillera of the mighty Andes, towering on high in the blue distance. The forests through which we are passing, such as clothe the banks of nearly all great tropical rivers, contain but few Orchids. The lofty Palms and heavy-foliaged trees obstruct the light, and render the place unfit for Orchid life; but in this rough piece of open ground to which we are coming we may expect to find something. Look, there is the first, *Oncidium ampliatum* without doubt, and beside it is a *Brassavola*. Do you see that almost leafless tree standing by itself over there? Something is in flower on it; let us go and see. Ah! do you not recognise the scent?—*Epidendrum macrochilum*. Notice how the plant revels in the sun; you will never find it except in the most exposed situations. Do you wonder now why we fail to flower it at home? Here, too, if we are lucky we may see a small form of *E. bicornutum*, which is also fond of roasting itself in the sun. Hot! Well, rather; the thermometer seldom if ever falls below 50° Fahr. Now it is 85°, and the day is still young. Let us push on and try and reach the shade of the hills before the sun is able to pour his whole strength on our devoted heads, these plains contain nothing more of interest—at least, to the Orchidist. By-the-bye, did you notice the leaves of that tree on which *E. macrochilum* was growing, they are quite rough, and the people use them for sandpaper!

These little streams we are continually passing might give us some trouble. Now the water barely reaches our stirrups, but half an hour's rain would transform them into raging torrents, and we might have to wait, perhaps, hours for them to subside. At last, thank goodness, we are beginning the ascent, and shall soon be out of this sweltering valley and stifling heat; the mules, too, poor beasts, will not be sorry.

About 2,000 ft. up we shall reach a decent house; the owner knows me, and will give us some breakfast. There is nothing here but a wealth of Ferns, the *Adiantum* family, perhaps, the most beautiful. Here we are! Let us take a short walk, and so get away from the horrors of the dirty kitchen. If we follow this path into the forest it will be better walking. Just here I can show you a magnificent *O. hastilabium*, as it should be grown; but mind, this is a pet plant of mine, and I won't have it disturbed. Is not that a

sight? How different to our little bits at home. That mass is nearly a yard across, and has seven flower-spikes, each 6 ft. or 7 ft. long. What do you say—you won't grow yours cold any more? Right, and if you will take my advice you will give them a richer soil. See these roots running all along the ground, and covered with decaying vegetable matter. *Anguloa Clowesii* is here in plenty too.

There is *Warscewiczella velata*, and yonder is a plant not nearly so much esteemed as it should be, *Warreacyanea*; this, too, should be grown in stronger soil. On the rocks in this gully, are plenty of *Cypripedium Schlimii*. Look at them on the bottom, with their roots almost in the water,—very little sunlight reaches them. All these plants we shall meet again higher up, certainly for another 1,000 ft. Let us go back to breakfast. Ah! that white flower in the grass on the hillside, *Sobralia alba*, heaps of it. Suppose we pick one. That one. Stop! Not another step for your life! Don't you hear that rattlesnake. No, your stick is not long enough to kill it, better leave it alone. Breakfast is ready. Not much to look at, is it? but hunger is a fine sauce. Shall we start again? We have a long ascent before us. Do you want to see *Cattleya Mendelii*? If so, let us go a short distance up the rocky bed of one of these streams. No luck. Well we shall have other chances as it grows up the mountain to at least 5,000 ft. Unless a new locality is shortly found, it stands a good chance of being exterminated, as no less than five collectors were gathering it this season.

Look at that grand fellow 50 ft. below us down there; it is an *Epistephium*, 10 ft. high at least. This plant always seems to me like a patriarch, its long stems standing as they do above the other vegetation, and their tops laden with graceful flower spikes waving majestically slowly backwards and forwards in the breeze. That last was a steep pull. Suppose we give the mules a few moments rest while we take a stroll into the copse on yonder knoll. We are about 4,000 ft. now, and the whole place is teeming with Orchid life; that old tree, for instance, is literally covered with *Restrepas*, *Octomerias* and the like. There is the "dancing doll" *Comparettia falcata* suspended in mid-air by a single thread-like root of Liana. Here, too, is the home of *Burlingtonia granatensis* and that rare beauty, *Oncidium globuliferum*, and a little more in the open are *Uropedium Lindenii* and the scarlet *Neottia* with its *Tillandsia*-like flower spike.

Before we mount I want to show you another scene—*Odontoglossum blandum* at home. Follow me down this valley; how laden with moisture is the air! How wet and sloppy the ground? How dank and dark the whole place! Look at the trees, their branches everywhere inches thick in long moss and filmy and other Ferns. Here we see the "little spotted one," and side by side with it the blue and white *Utricularias*. How truly lovely are their flowers peeping out from their beds of dark green moss. Here, too, are *Maxillarias* in any quantity. Gather a *blandum* and see what a lot of water you can squeeze out from the moss you pull out with it.

Forwards, we must push on. The sun is sinking, and we have still some distance to go ere we reach the only house in which we can get a bed, unless, indeed, you do not mind the soft side of a board. We shall sleep to-night just below the *Odontoglossums*, and about 5,000 ft. above the sea. Here is our ranch—not much to look at, is it? Let us see after the beasts, and then for dinner and bed. Rub yourself with this *Agua-diente* (white rum); there is nothing like it for taking the stiffness out of one's joints. Good night!

While they are making our chocolate for breakfast, just take a turn in the garden, and look at some plants I left here a year ago. On the same tree you will see *C. Mendelii* and several *Odontoglossums*, all growing well. You see we are just above the home of the former, and below that of the latter, and both thrive here with a little attention. To-day we must climb on foot if you want to see *Masdevallias*. The road does not reach nearly such an elevated position as they occupy, and we must not let the grass grow under our feet, or night will be upon us ere we get back; we have 4,000 ft. to ascend to-day. There are many Orchids about here which we might find had we time to hunt for them, such as two or three kinds of *Mormodes*, *Eriopsis rutidobulbon* a little lower down, two *Trichopilias*, several *Epidendrums*, and others too numerous to mention. It is curious to observe, as we pass them, how nearly all the

Odontoglossa have a zone of about 500 ft., the limits pretty sharply defined. If you remember, we saw first *O. Phalenopsis*, then *crocidipterum*, then triumphans, then *Pescatorei*, tripudians, and the so-called *naevium majus*, then *Oneidium superbiens* and *Ada aurantiaca*, and here we are among, to my mind, the grandest of all, *O. coronarium*. Look at that one crawling up yon branch like a snake; there is another with a grand head of crimson-chocolate flowers. Don't put your hand on that tree, it is covered with "fire ants"; if one of them bites you, you will have a "bad quarter of an hour."

Here we are nearly at the end of the forest, and this is the home of *Oncidium cucullatum*. I must tell you a curious fact about this plant in the Western Andes, it grows below the other cool kinds not more than 5,000 or 6,000 ft.

Here we are at last among the *Masdevallias*, about 9,000 ft.; very few trees here, mostly scrub and grass. On these mountain tops grow over twenty different species, many only botanical curiosities, but others, which rank among the best, such as *Ignea*, *coccinea*, *Lindeni*, and the best of all, *M. elephanticeps*. What a difference between the *Magdalena* and here. There the forest was heavy and thick, and here there is hardly any shade, and though we are sitting in the full blaze of a tropical scene, we really feel quite chilly. All the way up the vegetation has been becoming smaller, and the trees farther and farther apart, but to compensate for that the air is so rarified, and so charged with the moisture of these heavy clouds that every few moments roll over us and send a cold shiver through our bones, that the sun's rays are nearly deprived of their force. And then the wonderful evaporation that goes on in these high altitudes adds also to the coolness of the air. Why 60° Fahr. would be the highest day temperature, and 40° at night, nothing uncommon. In all the forests through which we have passed to-day the trees have been thickly covered with mosses, *Ferns*, *lichens*, which retain the moisture from the clouds and dew, and so the Orchids growing among them do not suffer from drought. You, perhaps, noted that when we started this morning, all the herbage was wringing wet from the dew, and this, though it is not now the end of the dry season, and there has not been more than two or three showers for two months.

Down again to our hut, and to-morrow for the river. Some other day we may, perhaps, be fellow travellers again.—*Edw. A. Wallace, Colchester.*

GARDENING MISCELLANY.

Schizanthus pinnatus.—This beautiful and wondrously free-flowering annual blooms in spring, and would not be a seasonable subject for mentioning just now only that this is the time for sowing the seeds with a view to next spring's display. Visiting the great Whitsuntide exhibition at Old Trafford, a few years ago, I was much impressed with the fine plants which Mr. Findlay had in bloom (as, indeed, he has every year), and resolved to grow some myself. When in flower they are exceedingly showy, and I do not think we shall soon get tired of them. Sow the seeds now in a fairly light compost, and put the pans in a frame until the seeds germinate. As soon as large enough, pot the seedlings off singly into 60's, and through the winter keep them on a shelf in a light airy house from which frost is just excluded. Early in January go over the stock, and select for potting on those which show a neat pyramidal habit of growth, discarding all that show a tendency to assume a straggling habit. Give the selected plants a liberal shift into a good compost, mainly of strong sandy loam, water carefully, stake as required, keep in a light position near the glass in a greenhouse temperature, and from early in April for several weeks they will make a grand show in the conservatory.—*X.*

Francoa lævis.—Whilst on the subject of white flowers, I think this plant deserves a passing note. However roughly it may be treated, it will be sure to throw up some spikes of flowers, but give it liberal treatment, that is, a moderate amount of pot-room and feed it well, it will then give a great profusion of its white flowers, which are always valuable during the autumn months. It may be stood out of doors during summer, and brought into a cool green-

house to open its flowers during September, in fact, if kept inside all through the summer, it will bloom much earlier, when its flowers will not be appreciated so well as at the present time. It is easily raised from seed or cuttings, and will flower the first season, but plants about three years old, are generally the most useful. After this age they may be thrown away, providing you have always a few succession plants.—*W. G.*

Sulphide of Potassium.—When this was first recommended as a remedy for mildew, I procured some from Messrs. Harris & Co., Birmingham, to make sure of getting the genuine article, which I used at the maximum strength given in the directions with no better result than that experienced by your correspondent, "A. P.," in last week's issue, though in my case it was chiefly for mildew on Roses that it was used. I then gradually increased the strength to over 1 oz. to the gallon of water, both for dipping and syringing, but still the mildew was not destroyed; so I came to the conclusion that it was not so useful as the old remedy of black soap and a little sulphur. The way in which it discolours white paint would alone prevent its use for plants growing on a trellis, under a roof, or anywhere that its use would bring it in contact with the paint, though it does not permanently disfigure it, as after a while it washes off.—*Alexander Laing, The Gardens, Salisbury Green, Edinburgh.*

Polygonum cuspidatum.—Having a plant of this knot-grass which had considerably overgrown the space allotted to it last season, I thinned the young shoots out very severely in the spring, and am much pleased with the result, as the few growths left have made a more robust growth, and are now flowering in a way that I have never seen equalled before, the shoots being most beautifully clothed with its short panicles of small white blossoms. The plants are quite 8 ft. high, and rival in beauty anything we have in bloom in the borders now. If not allowed to grow too freely, and so take possession of too much space, this is a very fine town plant, and makes one of the best summer screens for an ugly corner that I know.—*J. C.*

Chrysanthemum La Petite Marie.—I have not yet been able to bring myself in harmony with those who like the large early-flowering Chrysanthemums such as *Madame Desgrange*, in bloom in September—I think they are out of season, and not wanted before chill October comes in, but some of the small-flowered section are great favourites. For a small garden, and a small greenhouse like mine, *La Petite Marie*, which I have grown for two seasons proves a perfect gem. It is the smallest growing Chrysanthemum I know, being now that is in full bloom only 8 ins. high. Spring struck cuttings potted twice, the last time into 48's, and stopped twice, the last time at the end of June, have grown into charming little bushes, every shoot of which carries a bloom or a bud. The flowers are very neat and pleasing in form, and pure white—a real good thing.—*H. Noble.*

Anemone japonica alba (Honorine Joubert.)—This is another useful autumnal white flower, and too much cannot be said in its favour, for it is a continuous bloomer till frost destroys its spikes. Planted in beds and protected from heavy rains, &c.—the same as recommended for *Matricaria*—its flowers are much cleaner and are most serviceable for any purpose white flowers may be required. I find it does not care to be shifted too often. It is only when the plants become thoroughly established in their quarters that they yield such a profusion of bloom. I have seen it grown in pots and taken inside to flower; but I prefer having them planted in beds and protected with frame-lights; the flowers are much stronger and finer. It will grow in almost any garden soil.—*W. G.*

Eupatoriums.—These plants are easily propagated and grown, and well repay the grower for a little extra time he may give them by the quantity of flowers they give in return. Cuttings are easily rooted in the spring months, in a sharp heat, and from this time forward the plants should not be allowed to become pot-bound, but kept moving along—at the same time having an eye to pinching the points out, so as to cause the plants to become bushy. By the middle of June they should have made good bushy plants, and may be placed out in the frame-yard, and kept well looked after to see they do not suffer for water. If a few plants are wanted extra large, they should be potted on before being

placed out in the frame-ground. All pinching should be stopped by about the middle or end of July, and the plants allowed to develop their trusses ready for flowering in the autumn. They may be lifted into a cool house by the middle of September, and afterwards, if they should not develop their flowers fast enough, put a few at a time into an intermediate house, when they will keep up a succession of flower for some time.—*W. G.*

Notes on Peaches.—I send you a photograph of an *Alexandra* Peach tree, one of twenty-two trees on our Peach wall, consisting of an equal number of Peaches and Nectarines, on which we have a capital crop. I took the trees in hand when they were young ones in May, 1882, and they are much admired by practical men who call here. I also send you a fruit each of *Alexandra* and *Gros Mignonne*. *Galand* does well here, so also does the *Downton* Nectarine. *Alexandra* with us comes in at the end of August, being preceded by about a fortnight by *Early York*, which is our best early variety.—*Charles Bowers, The Gardens, Castle Hill, Cerne, Dorset.* [The photograph shows a well-balanced and admirably furnished tree; and the fruits were large, well coloured, and of excellent flavour.—*Ed.*]

The Potato Disease.—When the reports came in that the crop was almost or quite exempt from disease, I thought, looking to the character of the season, that in all probability we should find that a little later on it would break out with a greater or less degree of virulence. In many places this, unfortunately, is the case, and, as generally happens, cottage gardeners suffer the most; it always appears first in close confined places, which they frequently are; and as *Early Rose*, which is one of the worst to take it, is a great favourite with them they often lose from half to three-parts of their crop. If the varieties known as being extremely susceptible to its attacks were kept out of cultivation, would it not tend to the stamping out of the disease?—*W. B. G.*

Mrs. Pearson and Royal Vineyard Grapes.—A first prize was recently won by two bunches of Grapes labelled *Mrs. Pearson*, which were taken from a vine of *Royal Vineyard*, planted before *Mrs. Pearson* was sent out, as can be easily proved, and the same vine produced two bunches last year, which won a prize when labelled *White Frontignan*; are these three Grapes so near alike that judges are unable to tell the one from the other, or is this particular vine more accommodating than any other?—*M.* [May not the *Royal Vineyard* have been inarched?—*Ed.*]

Zephyranthes candida.—One seldom sees this charming Peruvian half-hardy bulbous plant, but it is very chaste and pleasing at this season of the year, throwing up its white *Crocus*-like blossoms. I have two clumps of it in pots, 6 ins. across, well established, that are now flowering freely and successively, too, as all the blossoms do not appear at one time. They greatly resemble those of a *Crocus*, and they are produced singly on strong stems. My plants are growing in a greenhouse fully exposed to the sun, but they have plenty of water. I do not know whether it is the rule to starve the plants to make them bloom; but I have not starved mine, and they are flowering almost as well as one can desire them. It is a plant well worth cultivating.—*R. D.*

Earwigs and Chrysanthemums.—Having read the various comments on this subject that have recently appeared in your columns, I am constrained to throw in my lot with those who affirm that the Earwigs do eat both the stem, foliage, bud, and flowers of Chrysanthemums, having proved it by my own personal observation. Especially have they done us much mischief lately by eating into the stem close under a bud that had been "taken" the preceding day. The caterpillar, mentioned by Mr. Kidson, usually appears about the time the buds are forming, having been hatched in one of the young leaves near the top of a shoot in which it may sometimes be found rolled up, and from which it emerges and feeds over the top of the shoot, bud, leaves and all, thus making the shoot of no more value for producing a bloom. From what I could gather from Mr. Kidson's note, the Earwigs have put on their best behaviour at Hull this year, whilst they have been most mischievous with us at Chelmsford. For whilst doing us much mischief amongst Chrysanthemums, &c., they also visited a long orchard house and partly destroyed a splendid crop of Peaches and

Nectarines, commencing on the fruit when it was quite green, and eating holes both at the top and under the fruit, which rotted and dropped off before ripe. We attacked them by hand-picking at night with lanterns, when as many as six have been found eating into one fruit, and on both fruit and leaves from fifty to one hundred and fifty were caught most nights by hand-picking; and often as many more were found in the morning in pieces of the stems of Broad Beans, cut about 4 ins. in length and inserted amongst the trees, and from whence they were taken and blown into the hand and destroyed. Many of the trees have the appearance of having been riddled with shot. Where the foliage has been eaten into holes we place pieces of Bean-stalks amongst our Chrysanthemums, and find the Earwigs take to them much better than the inverted pots.—S. P., *Chelmsford*.

Crinum Powellii.—I see *Crinum Powellii* is discussed in one of your contemporaries. A bulb of this *Crinum* given me by a horticultural friend, and planted in November last in an open part of the wood at Oakwood, Wisley, has lately bloomed beautifully; it had no sort of protection. *Vallotta purpurea* is just coming out, but this last winter was covered over with a wicker hen-coop with dry bracken interlaced.—George F. Wilson, *Heatherbank, Weybridge, Sept. 14th*.

Matricaria inodora flore pleno.—Where white flowers are wanted in quantity in the autumn, good beds of this useful plant should be made up in the spring. The quantity of flowers a bed 4 yds. long by 1 yd. wide will yield is something enormous; you can cut and come again, and yet there seems to be no diminishing of the quantity for some weeks. To protect the white flowers from heavy rains, which often causes them to look dirty, I simply place a pole about every yard on each side of the bed, with a strong rail fastened on the top, upon which we rest a few frame lights; this protects from wet and soot, and allows plenty of air to still circulate amongst the plants. To propagate it, take small bits in the autumn at the same time as bedding *Calceolarias*, and give the same treatment. It should have fresh beds made up every year.—W. G.

Onions.—At the Oxford Mills Flower Show, held at Ashton-under-Lyne on Saturday last, there was a strong competition with Onions, and you may think it worth while to publish the weights of the winning roots, which were as follows:—

ONIONS (WHITE).			
	OZS.		OZS.
J. A. Isherwood	14	J. Cowley	11½
J. Cowley	13	A. Rushton	10½
J. Nelson	12¾	H. Rushton	10½
T. Goodier	12½	J. Bridge	10½
J. Nelson	12¼	J. Metcalfe	10
W. Cowley	12	G. Bridge	8
J. Rushton	11½		
ONIONS (RED).			
	OZS.		OZS.
J. A. Isherwood	17¾	J. Cowley	13½
J. Rushton	15½	A. Rushton	13
J. Nelson	15	J. Metcalfe	13
J. Nelson	14¾	T. Goodier	12½
T. Cowley	14½	G. Bridge	11½
W. Cowley	14½	H. Rushton	10

—Visitor.

Peat or Moss Litter.—Can any of your correspondents inform me as to the quality of the above for Mushroom culture. Having successfully kept up a supply of Mushrooms previous to using the above litter, and since the introduction of the same, have entirely failed to produce a crop, I should be glad to know the experience of others. As soon as they reach the size of a small button on the peat beds, they turn black and die away. The spawn and treatment are exactly the same as before the failure occurred. Any information on the subject would oblige.—W. C.

A "Stout" Budder.—In my holiday wanderings I was much amused by the following story, which was related to me by one well acquainted with its hero:—At the small town of T—— in Norfolk, an old gardener gained his livelihood by tending the gardens of the more well-to-do of the residents who could not afford to keep a regular gardener. This man was very fond of stout, and when the Rose-budding season came round, he actually refused to bud the Roses of these people until they gave him a pint of stout, for, said he, after he had drank the stout he spat in the hole where the bud had to go, and this gave it a sure start!—D. J. E.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The zonal Pelargoniums for autumn and winter flowering will now need to be placed under cover; a cold pit with a south aspect will be preferable to at once placing them in a house. Let them be fully exposed and freely ventilated, that the growth made may be as firm as possible, for it is next to impossible to produce flower in any quantity from sappy unripened wood, albeit the plants may appear in excellent health. As the flower is not at present wanted, it will be advisable to continue to remove the trusses as they appear, unless a few plants of any particular variety for colour may be required for staging or house decoration. Those of deep pink or amaranth-coloured flowers may be used with striking effect if staged amongst light or white-flowered groups, and have a most pleasing effect.

By quite an oversight, I had forgotten, a week or two since, to speak of the re-potting of *Anthurium Scherzerianum*. If not already done, no time must be lost. As a rule, August is the best month in which these should be attended to. Where the plants received a shift last season, and the soil is in good condition, it will be hardly necessary to re-pot. Carefully remove as much of the surface soil as possible without damaging the roots, and replace with good fibrous peat and a liberal addition of good-sized lumps of charcoal, in which the plants delight. Where it is deemed advisable to pot, be very careful that the pots are thoroughly clean and an abundant drainage given, because although the plant delights in liberal treatment in the way of water, it will not thrive where there is any trace of stagnation in the material in which it is growing. After potting, the plants will be benefitted if kept sprinkled overhead through a fine rose frequently during the day; and lest this may not be done without injury to other plants if missed, it will be advisable to stage them by themselves until a good start is ensured. Keep a sharp look-out at night for insect pests of any description, as the foliage when young is so readily damaged; added to which, without perfect foliage the plant is not presentable.

Where the practice of striking the tops of the Pompon Chrysanthemums is followed, now will be a good time to put them in, as the buds are set; five or six put into a 4-in. pot will be found ample. Let the pots be plunged in a nice brisk bottom-heat, so that they may strike quickly, and be as careful as possible that the cuttings do not at any time flag, so that they must be kept closely shaded. The varieties of *Cedo Nulli* are good for this purpose, and they will be found most useful for staging in front of mixed groups. I need hardly say that as soon as rooted they must be kept well fed with liquid manure to fully develop the flowers. Where a fixed shading has been used for the roofs of plant houses, it will now be advisable to remove a part of it; this will greatly tend to the hardening of the growth of the inmates, and they will keep much better through the winter.

THE FRUIT HOUSES.

In this department little else can now be done than to see to the thorough ventilating of all Vineries, and also being careful that the borders do not become too dry. Damping-down where the Grapes are intended to hang may be entirely dispensed with, and to prevent too rapid evaporation, a mulching of light material should be placed over the inside borders; this will only apply where the Vineries are on high ground. In low-lying districts the great difficulty will be found to keep the borders dry enough through the autumn for the Grapes to keep well.

Look over the Hamburghs and other thin-skinned varieties at least twice a week, and remove all berries which show the least trace of decay. In dull weather the pipes may be chilled in the morning, and at night the doors throughout the range may be opened between each structure to admit of a circulation of air to prevent anything like a "stuffy" atmosphere prevailing. The nights now become considerably longer and cooler, and in the Fig-house it will be found advisable to use less moisture, or the fruit will crack badly. Keep the house comfortably warm through the day, which can readily be done without resorting to fire-heat. *Blanche du Soissons* we find one of the most reliable fruiters. Extra care must now be taken of the late Melons, or

they will speedily canker off. Unless the sun is very fierce, the house may be syringed and shut up soon after mid-day; the bottom-heat, too, must be kept regularly renewed.

THE KITCHEN GARDEN.

So soon as the rows of winter Spinach can be well traced, let the plants be singled out, as in the case of Turnips, by this means they make a more sturdy growth, and are much better able to withstand severe frosts. Cabbage for early spring cutting, must now be planted out, so that they may become thoroughly established before winter. Keep the hoe well at work through all the quarters, as weeds grow apace after the recent storms; where there are dangers of seeding, hand-weeding previous to hoeing is advisable, and in the end saves time.

I regret to say we find traces of disease in the Potatoes; through press of work, we were compelled to leave a small breadth of Woodstock Kidney in the ground, and they are badly affected. *Magnum Bonum* show traces in the haulm of a visitation, so that even now the Potato crop may not be so abundant as anticipated. See that the Strawberry squares are kept free from runners and weeds, and where the ground is very tenacious, they will be benefitted if lightly forked between the rows, they can also be more readily cleaned, than if a crusted surface is allowed to remain.

The old stools of Cabbages which have furnished a supply until now, had better be removed, as the young spring-sown ones should be ready; the ground upon which these have been growing should be double dug and well dressed, as the crop is always an exhaustive one. Pay attention to the gathering of dessert Pears, and store carefully. *Madame Treyve*, *Jersey Gratioli*, and *Beurre de l'Assumption*, are now ready with us.—Walter Child, *Croome Court*.

ORCHID NOTES AND GLEANINGS.

Potting Cool Orchids.—"W. R. W.'s" advice (p. 28) to begin potting these in August or September, and his remark that he finds that the best time gives another instance of the different means employed by different growers. After trying different times for doing the work, I found the first week in January the best, particularly for those whom I am in the habit of addressing on the subject—viz., amateurs with small collections, and many of them in the neighbourhood of towns. "W. R. W." recommends beginning in August "if August be dull, with frequent showery days or nights." My opinion is that beginning either in August or September on the strength of that kind of weather is delusive, as later on we generally get a spell of weather as bright as any in summer, and liable to do harm. There is no doubt that any time after September sets in the plants are ready for repotting, and that many from choice or convenience repot them at that time with good results if the plants are carefully shaded and tended, but many amateurs cannot give them constant attention, and as far as I can glean it is not necessary to run any risk by early potting; hence, later on, after the plants are settled down to the amount of fire-heat they are to have, and there is no risk of excessive aeration from bright, dry weather, is in my opinion, better.

Against doing the work in the dead of winter I object that the plants are better left undisturbed during the dull, foggy season, it being better to wait until the turn of Christmas or the first week in the new year brings new life into the air. What I mean by this is noticeable in or near towns more particularly, and those who have tried early forcing of Hyacinths, Lilies of the Valley, &c. there, know how slow and stubborn they are until after Christmas, when all of a sudden they produce their blooms quickly and kindly, thus showing that a time for movement in plant life has come through some change in nature which has taken place—a more genial state of the atmosphere obtained by the light of coming spring-time being cast before it. I have considered and watched this matter for many years, and I conclude that if the repotting of the cool Orchids is begun at any time whereby they may get finished by the end of January (according to the quantity to be got through) no better time can be assigned which will work well in all collections, great and small. At the same time our thanks are due to "W. R. W." for his very clear note on the subject, which contains good practical remarks applicable at any season when repotting is going on.—James O'Brien.

Cypripedium Sanderianum.—It is pleasant, after seeing the splendid figure of this plant in the *Reichenbachia*, to find that on flowering it proves to have been honestly depicted. It is now in flower with Messrs. Jas. Veitch & Sons, of Chelsea, and in form and all other material particulars it proves just like the picture. In colour the small plant at Messrs. Veitch's is not quite up to the figure, neither could it be expected to be. The plant, with its long ringleted tails of rich crimson and cream colour, is unlike anything else in the genus, and we may safely predict that it will become a prime favourite.

Odontoglossum Harryanum.—This name has been given by Professor Reichenbach, to a grand addition to the genus, which is just now in flower with Messrs. Jas. Veitch & Sons, of Chelsea. The large showy flowers have sepals, Indian yellow broadly barred with brown, and petals similarly marked at the tips, but having the half next the column white with violet markings; the large hastate lip is pure white with yellow base, surrounded with raised bright-like tracery. In point of fact, this extraordinary novelty calls to mind *Miltonia candida grandiflora*, with something of the lip of *Zygopetalum crinitum*. It was imported by Messrs. Fred Horsman & Co., Colchester, who sold the stock to Messrs. Veitch.

Miltonia and Odontoglossum.—What is the difference, botanically, between *Miltonia* and *Odontoglossum*?—*J. Hansen*. [The genus *Miltonia* is mainly distinguished from *Odontoglossum* by the short column and the labellum springing immediately from it, with little sign of the spur, which carries the labellum forward in a line with the long column in *Odontoglossum*. These features are observable in a greater or less degree in all the species, but the two genera approach, in that little section comprised in *Odontoglossum vexillarium*, *O. Warscewiczii*, *O. Rœzlii*, and *O. Phalænopsis*, which some regard as *Miltonias*. They have, however, characteristics which point as much to one genus as another, and it is possible that they may ultimately be made into a distinct genus. The flower bracts of *Miltonia* are peculiar, and afford, in many cases, distinguishing features.—Ed.]

HORTICULTURAL SOCIETIES.

ABERDEEN.

THE annual autumn show of the Royal Northern Horticultural Society of Aberdeen was opened in the Music Hall Buildings, Aberdeen, on Friday, 10th inst., by Lord Provost Matthews, and continued until the evening of the 11th inst. The show was the largest autumn show the society has yet held, the exhibits numbering over 2,000; and in every department the specimens were in the very best of condition. The divisions were four in number—nurserymen, professional gardeners, amateurs, and the working classes. The large hall was filled with pot-plants, the ball-room was occupied with cut flowers and table plants, and the square-room with fruit. Potatoes were the feature of the exhibition, both as regards quantity and quality, and they had a long table extending from one end of the hall to the other all to themselves. At the last show the season was not sufficiently advanced for the vegetables and the cut flowers to show to advantage. On this occasion, however, the vegetables and the cut flowers carry off the honours. The character of the weather, too, has, since last show, been all that gardeners could have wished. There has been a slight frost in this district almost every night during the season, but the vegetable crops did not appear to have suffered at all severely if one were to judge by the specimens shown at Aberdeen.

The first division contained the exhibits of professional gardeners, and first in order were the pot plants. There were seven classes with numerous entries in each. Class 1 was for the best six plants suitable for table decoration, and it brought out a capital show of *Crotons*, *Azaleas*, *Dracænas*, &c. Mr. Robert Grigor, Sunnybank, took the premier position, and likewise the third place; Mr. Leiper, Torphins, coming in second in this class got the Society's Silver Medal. Class 2 comprised nine best plants for table decoration, and Mr. Reid, Stonehaven, with some beautiful specimens carried off the Silver Medal. In this class Mr. Alex. Grigor, Fairfield, with two fine *Dracænas*, and other well-grown plants, took second

place. The *Liliums* were a grand display, but the *Fuchsias* were not so good as they were two months ago. Mr. William Ogg, Cults, took the first prize for single *Fuchsias*, and with his *Begonias* occupied a similar position. Among cut flowers the class most worthy of attention was the nurserymen's *Dahlia* exhibits, for which the prizes were presented by the Aberdeen Town Council. Messrs. James Cocker & Sons, Aberdeen, took the first prize with a magnificent collection of twenty-four double *Dahlias*, and this firm was closely run by Messrs. R. B. Laird & Sons, of Edinburgh; the same thing happened in the class for single *Dahlias*. The best twenty-four *Rose* blooms (open to all) were shown by Messrs. Cocker & Sons, who had an easy victory. For the best twelve *Rose* blooms (nurserymen excluded) Mr. James Hunter, Richmond Hill, with a very fair box of *Roses* carried off the first prize; Mr. Leiper, Lorphins, coming in second. Mr. Reid, gardener to Mr. Baird, Urie House, showed a meritorious collection of *Hollyhocks*. A very interesting class was that for the best collection of twenty varieties, cut flowers, and fine foliage bedding plants, for which the prizes were given by Dr. Moir, Aberdeen. A very fine assortment from Urie House took first honours.

Among the other exhibits in the professional department may be mentioned some very fine *Marigolds* (French and African), *Asters*, *Pentstemons*, *Carnations*, *Phloxes*, &c. The best plants among the amateurs were the *Liliums*, which were a really grand lot, and well contested. Mr. Mitchell, Aberdeen, took the first place. In the class for two stove or greenhouse plants, Mr. G. Maitland, Woodside, came first. The whole of the exhibits in the amateur classes were very creditable indeed. In the working classes, the chief competition, was amongst *Pelargoniums* and *Ferns*; there was a surprising show of the former, and the *Ferns* were also a very deserving lot. Mr. Maitland, Woodside, succeeded in taking first prize for three varieties of *Ferns*. The dwarf hardy *Ferns* were especially well represented. The vegetables all over were a superior display. In determining the merit of the seven boxes of vegetables shown by professional gardeners, the judges had some difficulty, as the collections were all of nearly equal excellence, ultimately they decided to give the premier position to Mr. Geo. Ogg, Straloch; Mr. Geo. Milne, Cluny, ranking second. The vegetables shown by market gardeners, though not quite so good as those shown by the professional gardeners, were a capital lot. The other exhibits of vegetables were all of fine quality, the *Potatoes*, as already mentioned, making a specially good appearance. The challenge cups for the best collection of *Potatoes*, six varieties, and which is given by Mr. A. Stott, Douglas Hotel, having been now won twice by Mr. Robert Grigor, becomes his own property. The fruit department naturally attracted a good deal of attention, and the exhibits were all of first-rate quality.

The *Grapes* were better represented than they have been here for many years. The principal honours in this class went to Mr. Lumsden, of Balmedie, from whence Mr. Stratton, the gardener, brought some very fine specimens; and Mr. Forrest, gardener to the Earl of Aberdeen, Haddo House, took first prize with a capital single bunch of white *Grapes* of excellent size and general finish. Indeed, on the whole, the white *Grapes* showed a much better finish than the black *Grapes*. The attractiveness of the show was considerably enhanced by exhibits of cut flowers not for competition by several well-known nursery firms. Among them were a fine collection of *Carnations*, *Picotees*, *Chrysanthemums*, *Rose* blooms, &c., by Messrs. James Cocker & Sons, Aberdeen. In the display of this firm there were at least 450 specimens shown. Messrs. W. Smith & Sons, Kintore and Aberdeen, also exhibited about 200 pot plants of great beauty and variety. Their collection included about 150 herbaceous plants, amongst which there were some beautiful flowering plants, *Liliums*, &c., and about fifty varieties of *Gladioli*. Messrs. B. Reid & Co., of Aberdeen, had a very excellent table of flowering *Chrysanthemums*, and several handsome specimens of variegated *Pine Apples*, *Crotons*, *Maidenhair Ferns*, and a large number of other plants. The show, it may be added, was a complete success, having been favoured with fine weather. The judges were, for pot plants and fruit, Messrs. Stephens & Metcalfe; cut flowers, Messrs. Downie & McLeod; vegetables, Messrs. Kerr & Reid; *Potatoes*, Messrs. Donaldson & Smith. The whole was under the management of the energetic and courteous secretary, Mr. A. M. Byres, C.A., Aberdeen.

SANDHURST.

THE Frimley, Yorktown, Camberley and Sandhurst Horticultural Society has now been established for several years, and it is doing good work in the immediate neighbourhood, by promoting practical horticulture in the above-named parishes. It is held annually in the grounds of one of the official residences connected with the Royal Military College at Sandhurst, and these may be said to form a ring round this important military school. Fortunately for the society, several of the officers connected with the Royal Military College take a deep interest in the society, and one of them, Major Vulliamy, is the hon. secretary and treasurer, a post held previously by Colonel A. R. Saville. The tents and staging are supplied from the college, which is a matter of considerable importance in the way of expense. The district is a rapidly extending one; the ground generally is of a sandy peaty nature, and not long since a great deal of it was covered with heather; but where broken up and manured it becomes thoroughly fertile. Under the sandy soil is a kind of hard rust; this should be broken up and mixed with the surface, and, where necessary, the ground should be drained; when this is done and the soil enriched, it brings excellent crops, especially *Peas* and *Potatoes*. It appears to be a healthy district in which to reside, those who like the perfume of the heather and pine will find it here; there is an abundance of charming views and beautiful walks. The arrangements of the show, which was held on the 8th and 9th inst., were mainly in the hands of Mr. Craig, nurseryman, Camberley, who was formerly in the service of the late Sir Joseph Paxton as gardener, when he resided at Sydenham.

The leading exhibitors among the gardeners are Mr. Elliott, gardener to Colonel Harris, York Town; Mr. Townsend, gardener to W. J. Farrar, Esq., Sandhurst; Mr. Rogers, gardener to Mrs. Harris, Frimley Park; Mr. H. Beames, gardener to E. Hyde, Esq., York Town; H. B. Ward, Esq., Bagshot; and Mr. Gomm, gardener to General Anderson, Government House; while the Hon. Sec., Major Vulliamy, was a leading exhibitor among the amateurs.

Owing to an unfortunate accident some of our notes were destroyed, and we can give but a short report. Plants were somewhat sparingly represented, whether in collections or groups arranged for effect: the best were two specimens of *Cissus discolor*, shown by an exhibitor whose name we unfortunately missed; and some fine specimens of *Coleus* from H. B. Ward, Esq., Bagshot, not for competition.

The most attractive tent was that in which was arranged the competing subjects for the special prizes, open to all subscribers. One class was for a dinner-table, arranged for six persons, with flowers, and here Mr. Parsons was placed first. The awards were made by a lady judge, and we regret to say we entirely dissented from them, as we should have placed Mrs. Osborne's first, and Miss Twort's second. Arranged baskets of flowers were very good; Miss M. Catchpole being placed first, and Miss Thorn second. Collections of wild flowers, berries, *Ferns*, and *Grasses* were also good; and here Mrs. Slade was first, and Miss M. Catchpole second. Mrs. Twort was placed first with a centre piece, Mrs. Parsons being second; here, too, we decidedly dissented from the awards of the lady judge, and should have placed Miss Thorn first, and Mrs. George Jones second. Mr. P. Rogers had the best bouquet, Mrs. Twort being second.

One very interesting division was that for warders of Broadmoor Criminal Lunatic Asylum, non-commissioned officers, soldiers, and servants of the Royal Military and Staff Colleges, grooms and gardeners, and servants for general work, the exhibits to be the products of their own gardens. This division brought an excellent competition, and some capital articles.

Special prizes were offered by Messrs. Sale & Son, seed growers, Wokingham, for the best collection of vegetables in six varieties; by Messrs. Sutton & Sons, seed merchants, Reading, for the same; by Messrs. James Carter & Co, seed merchants, High Holborn, London, for the same; and by Messrs. Daniels Bros., seedsmen, Norwich, for the same. In all cases there was a very good competition indeed.

Among honorary exhibits was a truly wonderful collection of hardy flowers, mainly from seeds sown in the open air, shown by Messrs. Sutton & Sons, of Reading. This filled a large table, and we intend making a special reference to this exhibit. It was very highly commended; indeed, it was a charming exhibition in itself, and attracted as much notice as anything else in the entire show. Mr. W. R. Strong, the gardener at Wellington College, had fine *Tomatoes*, with dishes of remarkable *Diamond*, *Goliath*, and *Washington Plums*, Lord Suffield and Cox's *Pomona Apples*, *Potatoes*, and other things—a very good lot indeed. Mr. W. Townsend, gardener to W. W. Farrar, Esq., Sandhurst, had a collection of *Potatoes*, and also of hardy fruits. Mr. F. Street, Heatherside Nurseries, Frimley, had groups of *Coleus*, *Caladinums*, *Ferns*, &c., also of coniferous plants, *Roses*, and such like; highly commended. We can only hope the committee were sufficiently supported by the public, so as to ensure a financial success.

BLACKPOOL.

THE first annual fruit and flower show promoted by the Blackpool Winter Gardens Company was held in the pavilion of the Gardens on the 9th, 10th, and 11th inst. This is one of the finest places in the kingdom for exhibitions of this description, and (thanks to the enterprise of Mr. J. W. Binns, the courteous and energetic manager) horticulture is about to be encouraged in a spirited manner in this part of Lancashire, for it is the intention, we believe, of the company to establish a series of shows at various seasons in the ensuing year. The directors have thus taken a step which will, no doubt, receive the support which exhibitions of this description so well deserve. By offering liberal prizes they are sure to make the show popular and successful. As regards the late exhibition, nothing better could be desired than the arrangements made by Mr. J. H. Clarke, the much respected secretary of the Leeds Horticultural Society, whose long experience has made him thoroughly acquainted with the routine required for such displays. The show was well attended, and in addition to the floral display, the splendid band of M. Rivière played a varied and fine selection of music. For a maiden show it was in general a very creditable one, the principal feature in the plant department being the groups arranged for effect; but, in our opinion, the judges made a grave mistake in their decision in the large groups, viz., in the class for 300 square feet. They awarded the first prize to Mr. Featherstone, Le Amis Nursery, Leeds, for a group that was too crowded and formal, though certainly bright with Gladioli and Asters, while the second prize was awarded to Mr. Williams, gardener to S. Baerlein, Esq., of Didsbury, whose group contained many novelties of sterling merit, lightly and gracefully arranged with a ground work of Maidenhair, nicely and prettily relieved in an artistic manner with various specimens well grown and suitable for the purpose. This was certainly a mistake, and was strongly commented upon by many qualified to speak on the subject. For the smaller group, 150 square ft., the same exhibitor was again placed first, but in this instance rightly; and Mr. Woods, of Burnley, second. For six stove and greenhouse plants, and also for one specimen flowering plant, Mr. Williams was first, in the former class showing *Erica Marneokiana* and *Irbyana*, *Eucharis amazonica*, *Anthurium Ferrierense*, *Lilium speciosum*, &c.; and the single specimen plant was a good fresh plant, well flowered, of *Erica Turnbullii*; Mr. Thornboro, gardener to J. Fildes, Esq., Lytham, was second, with a good *Statice profusa*. For six exotic Ferns, Mr. Thornboro was first with clean plants, nice and fresh, consisting of *Cibotium Barometz*, *Davallia Mooreana*, *Adiantum cuneatum*, *Todea superba*, *Davallia elegans* and *Nephrolepis ensifolium*; Mr. Williams was second with good plants, but not so distinct in variety as the former. For three Orchids, Mr. Thornboro was first, also for a single specimen, showing in the former class nice plants of *Cattleya Gaskelliana*, *Odontoglossum grande* and *Cattleya Harrisoniae*, all well done; and in the single plant class, a good *Odontoglossum Alexandra* secured the award. Table plants were shown in quantity, and a very meritorious even lot from Mr. Hill, Rochdale, was placed first; and Mr. Williams second. *Fuchsias* and *Pelargoniums*, *Liliums*, &c., were poorly represented, the classes not filling.

Cut flowers, on the whole, were fairly well represented. For an epergne for the dinner-table, Mr. Featherstone, of Leeds, was first, and Mr. Shaw, Kidderminster, second; these were wanting sadly in arrangement, being far too heavy. The bouquet competition was a strong one, but none were of high-class quality; indeed, it was pitiable to see such good flowers, as many of them contained, so entirely spoilt by overcrowding. Both the first prizes for ball and wedding bouquets, went to Mr. Featherstone, while both the second were awarded to Mr. Charles Rylance. Roses were good for the time of year. For eighteen distinct flowers Messrs. R. & J. Calam, of Wakefield, were a very easy first, their blooms being fresh and fine, also distinct; second, Mr. Cordwell, Morton. For Dahlias, both the twenty-four and twelve dissimilar, Mr. Rylance was first; and second in both classes, was Mr. W. Shaw, but we have seen finer flowers than were shown by both. The same may be said of the Asters, Picotees, and Gladioli. The hardy and herbaceous cut flowers were good, and the competition keen. For twelve varieties, Messrs. J. & R. Callam were first, Mr. W. Shaw second, and Mr. Cordwell third, all being very good. For a lady's spray and gentlemen's button-hole flowers, both first prizes went to Mr. Fildes, while Mr. Featherstone was second in both classes.

Taking the fruit all round it was not up to the usual mark, although, considering the quality, the competition was very keen. The first prize for six dishes was won by Mr. W. Shaw, whose collection contained a good Melon and Peaches, fair Cherries, Plums, Pears, and Grapes; second, Mr. Thomas Hare, Grantham. For two bunches of Black Grapes, Mr. Smith, Chorley, was first; the same exhibitor being first also for two bunches of white, showing decent bunches of Muscats. The first prize for the heaviest bunch, any colour, was awarded to Mr. Thompson. A good Pine from Colonel Dixon, obtained a first prize; while the first for Figs, Melon and Nectarines went to

Mr. Hare. A good dish of Peaches from Mr. J. Thompson was first; and first for Apricots, Colonel Dixon. Apples were shown in quantity: first for dessert, Messrs. Callam; first for culinary varieties, Messrs. Rylance; Pears, first, Mr. Thompson; Plums, first, Messrs. Fisher. The only collection of vegetables staged came from Mr. J. Webster, Kirkham, who was worthily awarded the first prize, while a good brace of Cucumbers secured for Mr. Thornboro the premier award. Special prizes were offered for meritorious exhibits not mentioned in the schedule: viz., a handsome centre piece for table decoration was awarded to The Liverpool Horticultural Co. (J. Cowan) for a collection of miscellaneous plants; this was given by Messrs. Thomas Webb & Son, of Stourbridge. Messrs. J. Wedgwood & Son gave a pair of vases, which were awarded to Messrs. J. & R. Callam, for cut Roses; and a plant of *Adiantum Farleyense*, presented by Messrs. W. & J. Birkenhead, was awarded to Mrs. Southam for her collection of artistic dried natural flowers. A special Certificate of Merit was awarded to Messrs. Morley & Co., of Preston, for cut flowers of double and single Begonias of the tuberous type.—A. O.

NATIONAL CHRYSANTHEMUM.

As was intimated in a brief note in our last, the first autumn show organised by the National Chrysanthemum Society, and held on September 9th and 10th at the Royal Aquarium, was very successful as an exhibition, the display of early-flowering Chrysanthemums being good for the season, while of Hollyhocks and Dahlias there were enough alone to make a respectable show. The first prize for a group of plants not exceeding 60 square ft. was won by Mr. N. Davis, Camberwell, who put up a capital lot of plants, well bloomed, and including a larger number of varieties than his opponents, Mr. Wright, gardener at the Middle Temple, and Mr. G. Stevens, Putney, who were respectively second and third, and depended for the most part on Madame Desgrange. For a group covering a space not exceeding 40 square ft. Mr. William Holmes, Frampton Park Nursery, Hackney, took the second prize, there being no other competition, with a capital lot of bushy plants, full of buds, and wanting another week or two to bring them out. For six plants of Madame Desgrange, Mr. J. Wright was well first, and Mr. G. Stevens a good second, the flowers in both cases being of excellent quality. The cut flower classes were much better contested, and were certainly more interesting to the public, besides not quite so suggestive of November fogs as the groups of plants. For a collection, any varieties, Mr. G. Stevens was first, showing about twenty sorts; Mr. N. Davis, Camberwell, was second; and Mr. W. Piercey, Forest Hill, third. For twelve blooms of Madame Desgrange, Mr. Wright was first with a remarkably good lot; Mr. Stevens being second with flowers equally as large, but not so neatly finished; Mr. Sadler, gardener to J. Lambert, Esq., Leigham Court Road, Streatham, was third; but in a class for a dozen of any other varieties, the last-named exhibitor beat Mr. Davis for first honours.

For a collection of Gladioli, Messrs. Burrell & Co., Howe House, Cambridge, staged about 150 exceedingly fine spikes, and then with an excellent dozen from the Rev. H. H. D'Ombrian, and a superb collection (not for competition) from Messrs. Kelway & Son, made up a display such as is seldom seen anywhere. There were nine classes for Dahlias, and most of the leading growers were well represented. Messrs. Keynes, Williams & Co., of Salisbury, took the lead with forty-eight blooms of show and fancy varieties, with an admirable lot of blooms. Mr. Turner was a good second; Mr. Boston, Carthorpe, Bedale, third. For twenty-four show varieties, Mr. Turner held his own, and second honours fell to Messrs. Saltmarsh & Son, Chelmsford; the third going to Messrs. Keynes, Williams & Co. In the amateurs' classes, the leading winners were Mr. H. Glasscock, Bishop's Stortford, Mr. J. West, and Mr. T. W. Girdlestone.

The miscellaneous class was a large one, and helped materially to strengthen the show. Messrs. H. Caunell & Sons, Swanley, staged an extensive collection of Dahlias of all kinds, and a fine stand of double Zinnias. Messrs. J. Laing & Co., Forest Hill, were represented by a choice collection of Begonias, grown from seeds sown in January. Messrs. Cheal & Sons, sent a good collection of Apples, and also one of single Dahlias. Mr. R. Owen, Maidenhead, had a very nice assortment of cut blooms of Begonias and early Chrysanthemums; and horticultural sundries of a useful character were displayed by Mr. B. Field, Swan Place, Old Kent Road; Mr. H. G. Smyth, Goldsmith Street, Drury Lane; and Messrs. Wood & Son, Wood Green; and Messrs. W. & J. Birkenhead, Sale, near Manchester, showed their admirable new beetle and cockroach trap.

The National Chrysanthemum Society's Certificate was awarded to Dahlia Empress of India, R. H. Munday, Basingstoke; Dahlia Willie Garratt, J. Garrett, Bishops Stortford; Dahlia King of Purples, Keynes, Williams, & Co.; Dahlia R. T. Rawlings, Rawlings Bros.; Dahlia Mrs. Theobald, Rawlings Bros.; Gladiolus The Mikado, Burrell & Co.; Gladiolus Cantab, Burrell & Co.; Gladiolus Ormonde, Kelway; Gladiolus Duchess of Westminster, Kelway.

QUESTIONS AND ANSWERS.

WOOD.—I should be obliged if any of your readers could tell me where to obtain seed or plants of the old dyer's "Wood" (*Isapsis tinctoria*), used for dyeing a blue colour. It should be sown in autumn.—P.

NAMES OF PLANTS.—W. E. Cilgwyn: 1, *Lilium speciosum*; 2, *Lilium tigrinum*; 3, *Tigridia pavonia*; 4, *Chrysanthemum lutescens* var. *Etoile d'Or*; 5, *Abutilon*, *Boule de Neige*; 6, *Perilla nankinensis*. R. Young: 1, *Pholidota articulata*; 2, *Miltonia Clowesii*; 3, later on; 4, we cannot distinguish it from a small form of *O. pulvinatum*; 5, *Cattleya Eldorado splendens*, if anything, rather better than the original plant.

NAMES OF FRUITS.—J. W. Cruckton: Plum, Cox's Emperor or Deabigh. F. D. S.: Plum, Kirke's. H. K.: Peaches reached us too rotten for identification. W. E. Cilgwyn: 1, Denyer's Victoria; 2, Washington; 3, Kirke's; 4, Greengage; 5, not known; 6, Apple, Cambusnethan Pippin. W. Martin: 1, not recognised; 2, Lord Suffield; 3, Jolly Beggar; 4, Lord Suffield; 5, not recognised; 6, King of the Pippins.

GRAPE.—Memo.: A bunch should never be shown under such circumstances. If done at home it would be a clear case of attempting to deceive, and should be disqualified. We have known such a thing to be done innocently and in good faith, in the case of pieces broken off in travelling, but even then it was an error of judgment not to state the fact, and laid the exhibitor open to strong animadversion.

COMMUNICATIONS RECEIVED.—B. F.—W. G.—A. O.—C. A. G.—W. W. & SON.—J. M.—D. J. N.—W. G.—J. W.—J. C.—J. M. J.

TRADE CATALOGUES RECEIVED.

CHANTRIER FRÈRES, Mortefontaine (Oise), France.—Supplementary Catalogue of Stove and Greenhouse Plants, New Crotons, &c.

LONDON SEED TRADE.

September 15th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance at to-day's market. Winter Tares are plentiful, of good quality, and are offered at very low prices. Rye is in moderate request at rates current last week. *Trifolium* moves off slowly, some dealers being anxious to sell, are offering their stocks at a loss; the demand for this article has this season been much under average. Bird Seeds remain unchanged. Clover and Grass seeds neglected. The crop of Red Clover promises to be large.

COVENT GARDEN MARKET.

September 16th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1	6	3	Peaches, per doz.	2 0 6 0
Cherries, $\frac{1}{2}$ sieve				Pine-apples, St.	
Currants, $\frac{1}{2}$ sieve				Michaels, each	2 6 8 0
Grapes	per lb.	0 6	2 0	Pine-apples, Eng., lb.	3 0 4 0
Kent Cobbs. 100 lbs.	60 0			Plums, $\frac{1}{2}$ sieve	0 9 2 0
Melons, ...	each	1 0	2 0	Strawberries ..per lb.	

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.			
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0
Beans, French, per lb.	0	4		Lettuces .. per dozen	1	6		
Beet, per dozen	2	0	3	Mushrooms, p. basket	1	0	2	0
Cabbages ... per doz.	2	0	6	Onions, per bushel ..	4	0	6	0
Carrots, per bunch ..	0	6		Parsley, per bunch ..	0	6		
Cauliflowers, English,				Radishes, per dozen ..	1	6		
per dozen	3	0	5	Small salading, punnet	0	4		
Celery, per bundle ..	1	6	2	Spinach, per strike ..	2	0		
Cucumbers, each	0	6	9	Tomatos, per lb.	0	9		
Endive, French, doz.	2	6	3	Turnips per bun.	0	6		
Herbs, per bunch	0	2	0					

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	2	0	4	Liliums in variety,	
Arum Lilies, 12 blms.	4	0	6	dozen bunches	12 0 24 0
Bouvardias, per bun.	0	6	1	Marguerites, 12 bun...	3 0 6 0
Carnations, 12 blooms	1	0	3	Mignonette, 12 bun...	1 0 3 0
Carnations .. 12 bun.	3	0	6	Pelargoniums, per 12	
Cornflower .. 12 bun.	1	6	3	sprays	0 9 1 0
Delphinium .. 12 bun.				— scarlet, 12 sprays..	0 3 0 6
Daisies, common,				Primula, double, bun.	0 6 1 0
12 bunches	2	0	4	Pyrethrum, 12 bunchs.	2 0 4 0
Eucharis, per dozen..	2	6	4	Roses 12 bunches	2 0 6 0
Forget-me-not or Myo-				Roses (coloured)	0 9 1 0
sotis, 12 bunches ..	2	0	4	Roses, Tea per dozen	0 9 2 0
Gardenias, 12 blooms	2	6	4	Stephanotis, 12 sprays	1 6 3 0
Gladioli .. 12 sprays	1	0	2	Sweet Peas, doz. bel.	1 6 3 0
Heliotropes, 12 sprays	0	6		Sweet Sultan, 12 bun.	3 0 4 0
Lapageria, red, 12blms.	1	0	2	Tropeolums	1 0 2 0
Lilium longiflorum,				Tuberose, per dozen.	0 4 9 9
12 blooms	4	0	6	White Jasmine, bun.	0 6 9 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.			
Aralia Sieboldi, doz.	6	0	18	Ficus clastica, each.	1	6	7	0
Balsams . . . per doz.	3	0	6	Fuchsia, per doz.	3	0	6	0
Begonias, per dozen.	6	0	12	Gladioli, 12 pots	6	0	9	0
Cockscombs, per doz.	3	0	6	Hydrangea ..per doz.	6	0	12	0
Cyperus, per dozen ..	4	0	12	Lilium per doz.	12	0	30	0
Dracæna term., doz.	30	0	60	Marguerites, per doz.	6	0	9	0
— viridis, per dozen	12	0	24	Mignonette, per doz.	4	0	6	0
Evergreens, in var.,				Palms in variety, each	2	6	21	0
per dozen	6	0	24	Pelargoniums, doz ..	6	0	12	0
Ferns, in var., doz. .	4	0	18	Pelargoniums,scarlet,				
Foliage Plants, vari-				per dozeu	3	0	6	0
ous, each.	0	10	2	Pctunias, per doz. . .	2	0	6	0

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THE SEVENTH GRAND FRUIT AND CHRYSANTHEMUM SHOW will be held in St. George's Hall, on the 23rd and 24th November. The Silver Cup given by J. Williams & Co. for forty-eight blooms of Chrysanthemums will be competed for.

Entries close November 16th. Schedules on application to the Secretary, EDWARD BRIDGE, Tarbock Road, Hnyton.

Next Week's Engagements.

MONDAY, Sept. 27th.—Bulb Sales at Stevens', and Protheroe & Morris's Rooms.

THURSDAY, Sept. 30th.—Sale of valuable Orchids at Stevens' Rooms, and Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, Oct. 1st.—Sale of Established and Flowering Orchids at Protheroe & Morris's Rooms.

SATURDAY, October 2nd.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, SEPTEMBER 25, 1886.

ROSE CULTURE FOR AMATEURS. — Says an authority on Roses—"A place apart from other flowers should be assigned to Roses, if possible." This is good advice. Failures with Roses often occur through the position in which they are planted being unfavourable to their well-being. Amateurs with small gardens must have a few Roses, and they plant them in various places in the hope that they will flourish, too often under the shade of trees, where they grow but do not flower; or if they do, in an unsatisfactory and disappointing manner. We are not alluding to the formation of a Rosery, but to the planting of a few Roses in a villa garden, in order that the beauty and perfume of the queen of flowers should mingle with other subjects. One authority says that if beds of Roses are planted, the beds should be of oblong shape, and not over 4 ft. wide, as the flowers can be examined and cut without treading upon the beds. This is common-sense advice. That the situation should be an open one is a *sine qua non*, but if it can be so placed as that it shall not be exposed to high winds or the keen currents of air, it will thus be seen that aspect is a matter of prime importance; but the amateur not having much choice in this respect, must do the best he can. In districts that are well planted there may be no necessity at all to provide shelter for Roses; and it is well to keep always in mind, that if shaded by trees or walls, or exposed to a roasting heat, or subjected to the constant action of strong winds, Roses will not thrive; and, therefore, if the conditions from the first are against them, it is of the utmost importance that the conditions should be improved. A south-east or south-west aspect is best for Roses,

the beds being situated so as to receive the morning sun. Roses like a free circulation of air, but they are liable to injury from cold draughts; on the other hand, closeness or crowded surroundings are apt to generate mildew.

Having dealt with the best position in which to plant Roses, let us go on to touch upon soils. If a plant may be said to "delight" in a particular soil, then that which gives the greatest satisfaction to the Rose, is a rich fibrous loam, that feels soft and silken when it is passed through the hand, and where this is not to be had, the compost must be improved; if it is light, by the addition of loam or even clay well worked in; where the soil is heavy, good drainage and the addition of charcoal in small quantities will help it; but under such circumstances drainage is most important. The ground should be deeply trenched preparatory to planting, well-rotted animal manure being plentifully added, if the soil be old garden soil, good fresh loam should be added; rich and yellow; if heavy clay, add some burnt earth, road sand, or leaf soil. If the Roses to be planted are on the briar stock, then the soil may be more adhesive than in the case of Roses on the Manetti stock.

It may be added that there is no great difficulty in making a Rose garden of some sort upon any kind of soil, but in that case a selection of Roses should be made adapted to the soil. For example, if it was desired to form a rosery on sand or chalk, it would be necessary to begin by excavating the soil so as to have it sunk below the general level, and briar Roses should be rejected as unsuitable, giving the preference to those on the Manetti stock or on their own roots, as preferable for such soil; the varieties should be moderate growers also, for the more robust the habit of the plant, the deeper and richer, as a rule, the soil should be.

The autumn is the best time to plant, and during the month of October, and it should be done on a fine day; and rather than plant when the weather is wet and the soil sticky, it is much better to wait for a day or two until it dries a little; meanwhile, let the plants be laid in by the roots. Dwarf or bush Roses should be planted with the collar of the bud or point of union with the stock at least 2 ins. below the surface of the soil. Standard Roses should not be planted too deep—a few inches' depth of soil above the roots is sufficient; but firmly stake each tree to prevent its becoming loosened by being blown about by the wind. But if the amateur should desire to plant among other subjects in the borders, a hole should be made about 18 ins. deep, and large enough to contain half a wheelbarrowful of compost of two-thirds strong turfy loam, procured from an old pasture, if possible, and one-third well decomposed animal manure. In the midst of this the roots should be placed, carefully spreading them out so that they may be covered with soil, and this trodden firmly about them; and it is always a good plan in planting to place some light sandy compost on the roots at first, as it induces them to put forth fresh fibres. It is of advantage to get the roots to work as soon as possible, and if dry weather should follow planting, let a good watering be given to the roots; but this is required much more in the case of spring than of autumn planting, and when in spring dry weather follows soon after the Roses are put into the ground, a syringing overhead is also found of great advantage. We are inclined to think that a good many of the losses in the case of Roses are caused by drying winds following close upon planting before the plants have obtained a good hold upon the soil. Need we add that when the plants are coming into bloom, and the weather is dry, a good soaking of water given once or twice a week will greatly help them, and liquid manure may be given once a week also.

Mulching is an important matter in the summer management of Roses. Remember they are gross feeders, and they will take any amount of manure; a layer from 4 ins. to 6 ins. deep from a half decayed hot-bed laid on the beds in November, and forked into the soil in spring, proves an excellent surface dressing. Some cow or pig manure spread over the ground in May, or early in June, is advantageous also.

There yet remains the matter of pruning. We have known some gardeners plant and prune their Roses at the same time, but we are sure it is a great mistake.

Pruning should never be done at the time of planting. If the trees are planted in the autumn, March is a good time to prune, regard being had, of course, to the prevailing weather. If planting is done in early spring, April will be a good time to prune; the latter month is always the best for pruning the Tea and Noisette varieties. The strength of the shoot must determine the extent of the shortening—if the growth has been vigorous, leave the shoot much longer than when it is weak; as a rule the shoots of the stronger-growing kinds should be left from 12 ins. to 18 ins. long, with five or six eyes; the weaker-growing shoots 6 ins. long with two to four eyes—these remarks apply mostly to hybrid perpetuals. Tea-scented and Noisette Roses should only have the weak growths thinned out, and the strong shoots topped. Moss Roses should be only sparingly pruned.

Finally, do not allow established plants of any kind of Roses to become crowded with branches, but carefully thin out all small and unripened wood; and in pruning, always endeavour to prune to a bud that points outwards.

PROFESSOR DICKSON, of the Edinburgh University, has been elected a corresponding member of the German Botanical Society, Berlin.

MRS. BLAIR, relict of the late Mr. Blair, of Stamford Hill, who raised that lovely hybrid China Rose, Blairii No. 2, died a few days ago at Longton, aged 93 years. Mrs. Blair had been on the pension list of the Gardeners' Royal Benevolent Institution since 1864.

THE seventh annual Fruit and Chrysanthemum show, organised by the LIVERPOOL HORTICULTURAL ASSOCIATION, will be held in the St. George's Hall, on November 23rd and 24th.

MR. A. BISHOP, formerly gardener at Abbotsford Park, Burgess Hill, Sussex, has been engaged as gardener at Westley Hall, Bury St. Edmunds.

AT Frashurst, Dorking, the residence of W. E. Nix, Esq., a plant of *Lapageria alba* bears a spray 6 ft. to 7 ft. long, with 111 flowers and buds on it.

THE next provincial show of the NATIONAL ROSE SOCIETY will be held in Edinburgh, on July 13th, 1887, in connection with the Royal Caledonian Horticultural Society's summer show.

SPATHOGLOTTIS KIMBALLIANA, a novelty described as having flower-spikes $1\frac{1}{2}$ ft. to 2 ft. in height, and flowers as large as a good *Phalænopsis*, brilliant yellow, and the lip spotted with purple; will be offered for sale at Stevens' rooms next Thursday.

THE REV. C. P. PEACH, vicar of Appleton-le-Street, Yorkshire, died on the 17th inst., aged fifty-seven years. He was a pleasant and instructive writer on many horticultural subjects, and, like many another worthy country clergyman, had a strong partiality for the Rose.

AT a meeting of the Belgian Chamber of Horticulturists held at Ghent on the 15th inst., Certificates of Merit were awarded to Mr. James Bray for *Vanda Sanderianum*; to Messrs. Jacob Mackoy & Co. for *Curmeria Kegeljeanei* and *Davallia tenuifolia Veitchii*; and to Mr. Linden for *Alocasia Lindenii*, *Cupania denticulata* and *Aphelandra Macedoana*.

WE are sorry to learn that the widow of Mr. John Cox, formerly of Redleaf, is left in very straitened circumstances, and will be an applicant for the pension of the Gardeners' Royal Benevolent Institution at the next election. Mr. Cox was a subscriber to the charity for thirty-three years, and was successful in inducing a good many other gardeners to subscribe. Making enquiries on the subject from Mr. Cutler a few days ago, we were surprised to hear of the very low rate of mortality among the pensioners; although at the commencement of the year there were 118 pensioners on the list, ranging in age from forty-nine to ninety-eight years, only six have died up to the present time, which is ten per cent. below the average.

THE historical estate of Pyrigo Park, near Havering-atte-Bower, Essex, has recently been sold by General Fytche. The property embraces not quite 700 acres, but the principal feature of the estate is the magnificent mansion, built in 1852 by Cubitt from the designs of an eminent architect, and enlarged and beautified in 1862. There are upon the property the ruins of an ancient palace existing in 1226, and at that time in the custody of Phillippe Forrester. It seems to have been originally the house for the Queen Consort and her

jointure. Eleanor, Queen of Edward I., and Ann, Queen of Richard II., held it in dower. Joan, widow of Henry IV., died there in 1437, while in 1559 it passed to Sir John Grey, and afterwards to Sir John Cheke, in whose family it remained, until by marriage it became the property of Baron Archer of Umbersdale, whose lady also died there in 1774, since which time, through a series of changes of ownership, it passed into the hands of General Fytche.

THERE was a good attendance of buyers at Protheroe & Morris's rooms on Tuesday and Wednesday, when DR. PATERSON'S COLLECTION OF ORCHIDS came under the hammer. As a rule, the plants were not in such good condition or such fine pieces as we had expected to see, and, consequently, prices ruled low generally for all but the best things, which, as usual, realised their value. The best lots sold on Tuesday were *Lælia superbiens*, 9 guineas; *Cœlogyne cristata*, Chatsworth variety, 8 guineas; *Cypripedium Veitchianum*, 15 guineas; *Cattleya Trianae*, extra fine variety, 45 guineas; *Cattleya labiata*, autumn-flowering variety, 18 guineas; *Lælia Perrinii alba*, 20 guineas; *Lælia elegans Turneri*, 35 guineas; and *Cœlogyne Gardneriana*, $15\frac{1}{2}$ guineas. On Wednesday, the highest priced lots were *Odontoglossum Klabochozum*, 10 guineas; *Vanda Cathcartii*, 15 guineas; *Cymbidium giganteum*, 12 guineas; *C. Lowianum*, 13 guineas; *Vanda suavis*, Wingate's variety, 12 guineas; *Vanda tricolor Patersoni*, with twenty pairs of leaves, 16 guineas; *Vanda suavis*, Paterson's variety, £32 11s.; *Odontoglossum Alexandræ*, £12 1s. 6d.; an extra fine variety, £33 12s.; and another large plant, £14 3s. 6d.; *Dendrobium Ainsworthii*, 13 guineas; *Vanda suavis*, 14 guineas; and *Lælia anceps Dawsoni*, £9 9s. 6d.

MARKET GARDENERS' GRIEVANCES.

I SHALL be glad if you will allow me space to state some of the experiences which we, as a body of men, have to pass through; also to state what I believe has led up to the present state of affairs, and to suggest a few possible remedies. For some years past prices obtained for garden produce have been by no means remunerative, but the present year, in that respect, has surpassed anything we have previously known. Everyone thought, after passing through such a severe winter and spring as 1885-6, that green stuff—cabbages for instance—would be very scarce, and that high prices would be the order of the day; but I am sorry to say that was anything but the case. It seemed as though everyone set about to meet what they thought would be a pressing demand for that vegetable, and the consequence was a glut. I am quite aware that there were a few instances where fairly good prices were realised, but the bulk of the crop did not pay. Then came Gooseberries, and everybody will remember what a glut there was, and the low prices they made. Market gardeners more especially remember this to their sorrow. Prices ranged from a farthing per stone and upwards—not very far upwards either. I have a vivid recollection of sending eighty-two stones to one of our northern markets, and after paying expenses—carriage, commission, pulling, &c.—there was left for the grower the extraordinary sum of $8\frac{1}{2}$ d. Taking them upon the whole, they did not more than pay for labour, and tons in this district were never gathered.

Now we are in the midst of the Plum season, and these fetch such low prices that in some districts growers find that they do not pay for the trouble of pulling, and thus tons are rotting on the trees. Some wise people prophesied a little fortune for those who had anything like a crop of Apples, but here, again, they are disappointed. Prices rule very low, but that, of course, is to be expected while there is such a glut of Plums in the market. I have, however, very grave doubts as to whether they will improve in prices, as the reports which have lately come to hand prove the crop to be by no means so light as was at one time thought to be the case. French Beans, again, this year will not more than pay for seed and labour. I might go on multiplying, but "Sufficient for the day is the evil thereof." I will now endeavour to show what, in my opinion, has led to present results. Foreign competition, I admit, has a great deal to do with it; but the chief cause, in my opinion, is over-production at home. Ever since cereals began to decline in prices, farmers have naturally turned their attention to something that would pay them better. The Press has largely

aided them in this respect. They have been told that one way out of their difficulties was to devote part of their soil to the cultivation of fruits and vegetables for market. Consequently, large tracts of land in various parts of the country have been plauted with all kinds of fruits, and I may safely say that, where one acre was devoted to growing vegetables twelve years ago, there are now twenty. The result is that farmers have defeated their own object.

Nor is this all. Market gardening is incorporated with almost every known trade and profession. There are grocers, drapers, butchers, bakers, and even journalists who have "gone in for it," and who grow and sell every kind of fruit, flower, and vegetable. Then, again, there is the parson, the squire, with even lords, dukes, and nobles of every rank and title, who, after supplying their own wants, send the surplus to be disposed of in the market. This latter class of market gardeners is largely on the increase. These, I think, sir, are some of the main causes of the present state of affairs. But now let me suggest a few possible remedies. It is no use, I know, quarrelling with the above class of men—they will do as they please. But for that, I should quietly suggest to them all that they leave market gardening alone, or, to use an old proverb, "that every cobbler sticks to his last"; but then they wouldn't, so it remains for us to make the best of a bad job. The first remedy lies between landlord and tenant. To speak plainly, there must be a wholesale reduction in the rents of market gardens. I say wholesale of necessity, as nothing short of fifty, and in some cases sixty per cent. must come off if we are to live, for how is it possible for us to compete with, say, the farmer, who gets his land, in every respect as good as ours, five and six times cheaper?

It is no use beating about the bush on this question. Men cannot always afford to work for nothing, nor live by their losses. Let market gardeners, then, of whom there is a large body in this district, bind themselves together on this question and demand a reduction. Another remedy is a considerable reduction in railway rates. Everyone knows that foreign produce is carried at a much cheaper rate than our own. This is decidedly unfair, and surely our legislators should make haste to help us in this matter. Then, again, growers and consumers want to be brought more closely together; there are too many "mediums," the "masses" are not reaping the benefit of the present low prices. There is a shameful difference between prices paid by consumers and those received by the poor grower. What with railway companies, salesmen, costers, &c., who all have to get a bite, how can it be otherwise? Surely something might be done to help us in this respect. I think from the facts submitted, you will come to the conclusion that, if there is a body of men deserving sympathy and help, it is the market gardeners.—*W. Harvey, Spalding, September 17th.*

PEARS VERSUS PEACHES.

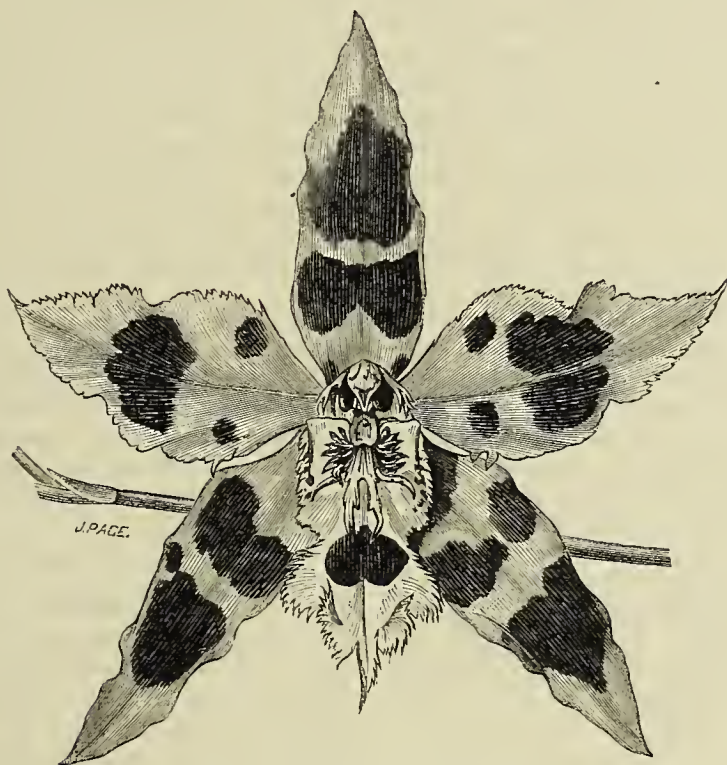
BEARING in mind the hope expressed in No. 74, Vol. II., of your paper upon the above subject, I send you two fruits of *Beurré de l'Assomption* Pear gathered from the same aspect as *Easter Beurré* sent previously. Being, comparatively speaking, a new Pear, I am unable to speak as to the specimen I send you; but with the full resources at your command perhaps you will kindly give us your opinion. [Presently.—Ed.] The trees have not received any special treatment, neither have they been mulched or watered, so that you may look upon the fruit as the result of ordinary culture.

Easter Beurré is carrying a very heavy crop, which to all appearance will be much finer than those forwarded as stated above; *Doyenné du Comice* is not so heavily fruited, but is more highly coloured than I have ever seen; *Josephine de Malines* is also heavily cropped, and with us always one of our best dessert Pears; *Madame Treyve* has some splendid fruit weighing 10 ozs. each; while *Pitmaston* promises me some enormous fruits. I have placed the two fruits I send you of *Beurré de l'Assomption* in the scale, and find together they weigh within a fraction of 2 lbs.; and, in conclusion, without having the slightest desire to induce others to follow my plan, I will only add that I have carefully enquired and find that the Peaches from the outside sent up for dessert remain untouched so long as these Pears are on the table—a distinct proof I think of which is more appreciated. Where Peaches succeed out of doors, notes as above are pooh-poohed; but the result I am obtaining makes me quite impervious to all such side thrusts.—*W. C., Croome.*

HALSTEAD PLACE, SEVENOAKS.

HAVING occasion to visit this beautiful place, the seat of J. F. Burnaby Atkins, Esq., near the famous Knockholt Beeches, I was struck with the admirable order in which everything is kept by the gardener, Mr. Gibson, who kindly conducted me through the well-kept flower garden and pleasure grounds, which are still looking in their best. Conifers and Shrubs, &c., planted by Mr. Gibson some years ago, have done themselves justice, and are now adding much to the natural beauty of the situation.

The conservatory, adjacent to the mansion (which is a large square pile), was very gay with flowers. Rhynchospermums, utilised as pillar climbers, are very fine. Wending our way through the Shrubberies, we came to the kitchen garden (which is well cropped) and the glass structures. The specimen stove and greenhouse plants, for which Mr. Gibson has been, again this season, awarded leading prizes at several shows, are still in prime order. The large specimen Dipladenias and Allamandas appear to be done especially well, and there are also clean and healthy plants of Statice, Anthuriums, Bougainvilleas, Stephanotis, Heaths, Lapagerias, &c., testifying to Mr. Gibson's skill and ability as a plant grower and exhibitor. A better variety of Lapageria alba, just now flowering well on the roof, is seldom seen.



ODONTOGLOSSUM WILCKEANUM.

The fruit houses and vineries are bearing capital crops of fruit, all in very fine condition. The Grapes and Peaches would rank well in any show. Solanum jasminoides, planted inside a greenhouse, has been ingeniously permitted to grow through, and to be trained on an outside wall, where it is flowering profusely; and a more useful flower for cutting could not be wished for or obtained.—J. H. L.

ODONTOGLOSSUM WILCKEANUM.

In this Odontoglossum we have one of the showiest of the natural hybrids, as well as one of the most variable, its different varieties running in all grades, between the spotted forms of *Odontoglossum crispum*, which is doubtless one of its parents, and *O. luteo-purpureum* the other. The assigned parentage is evidently correct, by the exactly intermediate form of its column, crest, labellum, and other botanical features. In the variety *albans*, we have the nearest approach to *crispum guttatum*, its flowers being milk-white with heavy cinnamon blotches; but in the type and a greater number of the varieties, the ground colour is bright yellow and the blotches reddish brown. *O. Wilckeanum* is essentially a cold-house plant, growing under precisely the same conditions as *O. crispum* and others of the genus. Our illustration was taken from a very good variety in Mr. H. M. Pollett's collection.

NOTES ON LILIUMS.—V.

THE concluding remarks of my last chapter had reference to what may justly be termed the most useful of the longiflorum section, *i.e.*, *L. longiflorum Harrisii*, on account of its profuse flowering, and which must eventually render it extremely popular among those whose desire it is to have pure white and highly fragrant, as well as noble flowers, early in the year. I omitted the mention of one point which will assist those at present unacquainted with it in recognizing it from the other members of this section. In the first place the bulb is more conical in shape, though the great distinction is in its height. In this respect it is very nearly allied to the variety *Wilsoni*, and of which it is not improbable that it may be a geographical variety; the flowers are of similar length in both forms, but the arrangement of them on the stem are widely different and apart. For these reasons *L. longiflorum Harrisii* is better adapted for forcing than any of this section.

L. LONGIFLORUM PHILIPPINENSE.—The only other variety of this section to which I shall make allusion now, is comparatively new and little known; it is, however, no less beautiful than the rest, and is admired always. It is known as *L. longiflorum Philippinense*, it having taken its specific name from the locality from whence it was introduced. It is very distinct and

Nothing that will compare with it for hardiness can excel it for its almost overpowering fragrance, or its adaptability generally for outdoor culture, as well as for pot culture under glass; it is best suited, perhaps, out-of-doors in the Rhododendron bed, and for associating with American plants, more particularly as these afford the needful shelter by their branches in spring from the late nipping frosts, which do so much harm to them when left unprotected. But let not the absence of either Rhododendrons in beds, or American shrubs debar any from attempting their culture in any partially shaded spot, for the protection they require is so slight, and of so simple a nature, that it may be afforded them even by a few boughs being placed about them—anything, in fact, that will give the requisite shelter, and at the same time not tend to weaken them by being too closely placed.

For isolating in clumps, either on the lawn or in shrubberies, or for naturalising in woodlands, there is none to equal this, the Golden-rayed Lily of Japan. It is reputedly a lover of peat, and certainly does very well in it; it is, however, not found in peat in its native habitat, nor is that particular an essential in its culture in this country. An experience of years after having planted some thousands of its bulbs, both in peaty and sandy loamy soils, has taught me that it succeeds well in both, provided the bulbs themselves are sound in the first instance; this is, in fact, the primary point—given these you may plant them in any light fairly rich loam with successful results. During the present season I received a late consignment of its bulbs, and for want of a more suitable position at the time, I was obliged to plant them in the open, in light loamy soil, and fully exposed to the sun.

I never manure new importations of this bulb, and consequently these were planted without it as usual; a little sand was placed about the bulbs, and if memory serves me correctly, a handful of sandy peat to each. The majority of these flowered during August, and among them some extremely handsome forms, richly banded and spotted, and about 2 ft. high; others of the same consignment attained to more than double that height, and, as is generally the case, the taller growers are the bearers of inferior blossoms; this is not without exceptions, however, for many very handsome kinds may be found among the tall varieties. My reasons for preferring the dwarf growers, is that they are invariably self-supporting, growing more sturdy, the flowers having greater substance and produced in more compact heads. I have to-day (September 20th) had occasion to lift some of this late-planted batch of bulbs, and I was pleased to find some very fine ones as the result, and in excellent condition; were I planting these bulbs again, which, by the way, I now consider fairly acclimatised, I should not fear employing a fair dressing of well-rotted manure, placed at a distance of 2 ins. below the bulbs. For pot culture this favourite Lily is well suited; it is easily grown when fairly started into growth, for then the critical time with it has passed.

Newly imported bulbs require careful management, or failure may ensue, and as this is generally followed by disappointment, it is advisable to avoid both by all means in our power; fresh imported bulbs I prefer to place in shallow boxes and cover with 2 ins. of cocoa-nut fibre, examining them once a week and removing all decayed portions of the scales, which originate either from bruises or from the bulbs sweating during transit, or from being lifted and harvested in an immature state in Japan, and which is accelerated by the fact that they are divested of roots and stem at the same moment; any thus decaying should be dusted with charcoal or sulphur, and kept by themselves so that the infection may not spread; they will need no water for weeks to come as there will be sufficient moisture in the cocoa-nut fibre. They may remain thus till they have fairly commenced root action, or at least till all signs of decay are gone, when they may be potted safely.

When potted, they should be covered over after the manner of Hyacinths and such like things, with 4 ins. or 6 ins. of cocoa-nut fibre or fine ashes, and kept without water till they have made fully 6 ins. of growth above the soil. If these particulars be adhered to in the starting of *Lilium auratum*, the success attending their culture will be greater, and the losses in starting them at all fewer than they are at the present time; bulbs failing to start, point, as a rule, to the introduction of water at a time when the bulb is comparatively inactive, by being minus of roots to

beautiful, and must not be regarded as hardy; it does well under greenhouse treatment, and should be grown in peat and loam in equal parts, made rather sandy. Altogether it is a slender though elegant plant, the flowers are long, pure white, and trumpet-shaped, and the leaves are also longer and narrower than any other of this section. With so many really good and beautiful species and varieties in this section, it is remarkable that two so beautiful, and at the same time so valuable, should have made their appearance in the commercial world at almost one and the same moment, and particularly so when I add that both these are benefited by being grown under glass. The last of the longiflorum section carries the flowering season of the Lily to the end of July, and even later than this, and it is no common occurrence to have their flowers in plenty up to the middle of August. From these, however, I will turn, for there are many beautiful Lilies flowering in company with them, and we will just take a glance at the magnificent and stately forms of

LILIUM AURATUM.—Among Liliiums, the specific name of this plant has long since become a household word; it is a favourite everywhere, and universally admired by all, whether they possess gardens or not. The tens of thousands of its bulbs which annually come to this country to be disposed of, and which invariably find buyers, bear sufficient evidence of its well-earned popularity. It is justly spoken of as the "Queen of Lilies," for it is without doubt of queenly bearing.

absorb the moisture given, which, as a consequence, hangs about the bulbs to the stagnation of the soil and the ultimate decay of the bulb. *L. auratum* does not stand alone, for already some magnificent forms of it have been awarded First Class Certificates by the Royal Horticultural Society for their excellence, and of these I may say a few words in my next.—*J.*

NOTES ON PEACHES.

LOOKING over my notes on Peaches for this year, I thought that, perhaps, a few remarks might be acceptable, especially as our houses contain (with the exception of three trees) all Peaches and Nectarines raised by Mr. Rivers. Our range is 142 ft. long, and in two divisions. We commenced with the first house on February 20th, and used scarcely any fire-heat after the fruit had stoned. The trees ripened in the following order:—Early Rivers, June 20th; Hale's Early, July 10th; Lord Napier, July 15th; Dagmar, July 20th; River's Early York, July 23rd; and Early Alfred, July 29th. The second house was started on March 20th, and no fire-heat applied after the fruit had passed the stoning process. The following is the order of ripening:—Early Victoria, August 7th; Royal George, August 16th; Violette Hative, August 20th; Pine Apple, August 27th; Albatross, September 9th; Sea Eagle, September 15th; Princess of Wales will be ripe about 23rd; and Gladstone about the end of the month.

I wish to say a few words as to the merits of the above excellent Peaches and Nectarines. Early Rivers is a very fine Peach, and, although not in bloom so early as some of them, it overtakes them, and is ripe two or three weeks before any of the others. I now come to that most delicious Nectarine, Lord Napier, which is always first rate with us. It is so good and so highly thought of here that my employer wished me to plant a second tree, which I have now done. Dagmar is a fine large Peach, of excellent colour, a most abundant cropper, but should not be allowed to hang for any length of time on the tree, or it loses much of its fine flavour. Early Alfred is also a very good Peach, of medium size. I consider Early Victoria one of the best flavoured Peaches we have. Pine Apple is too well known, and needs no description of mine to do it justice. Albatross is now ripe, and grows to a very large size; I gathered three fruits last week, and give following dimensions and weight. No. 1, 1½ ins. in circumference, weight, 9 ozs.; No. 2, 10½ ins., weight, 8 ozs.; No. 3, 10 ins., weight over 7 ozs. It is one I would strongly recommend to be in every collection, and, although of such large size, it is an excellent Peach.

Sea Eagle and Princess of Wales are two splendid Peaches; there is very little difference as to shape and colour of fruit, although the former ripens a week earlier, and is more robust in growth. Gladstone is a grand late Peach, and attains a beautiful crimson colour, and will give us fruit into the first and second week of October. In concluding this article, I wish to state that I have given a true and impartial account of these fruits, having no desire to disparage any of the old kinds, but hoping it may help those who are about to make selections, not to include old kinds only, but to give some of the above a trial, and with careful cultivation and attention, I am sure those who try will not fail to reap excellent results, and hold them in high estimation.—*R. P. R., Liverpool.*

NOTES ON STRAWBERRIES.

THE Strawberry crops in the northern counties are tolerably good, with the exception of the early varieties, which suffered from want of rain in the early part of the season; but later-cropping sorts came in for occasional showers, which greatly benefited them, helping them to swell out better, whilst the flavour was not impaired by an over-excess of moisture, which is generally the case when we have a wet, sunless season. I have grown a good many varieties of Strawberries in my time, and as often as I travel from one garden to another I am sure to find certain varieties failing in one place, yet as often succeeding in another. The failures may possibly be due to "mistakes in gardening," but we must not forget the old adage, "Nothing venture, nothing have," for it is only by experiment that we can learn what to grow and what to avoid.

I have grown over twenty sorts since I came here, seven years ago, and the garden not being of very large dimensions, what Strawberries are grown are such sorts

as will give us the best possible results from the least compass of ground. Our soil is naturally very strong; the subsoil on which it rests would make excellent bricks, whilst the situation is cold and bleak; if a Strawberry has a constitution at all this is the place to test it. The sorts which have stood the best, both for constitution, productiveness and quality, have been weeded to the following:—Vicomtesse Hericart de Thury, Keen's Seedling, Sir Joseph Paxton, President, Sir Charles Napier, James Veitch, and Dr. Hogg. These have proved to be the very best, in their respective classes; were I to extend the list to a dozen sorts I should add the following, in the order named:—Crimson Queen, Prince of Wales, Barnes' Prolific, Elton Pine, and Bonny Lass; these are sufficient for any garden. Of new ones, which I have noticed elsewhere, I have been favourably impressed with Laxton's King of the Earlies, which is somewhat like Black Prince, but larger in size and equally as early. It is evidently a good variety, and I have set it down for trial.

As regards planting and soils there is nothing new or fresh to relate, as most of your readers are fully aware that the Strawberry does best in soils of a deep loamy nature; it has, however, been averred that Strawberries are worthless after the third year, which I do not dispute where light soil abounds, as it is warmer and quicker in action, ripening and bringing the young plants sooner into maturity, and forcing, as it were, the plants and fruits as well as quickly exhausting the manurial agents of which it is composed. Soils of a heavy nature are slower in action, upon both the plant and fruiting. Keen's Seedling with me gives the best crop the third year, and continues to bear well up to five years. Again, the method and time of planting varies, and no hard and fast rule can be recommended. On light soils and in favourable localities, plant in August or September; but, if otherwise, defer the operation until spring. Here we find spring planting the best, as runners cannot be had so early as to get sufficiently established before the winter sets in; we plant in nursery beds 4 ins. to 6 ins. apart each way, and even in this way we sometimes have heavy blanks.

The best and most certain result, I find, is to leave the allotted quantity of runners in the rows or beds, selecting the best, and clearing all the others away. In the spring these are taken up, with balls of earth, and carried to their permanent places, planting them from 12 ins. to 18 ins. apart, according to the sorts, in well-manured soil dug deeply, being careful to fill the places or holes up in the beds from which they came with soil from the potting bench. Of course, there is a season lost by spring planting, but in such soils and places it is better by far, as the young plants grow right away, are regular, and ready for any winter that may come.—*B. L., Huddersfield.*

THE VICAR'S GARDEN.

THIS, as many of your readers will remember, from references that have already been made to it, contains a fine collection of hardy herbaceous plants, of which he is an ardent admirer, and when well cared for, as they are here, they must command the admiration of all true lovers of nature. There is among them an endless variety of form and colour in the flowers, whilst the variations of habit and foliage will alone give to those of cultivated taste a vast amount of enjoyment over and above what is obtained from the viewing of the best-arranged parterre; for, however well the colours in a bedding-out design may be contrasted or blended, it soon palls on the eye, and fails to interest as a flower garden should do.

It is urged by some that if the bedding-out system was abandoned, our gardens would be duller and less trim than at present; well, so they undoubtedly would be in many hands, but that there is any real necessity for their being so under altered conditions, the garden under review is a standing witness to the contrary, for from the early spring months till the frosts of winter draw the curtain of general sterility over the face of nature, there is here always much to please the eye and feed the mind of any true lover of flowers, and even then objects of interest and beauty are not wanting; and during the summer the *tout ensemble* may often be likened to a prize arrangement of plants at our large shows not a leaf or flower seems out of place, all decaying flowers and foliage is regularly cut away, and another large item in the success attained here is the copious waterings the plants get whenever the weather sets in dry.

To enumerate all the plants found here in a plan of very modest pretensions, would be to compile a moderate sized catalogue. The floral display begins with the Christmas Roses, following on which came the Snow-drop, Scillas, Crocus, and Hepaticas; then with April, a glorious display of Narcissus. The collection here contains many new and rare varieties, and is well distributed about the borders, and Anemone fulgens being plentifully interspersed among them, with Hyacinths, the Aubretias, and Arabis all gay with flowers, and the foliage of Pæonies, Papavers, Pyrethrums, all fresh and green, render the floral display in April both clean and charming, which is continued well into May, when the Tulips are all ablaze, and the Anemones of the St. Bridget's strain are at their best; while for gracefulness of form, what plant surpasses the varieties of *Fritallaria meleagris* and *F. pyrenaica*? In this month we have the first instalment of the Sunflowers in *Doronicum austriacum*. What more distinct and beautiful flowering plant is there than *Trillium grandiflorum*? this, with *Corydalis nobilis*, *Doronicum Draytonensis*, *Mertensia virginacea* and *Anchusa*, ought to be in every garden.

Following hard after the last named come the Giant Poppies, the Pæonies, Pyrethrums, these latter being suitable for the smallest places; the Spanish and German Iris vieing in beauty with the Orchids of our stove; the stately Foxgloves, herbaceous Delphiniums, and lovely Lilies giving a charm to the garden during July of a distinctive character; and when August comes round there are the Sunflowers, both annual and perennial, the Cactus and Pomponé Dahlias, with varieties of *Phlox decussata*, some of the later-flowering Lilies, and Funkias, all at their best. Many of these, with the addition of autumn-flowering Chrysanthemums, keep the place gay till the frost comes. The varieties of *Anemone japonica* are very good now (September 14th), the Gaillardias, Rudbeckias, *Sedum fabarium*, and numerous other things presenting attractions at every step we take in walking round. Zonal Pelargoniums and other bedding plants are not totally excluded, but are dotted about as single specimens, and serve to enrich the effect. As carried out here, this style of garden entails a great amount of labour and watchful care, but to a real lover of plants it yields a return which well compensates for it all. It is a real home for flowers, where the lover of fair Flora's charms will ever find fresh delights.—*W. B. G.*

PICTORIAL TREES.

PLANTING time is coming round again at a rapid pace, for however slowly some things may seem to progress, the seasons, "never hasting, never resting" come and go, and they bring with them necessary work. October and November are the great planting months of the year. There is no doubt but that generally autumn is preferable to spring for this work. Open and seasonable autumns are the rule, and if, owing to the prevalence of rain and early frosts, but little planting can be done in autumn, there are the spring months to look forward to. If the work is deferred till the spring, and a long winter, followed by wet, interferes with it and makes it late, there is danger of many deaths from drought, and other causes.

One pictorial tree that cannot be too highly recommended is the Golden Oak—

QUERCUS PEDUNCULATA CONCOLOR. This is an extraordinary tree, with bright yellow leaves, which preserve their golden tint throughout the summer. A fair-sized specimen is a remarkable object, and attracts notice at a great distance. Unfortunately it is delicate, slow of growth, and difficult to propagate, but where it succeeds it is an object of great beauty. It is a sport from our common British Oak.

CORYLUS AVELLANA PURPUREA, is the purple Hazel, and is remarkable for its beautiful dark purple, or more strictly, bronzy black foliage, with fruits to match. Let it have a soil that suits the Hazel, and it is bound to succeed.

ACER NEGUNDO VARIEGATA or *NEGUNDO FRAXINIFOLIUM* is so well known as hardly to need mention, the variegation of the leaves of this shrub, is most showy and striking. The prevailing colour is pure white, mingled with green, pink, and other tints. Planted here and there in a shrubbery it produces a wonderful effect, and attracts notice at a great distance.

ACER WEBBIANA is also worthy of notice on account of its charming green, yellow, and white variegation.

ACER LEOPOLDI FOLIIS VARIEGATIS is charmingly variegated with pale red and creamy white, and it is a subject that exhibits none of that sickly appearance which variegation sometimes shows.

CASTANEA VESCA FOLIIS AUREUS is the golden bluish Chestnut, the green leaves being heavily margined with yellow; a bold and striking subject.

CORNUS MAScula VARIEGATA has the leaves margined with cream, and it is a highly ornamental type of the Cornelian Cherry or Cornel Tree.

QUERCUS NIGRA, or nigra purpurea, is the black Oak of South America. The leaves are nearly black, rusty beneath, dying off early of a blackish red; from which circumstance, and from the dark colour of its bark, it is called in America the "Black Jack."

PRUNUS PISSARDII is also worthy of planting, because of its pale brouzy foliage.

ÆSCULUS HIPPOCASTANUM AUREUS is the golden-leaved Horse Chestnut, a bold and striking subject, the leaves much variegated with gold.

ULMUS WREDII AUREA I take to be a grand form of the English Elm; the leaves are variegated with yellow on a green ground. Lastly comes the golden Elder,

SAMBUCUS NIGRA AUREUS, the foliage brilliant yellow; a fine subject for planting on mounds, banks, and other elevated spots, and now in the full glory of its rich golden character.

A goodly number of the foregoing can be had as standards worked on stocks of the common type. Many standard variegated trees have been planted in forecourt gardens in the suburbs of London, and it can be noticed that the more robust green form is being produced, and being allowed to grow, is gradually stifling the variegated form. Pity it is that the pruning knife is not put into requisition. One is ready sometimes to walk unbidden into a garden and do the necessary thinning out, but that is not always a safe and agreeable method of doing a necessary thing at the right time.—R. D.

TABLE, WINDOW, AND INDOOR PLANTS.

HOLIDAY time being now over with many, a return to home enables us to review our pets, and count up the profits and losses; many a calamity to some of our loved plants during our absence has happened, but on the other hand others which we left in poor health have re-established themselves, so we must strike a balance between the evil and the good, and without useless regrets set about repairing damages.

The blue Agapanthus umbellatus has been blooming well in the shady jardiniere among the Ferns, and now a good lot of that handsome and easily managed indoor bulb, Vallotta purpurea, mingles its vermilion flowers with the white and red varieties of Lilium speciosum. L. auratum with its grand handsome flowers would also look well among them, but, so far as I am concerned, its heavy odour is against it, and consequently it is never admitted into the dwelling house with us.

The varieties of L. speciosum (lancifolium) are very different in this respect, as their odour is sweet and grateful to all. While on this subject, let me caution those who have to do with delicate persons to be very careful how they admit even fragrant but not strong-smelling flowers into their rooms, as headache and weariness is often produced by such means, and, curiously enough, the flowers which have a bad effect on one sensitive person can be borne with impunity by others. It, therefore, but remains in such cases to remove flowers complained of at once.

All the plants indoors should now be looked over, and such as are in a bad state at the roots, and will not go over to the general potting time in spring, had better be repotted, and the rest cleaned—both plants and pots. To do this and other work likely to cause a litter, the plants should be removed either outdoors or to some part of the house in which such work may properly be done.

For potting material for indoor plants generally, a mixture of one-half loam and one-half peat broken up by the hand and not sifted forms a good compost, and a small supply of this should always be kept ready for use in an outhouse or cellar.

I cannot close this note without saying how delighted I have been to read in THE GARDENING WORLD the clever articles on town gardening by "C. A. G."—may we have more of them.—M. A., Camb.

GARDENING NOTES FROM SCOTLAND.

North of Scotland Horticultural Society.

—The annual meeting of the North of Scotland Horticultural Society was held on Friday evening, 17th inst., in the Christian Institute Hall, Aberdeen; Mr. Peter Harper (Duthie Public Park), the retiring president, occupied the chair. There was a capital turnout of members. The secretary (Mr. Reid) and the treasurer (Mr. Wyllie) gave in their annual reports. From the secretary's report it appeared that twenty-one members had been added during the year, twenty of these being yearly members, and one a life member. Three First Class Certificates and ten Cultural Certificates had been awarded; twenty-one papers had been read dealing with horticultural and scientific subjects. The treasurer's financial statement showed a very satisfactory and prosperous state of affairs, the balance in hand being £32 9s. 10d. Mr. A. Robson, Market Street, Aberdeen, was elected president, in the room of Mr. Harper, and Mr. A. Grigor, Fairfield, vice-president for the ensuing year; Mr. William Reid, 8, Hadden Street, Aberdeen, was reappointed secretary, and Mr. William Wyllie, Market Street, treasurer. The usual committees were formed, and other formal business transacted. A hearty vote of thanks to the retiring president terminated the proceedings.

Seasonable Hints.—We are now well on in September, and from the touch of frost on the night of the 15th inst., we are forcibly reminded that plants in pots which are liable to injury should be put in safe quarters. A skeleton shed, over which mats, frigid domo, or some other protective material can be thrown, may suffice for a time, till structures are ready in which the plants can be permanently placed. No doubt the failures of Chrysanthemums last year in the north were largely owing to the severe check by frost received at the end of September, and while we notice that French Beans, Potato tops, Dahlias, &c., are materially injured, we cannot expect to be long without a recurrence of frost in a more severe form.

PLANTS WHICH ARE TO BE FORCED EARLY, and now established in pots, should be in positions where their ripening process can be accelerated—at the base of walls, with glass lights in front. Orchard-houses cleared of a portion of their inmates which have fruited in pots are good positions for helping on the work of ripening. Others well forward may be kept on the dry side to rest them before forcing, which generally begins next month. Among the more popular of forcing plants are Azaleas of sorts, Indian and Ghent. A. mollis is a special favourite; the A. amœna and several of that class are excellent for December flowering and onwards. Deutzias, gracilis especially, will now be as hard as whalebone. We have had a consignment of these from the south, but they are a long way behind our own mutilated and scrubby lot in ripeness, so it may be well not to rely too much on "crack" growers for what one can do better at home. Guelder Roses, Laurestinus, Lilacs of sorts, Peaches, Prunus sinensis, Rhododendron Nobleum, Præcox, &c.; Spiræas japonica and palmata, Lily of the Valley, and the host of other bulbs in selections may now be on the way.

ROMAN HYACINTHS placed in a Mushroom house or under a stage in gentle warmth, will soon be showing their buds. Last season, with next to no effort, these useful tiny flowers were ready for cutting about the middle of October, and never did better with us; potting early in August, covering them up in a warm position (we had them in different positions) at the front of the back wall of a Peach-house, where fire-heat was applied to ripen the wood, answered well for the Roman Hyacinths. While such hints for ripening these plants are not so very applicable where warm dry weather may yet be expected, in northern localities we cannot be too diligent in forwarding such work.

THE HOUSING OF PLANTS in general may be seen to without delay. Camellias and most of the greenhouse class of plants should now be made safe; clean foliage, clean pots, sound drainage and soil free from worms, are items of much moment when storing is being pushed forward. Such plants as Coronillas, Cytisus, Eupatoriums, Cassias, Cinerarias, Habrothamnus, Roses of sorts, Heliotropes and others in flower or coming into bloom, with

pots full of roots, may be aided by weak applications of soot and guano water, enough to colour the water, at intervals of twice a week. But most of the plants of this class can be potted into larger sizes, leaving the balls intact and in proper condition at potting time—potting very firmly and watering skilfully afterwards. The advantage of this for present flowering and forming of plants for the future (which are to be grown on) will be accepted as a tenable practice if an impartial trial is given; mutilating roots is not necessary but really injurious. Early Camellias opening their buds must be kept cool and airy, giving water judiciously but plentifully; most cases of bud dropping is either from want of water or unnatural applications of such.—M. T.

Bedding Pelargoniums and the Late Frost.—It is worthy of note to remind some of our friends that some kinds of the above are much hardier than others. Certainly, some of their flowers stand dashing rains and frost much better. We notice at the present time that among pink kinds Mrs. Turner is little the worse; White Amaranth has had nearly all the open petals destroyed; Henry Jacoby, among crimsons, is much divested of petals, and presents a sorry appearance; while Rev. H. Atkinson, close by, is comparatively gay and presenting a lively appearance, and so is Vesuvius; an old but very useful dwarf kind named Little David, is uninjured; Flower of Spring is cleared of all open flowers, and much injured in foliage; old Manglesii is doing duty admirably; Perilla, among bronzes, is very hardy and useful. Tricolors (Mrs. Pollock class) are all injured, more or less, in foliage; golden sorts of Crystal Palace Gem class are nipped, but not severely injured; they are with us only grown for foliage. The finest yellow foliage we have—and I notice it is very common in the district—is Golden Balm; no Golden Feather or anything else which we have seen can approach it as a bright yellow. The native Ajuga is very dark this year, and, at a distance, little inferior to Alternantheras. Pansies have done extra well since April till now, and by far the best is the dwarf blue, Robin Hood. Many of the favourite kinds should now be propagated.—M. T.

THE AMATEURS' GARDEN.

THE FLOWER GARDEN.

Prompt attention must now be given to all tender plants in beds, as the slight frosts already experienced will soon become sharper, and the bedding plants will speedily show the effects. If cuttings have not been inserted for stock, or if there is any doubt about having sufficient for another season, old plants must be lifted of Pelargoniums, Iresines, Alternantheras, Ageratums, and other plants, potting them in light, rather poor sandy soil for preservation during the winter. The Pelargoniums will do very well in an ordinary greenhouse or similar structure if kept moderately dry; but the Alternantheras and Iresines need a higher temperature and a place near the glass, a shelf being the most suitable position in which to winter them. All such plants require to be watered carefully in the dull season, or they are very liable to suffer from damp, and the chief object should be to keep them as sturdy as possible. Where the precaution we have repeatedly advised has been adopted—namely, securing a sufficient number of pots of cuttings early in the season—there will be no necessity to interfere with the beds in any way until frost has rendered them unsightly, and they may be kept neat for some time by an occasional picking, removing the decayed leaves or old flower-stems.

If Pelargonium cuttings were inserted out of doors, they should not be allowed to remain out any longer; lift and pot them, or place them in boxes, but not too crowded. Echeverias are now so largely employed in bedding, that they need special attention, and different systems of wintering are adopted. Some remove all the soil from their roots when they are lifted, tying a number together and suspending them head downwards in a dry house; others place them in boxes; but the best way if a cold frame is at command, is to plant them out closely in this, and then in severe weather they can be protected with mats or straw, the lights being on when there is much rain, while at other times a free exposure can be provided, which will suit them much better than a hot or moist position indoors.

Dahlias still continue attractive, though we may expect that they will not last much longer. Hardy flowers are abundant; the Rudbeckias, dwarf Helianthus, the tall-growing Asters of the Novi-Belgi

type are fast coming on. The early-flowering *Chrysanthemums*, of which Madame Desgrange is most liked, are similarly contributing their attractions; and though we have not the same variety of colours that we had earlier in the season, there is plenty of interest and beauty in the herbaceous border.—*Scolytus*.

BILLINGE SCARR.

THIS is the Blackburn suburban residence of D. Thwaites, Esq., and which has, at a bound, become the leading plant-growing establishment of the district. Recently a block of ten houses has been erected for the purpose, and the work has been performed by Mr. Thwaites' own men in a most substantial manner, with an air of finish that is rarely witnessed from the hands of those unaccustomed to such work, and I was surprised to learn the expeditious manner in which everything had been accomplished, which is anything but characteristic of the usual run of estate workmen and Mr. Clerk of the Works' method of proceeding. The potting-shed and other offices are on the north side of the main range of houses, and, like them, are new. The entrance to these—and the only outside one, as far as I could see—is a lofty and otherwise spacious glass ridge-roofed lobby, from which the houses may be entered, and the various sheds right and left are approached, as also is a north house at their extremities. Some of the appurtenances are reached by a well-lighted passage formed by the back wall of the houses and the inner wall of the sheds. The advantage of this arrangement is that those engaged in the houses can procure all they require for their use without going out of doors, which in wet weather means bringing a lot of dirt in with the feet. We have regarded it as a luxury to have an entrance from the houses into the potting-shed, and are contented to make frequent outside visits to reach the soil and pot-sheds, &c. At Billinge Scarr Mr. Thwaites has so arranged matters that if the man goes outside he finds nothing for his use, and if the floor of his potting-shed is kept clean there is little possibility of those of the houses becoming dirty. Whether this was really the object of having the doorways inside the building is one of the things we forgot to enquire. It should be stated that in addition to the light from the lobby and the passage, each room has windows in the usual way.

The object of my visit was, however, not so much to inspect the houses and particularise on them, as their occupants; and without this time giving even an outline of each as we pass through, I will note a few of the plants. One of the north houses contained specimen Azaleas in perfect health and well set with buds, but rather closely trained, perhaps, to suit some people's tastes. Stella and Andre Bernhardt were each 4 ft. wide and 5 ft. high; several others were only a trifle smaller. The back wall of this house was planted with a choice lot of Camellias that looked full of health and vigour.

The other north house had in the centre elevated on pots that stood on the gravel bed, specimens of *Gleichenia Mendelli* and *rupestris*, which were purchased at the late Mr. Dodgson's sale at Beardwood, and have made great progress in their new home under the care of Mr. Fergusson, who, no doubt, as an old Beardwood man, must be familiar with them from their infancy, and he evidently believes in cool treatment for them or, at any rate, much cooler than some have ventured to attempt. A stage along the front and ends of this house is occupied by Orchids of which the following may be noted:—*Oncidium varicosum* was not a large plant, but it had two promising spikes, the largest already 4 ft. long, and others carried spikes not

so advanced. There were also several spikes of the beautiful and sweet-scented *O. ornithorhynchum*, also *O. papilio*, *O. Kramcranium*, and *O. Rogersii*, the latter very strong. *Odontoglossum crispum* (Alexandrae), was represented by several promising plants, also *O. cirrosum*. On the back wall there is a plant of *Lygodium scandens*, planted two years ago, that covers a space 6 ft. by 4 ft.; and two plants of *Asparagus plumosus* have made similar progress. I have had one under my care three years that has to face the same as *Ericas* and *Epacris*, that is only 1 ft. high and the same through, and I do not think it will make greater progress unless it is returned into the stove, or, at any rate, to a less arid atmosphere than a draughty greenhouse. Other instances of the benefit of planting out were two *Begonias* in the stove, a white and a rose-coloured that were making willow-like growth, and flowering abundantly; *Bougainvillea glabra* covering

healthy young plants of *Phalænopsis*. The temperature and atmospheric moisture did not strike me as being the place I should expect to see them looking so well. *Cattleya Dowiana* was in flower, and *Vanda suavis* had just had the remains of eight spikes removed. It was, I believe, once in the possession of the late Mr. Dodgson, and it is really a fine plant. Large plants of *Anthurium Scherzerianum* occupy the centre stage of this house with other stove plants, and one of them is said to be amongst the first six distributed and was in the Beardwood collection. *Anthurium Andreanum* had fine large spathes; *Dendrobium Wardianum* had growth over 4 ft. in length, and were in a cool airy house. Tuberous *Begonias* are well grown, as are other flowering plants suitable for conservatory decoration and cutting purposes at the proper time. Houses that are now occupied by Peach trees in pots (about 60 of them), will be filled with *Chrysanthemums* of the bush form, as Mr. Thwaites objects to tall lanky growth, neither can he tolerate the appearance of stakes.

The conservatory adjoins the mansion and is a most expensive structure with mosaic flooring. Flowering plants are confined to the side nearest the glass round the house, and the following and other plants are dotted about the floor, and are of sufficient height for a person to pass conveniently under them, as there is no defined path the whole is promenade:—*Dicksonia aurtartica*, *Cibotium princeps*, *C. regalis*, *Seaforthia elegans*. Planted two years ago in a narrow border, near the entrance, are *Lapageria alba* and *rosea*, each covering a space 12 ft. by 4 ft. Several of the present year's growths were 8 ft. long and strong in proportion. When necessary this structure can be lighted with gas without any injury to the plants, as the burners are enclosed in large globes from which a chimney proceeds through the roof to the outer air, and terminating with a revolving fan similar to those fixed on the tops of chimneys. Ignition of the gas is created by electricity, without having to enter the house.

The fruit and forcing houses, except a long pit for Cucumbers and Melons are in another garden some distance off, with a responsible man in charge under Mr. Fergusson's superintendence. Hero of Lockinge is the favourite Melon here, and no others are grown, except an odd plant of any variety recommended for trial. We named several, but they had all been tried. The earliest of the second crop, from the same plants, were fast approaching maturity, and the smallest the size of a hen's egg. The plants were remarkably healthy, with large leathery leaves, without any trace of spider, and growing in just the sort of house I should expect half the plants to canker in a season

like this. Out of several dozens we put out annually we have not lost a plant through canker for five years previous to the present one, when it has been fatal to the plant to break a stem-leaf, or cut out a shoot that was not required.—*W. P. R.*

ROCHEA FALCATA.

THIS is without doubt one of the most beautiful succulent greenhouse-blooming plants we possess. For making a display in the autumn, a few well-grown plants give a very cheerful appearance to a greenhouse. The flowers are produced in trusses on straggling stems, about 12 ins. to 18 ins. high, the colour being a bright orange-scarlet, they continue in perfection about six weeks, a considerable period for a plant during autumn. It is easily cultivated, and should be potted in a mixture of loam and broken crocks well mixed together; the pots should also be well drained, and every precaution taken to ensure the plants from damp, especially during the winter months.

Ordinary greenhouse treatment suits it, but during



VALLEY OF FERNS IN "MY GARDEN."

several square yards, profusely flowered for the second time; and *Allamanda Cathartica*.

In the cooler houses *Acacia affinis*, planted four years ago, has covered three parts of the roof of what may be termed a very large and lofty house. I never witnessed such growth before, and I regret that in my haste in going through I omitted to measure the stem. *Bomarea Carderi* also covers several square yards, and flowers freely, lasting about two months.

At the west end of the main range, and entered from it, are two houses running at right angles. The first is occupied with *Musa Cavendishii*, planted in tubs and sunk in the ground, and grown for the sake of the fruits, which are highly prized. Am I right in my contention, that we can grow these better flavoured than those imported to this country? I have not yet tasted any so good from the shops as those grown here, were we have the roots surrounded with gentle bottom heat. After gazing on a specimen of *Cœlogyne cristata*, about 4 ft. in diameter, that stood on the border under the shade of the Musas, we passed into the second house containing a small collection of

the spring months an intermediate temperature greatly assists the growing period. There are several methods of increasing this plant, but the surest one is to cut the flower-spikes away down to the leaves; when the bloom is over this will cause the stem to break out all over with young leads. The strongest should be taken away first and placed in some rough gritty soil, slightly damped, stand the cuttings in a dry, but not too warm a house, and they will soon draw root. A good few can be obtained by this method, and though slower than other ways, is still the safest for an amateur to practice. This plant is certainly worthy of more time and pains than is often bestowed upon it, flowering at a time of the year when scarcely anything else but Fuchsias and Zonales, with perhaps an odd pot or two of *Vallota purpurea*, are the only occupants of many greenhouses.—*W. G.*

THE GRANGE, CARSHALTON. "MY GARDEN."

FEW of our gardens are so widely known as that of A. H. Smee, Esq.; its form, and the history and habits of its plants, from the weeds to the Orchids; its birds, animals, insects, and every thing else connected with it having been pleasantly and accurately described in that clever work entitled "My Garden," written by the father of the present proprietor, and published in English and French. Many a lover of his garden in different parts of the world has conned its instructive pages, lightened by some 1,300 illustrations, and written in a manner only to be attained by one who had really set his heart on his garden, and while pleasantly passing the time has gained information on gardening subjects which had long perplexed him. Many a change has taken place at The Grange of late years. The old house has given place to a very substantial and handsome building, fashioned like a modified Sussex farm house, and other improvements have been effected; but the general contour of the garden remains unaltered, its present owner having similar tastes in gardening matters to those of his late father.

THE VARIED COLLECTIONS OF PLANTS Have been greatly added to, and especially the Orchids, which may now be considered the favourite plants at The Grange, and a class on which their owner, by his spirited experiments, has succeeded in throwing a new light, which will be welcome to many who have not the convenience to grow the plants in a high temperature. From the house—which is furnished between the windows and doors with climbing Roses, Jasmines, Ceanothus, Clematis, &c., and which has, as a lean-to, a pleasant conservatory, containing tree Ferns, Palms, Lilies, and other foliage and flowering plants—a view is obtained of the smooth expanse of lawn, bordered all round with Pelargonium Tom Thumb, which, in spite of the numerous newer introductions, is still one of the most brilliant of bedding plants, its bright green zoneless leaves showing up the flowers much better than those with a dark zone or horse-shoe. The Pelargoniums are edged with white Echeveria, and backed by Asters, Sunflowers, Phloxes, Roses, Lilliums, and other hardy flowers, the whole being enclosed by shrubs and trees, gradually rising from the low Hazel bush and

fruit-laden Siberian Crab and Hawthorn to the tall Elms and Oaks in the distance.

THE FRUIT GARDEN.

Beyond is the fruit garden, which contains a wonderful collection of Apples and Pears. Apples are represented by 340 varieties, and Pears by 250. The varieties of Plums, also, are very numerous, and this part of the garden, either in flowering or fruit time, is a very pleasant spot. The Pears—and particularly the Marie Louise—are laden with fruit, and so, also, are the Plums, some of them—and especially the Damsons—being ready to break down with fruits. The Apples are not so plentiful, but the advantage of having a large number of varieties is all the more evident, for whereas some of the kinds have no fruit, others are well cropped. Already the large new fruit house is being filled, the yellow and red Bononi, the pretty Dartmouth Crab, with a bloom like a Plum, the red Beitigheimer, and Cox's Pomona being especially fine in it. This fruit house keeps the fruit for a remarkably long time plump and sound, as witness the collection exhibited by Mr. Smee in April last. The fruit gardens are further rendered bright by borders of Coreopsis, Marigolds, Tritomas, *Phlox Drummondii*, and other annuals and perennials; and the Plums, Apples, and Pears in

trunk 6 ft. across at the base. This tree was brought down by the late Mr. Smee in his pocket, and affords a striking example of the advantage to be derived by planting rare trees as soon as they are to be obtained, or, at least, as soon as they come within the reach of one's pocket.

THE ORCHIDS GROWING IN THE OPEN AIR, However, forms the most interesting subject at The Grange, for by means of his experiments in this direction, which have now stood the test of several years, Mr. Smee has demonstrated that by his method of putting cool Orchids generally, and many of the intermediate house varieties out-doors in summer, they may be grown and flowered successfully in a much lower temperature in winter than if they are kept indoors all the year round. Indeed, with the summer passed in the open air, many of the species will do well with simply that protection from frost which every ordinary greenhouse gives. The plan is to put out *Odontoglossums*, *Masdevallias*, and other cool Orchids early in June, and *Dendrobes* and more tender things a little later, according as their condition of growth may warrant.

Stages are arranged under the shade of the overhanging bushes, and over the rivulets running through

the Fern glade, the plants being raised about 3 ins. above the water. In this position they are in a cool moist atmosphere at all times, and at night they get saturated with dew, which seems to benefit them greatly. The *Dendrobes*, *Epidendrums*, and other light-loving plants are similarly treated, except that they are suspended from the branches of the trees or placed in a more open spot where they get more light than the *Odontoglossums*, &c., in order to ripen the wood and prepare them for flowering when removed under glass.

This plan acts admirably, as the large lot of healthy

plants now in the open amply testify, and both Mr. Smee and his gardener, Mr. Cummins, are convinced that a great number of Orchids are benefited by such treatment, provided the growers can find a similar place to theirs to put them in. The following have been subjected to such treatment in the open air from June to October with good results:—

<i>Acropera Loddigesii</i>	<i>Dendrobium crassinode</i>
<i>Ada aurantiaca</i>	" <i>crystallinum</i>
<i>Barkeria Skinneri</i>	" <i>Dalhousianum</i>
" <i>spectabilis</i>	" <i>densiflorum</i>
<i>Brassia verrucosa</i>	" <i>Devonianum</i>
<i>Cattleya Acklandiae</i>	" <i>fimbriatum</i>
" <i>citrina</i>	" <i>Findleyanum</i>
" <i>Trianae</i>	" <i>formosum</i>
" <i>Walkeriana</i>	" <i>giganteum</i>
<i>Chysis aurea</i>	" <i>Linawianum</i>
<i>Cœlogyne cristata</i>	" <i>luteiflorum</i>
" <i>ocellata</i>	" <i>luteolum</i>
<i>Cypripedium Harrisianum</i>	" <i>Jamesianum</i>
" <i>insigne</i>	" <i>macrophyllum</i>
<i>Cyrtopodium Andersonianum</i>	" <i>moschatum</i>
" <i>punctatum</i>	" <i>nobile</i>
<i>Dendrobium aggregatum</i>	" <i>cœrulescens</i>
" <i>bigibbum</i> [majus]	" <i>Paxtoni</i>
" <i>Boxallii</i>	" <i>Pierardi</i>
" <i>calceolus</i>	" <i>primulinum</i>
" <i>Cambridgeanum</i>	" <i>suavissimum</i>
" <i>chrysanthum</i>	" <i>thrysiflorum</i>
" <i>chrysotoxum</i>	" <i>transparens</i>
" <i>clavatum</i>	" <i>Wardianum</i>
	<i>Disa grandiflora</i>



FERN GLEN IN "MY GARDEN."

small pots laden with fruit are marvels of good culture.

THE SHADY WALKS

Beneath the trees and among luxuriant vegetation—partly of showy British plants, such as *Lythrum* and *Epilobium*, and partly of introduced ones—is one of the great and pleasing features in "My Garden." They wind in and out beside rivulets and over bridges, sometimes among the tall frondage of the American Ostrich-feather Fern (*Struthiopteris Pennsylvanica*), 6 ft. in height, and our equally noble-looking *Lastrea Filix-mas*, *Pteris aquilina*, and *Osmunda regalis*, here and there being a rare clump of Bird's-foot Maidenhair (*Adiantum pedatum*) or other rare Fern, with, overhead, the *Magnolia* and *Rhododendron*; sometimes along the banks of the River Wandle, out of which rises the Bamboo-like reeds, stalwart Bullrushes, and Irises. At this part the beauty of the scene is heightened by the densely-clad island in the centre of the broadest reach, the bridge at the end of the garden also coming into view, and the sound of the cascades being grateful to the ear and pleasant to the eye wherever a view of them comes in. This part of the garden is a delightful spot, and rendered still more charming by the broad border of Lilies, Roses, Dahlias, *Rudbeckias*, *Phloxes*, and other showy plants, which shuts in this riverside walk on the garden side. Here, in a nook, is the bush-fruit garden, with the red Currant trees still covered with fruit, and near by is a grand specimen of *Wellingtonia gigantea* nearly 40 ft. in height, and with a

Epidendrum evectum	Odontoglossum maculatum
„ xanthinum	„ Madrense
Galeandra Baueri	„ membranaceum
„ nivalis	„ nebulosum
Lælia albida	„ Pescatorei
„ autumnalis	„ Erstedii
„ majalis	„ ramosissimum
„ purpurata	„ roseum
Lycaste aromatica	„ Rossi majus
„ cruenta	„ sceptrum
„ Deppei	„ triumphans
„ Skinneri	Oncidium Barkerii
„ Smeana	„ concolor
Masdevallia coriacea	„ crispum
„ Harryana	„ curtum
„ ignea	„ dasytyle
„ Lindenii	„ Forbesii
„ maculata	„ macranthum
„ oethodes	„ incurvum
„ trochilus	„ Marshallianum
„ Veitchii	„ prætextum
„ Wageriana	„ serratum
Maxillaria grandiflora	„ stelligerum
Mesospindium sanguineum	„ tigrinum
„ vulcanicum	„ varicosum
Odontoglossum Alexandræ	Pilumna fragrans
(about 200 plants)	Pleione lagenaria
„ Bictouense	„ maculata
„ „ album	„ Reichenbachiana
„ Cervantesi	Sophranitis grandiflora
„ cirrhosum	Stanhopea tigrina
„ constrictum	Thunia alba
„ cordatum	„ Marshalli
„ coronarium	Trichopilia suavis
„ Ehrenbergi	Trichosma suavis
„ gloriosum	Vanda cœrulea
„ Hallii	„ cœrulescens
„ hystrix	„ Denisoniana
„ Lindleyanum	„ Roxburghii
„ luteo-purpureum	Zygopetalum Mackayi.

Of these the large lot of Odontoglossums, Masdevallias, Oncidiums, Lycastes, and Dendrobies now outdoors are in the most robust health, and all the other things in good order in flower or bud, among them being Masdevallia Lindenii, M. ochthodes, M. trochilus, Odontoglossum Alexandre, O. Madrense, O. Bictouense album, O. constrictum, Oncidium incurvum, O. prætextum, Lycaste Deppei, and Trichosma suavis, and many of the Dendrobies also showing well for flower. In the same position the Chusan Fan Palm (*Chamærops Fortunei*) has been out unprotected for many years, and the feathery filmy Ferns of New Zealand (*Todea superba* and *T. pellucida*) have fronds over 3 ft. in length, simply protected by a glass cover.

IN THE ORCHID HOUSES

At The Grange it is well known that many rare plants have flowered, most of which have been cleverly and faithfully drawn by Mr. A. Ford Hughes. The principal house is arranged as an ornamental Fernery, and the Orchids are placed among the Ferns. There is also a very good Cattleya house filled with fine healthy specimens, and good quarters for Phalenopsis and other hot-house plants, as well as the ordinary cold houses for the Odontoglossums, &c., when they are taken indoors for the winter. At present in bloom are Phalenopsis violacea, P. Esmeralda, Cymbidium affine, Lycaste Smeana, Hartwegia purpurea, Odontoglossum cariniferum, O. grande, Cattleya Eldorado (one with fifteen sheaths), Dendrobium formosum giganteum, D. chrysanthum, Kefersteinia sp., Oncidium Jonesianum (many good varieties), O. varicosum, O. crispum, O. unguiculatum, O. flexuosum, Vanda cœrulea, Trichopilia tortilis, Miltonia Regnelli, M. Warszewiczii, Nephalaphyllum pulcher, Microstylis metallica, Masdevallia chimæra, M. Tovarensis, Sarcanthus teretifolius, Cypripedium Spicerianum, C. Harrisianum, Zygopetalum Mackayi, Z. Clayii, and many others in bud. In the other plant houses in flower are the fragrant white *Pancratium*, *Rondeletia speciosa*, *Lilium Neilgherrense*, *Witsenia corymbosa*, *Phenocoma prolifera*, *Lasiandra macrantha*, and lesser things too numerous to mention.

THE VINERIES AND FRUIT HOUSES

Are well cropped, the Peaches and Nectarines being very abundant; the pot fruits are grown with them, and now, on their removal out-doors, their place in the centre of the house is taken up with a fine lot of Chrysanthemums. In the Vineries, among the Standard varieties, such as Black Hamburg, Muscat of Alexandria, &c., are some very curious Grapes, such as the Currant Grape, the Deccan Seedless Grape, and the variety called Prince de Herault, which has a flavour like Strawberries; and in these and all the other houses many odd tropical fruits and economic plants appear.

THE KITCHEN GARDEN.

This is in keeping with the rest of this interesting establishment, and this season it has been generally satisfactory. The Onion crop just stored is very fine; and among many recent introductions not generally cultivated, Laxton's White Czar Bean has answered beyond expectation, some of them measuring 15 ins. in length, while yet tender and fit for table.

EARLY-FLOWERING CHRYSANTHEMUMS.

Now that the first exhibition of flowering Chrysanthemums, under the auspices of the National Chrysanthemum Society, is over, a few lines may be useful to those readers of THE GARDENING WORLD (and I trust there are many) who may contemplate growing a few of these plants in anticipation of exhibiting at next year's exhibition. There are now a number of early-flowering varieties that if grown will amply repay the grower for the time and trouble taken with them during the summer. It is not my intention here to go into their culture, as I have already done that in the last volume of THE GARDENING WORLD, but merely desire to note a few varieties that well repay cultivating, whether for exhibition or for ordinary decorative purposes.

There can be no doubt as to their usefulness at this season, either in the borders, where the display of bloom is now getting scarce, or in the greenhouse or conservatory, the contents of which are probably at the present time placed outside, preparatory to being put to rest for the winter. The first variety that must be mentioned is the splendid white sort, Madame C. Desgrange. This variety every one who has a greenhouse, however small, should grow. Its white blooms are appreciated at any time of the year. The next variety to be mentioned is G. Wermig, the yellow sport from Madame C. Desgrange. This is a good plant for general decorative purposes. Another variety (one of this year's novelties) that I must strongly recommend all growers to cultivate is Golden Fleece. This is a very free bloomer, and will make a good variety either for growing for cut blooms or specimen plants. The blooms are well reflexed and very compact, and the colour a clear yellow. The above are well suited for growing for either cut bloom or specimen plants.

To have good plants of the above in bloom by the end of the first week in September (which would be necessary if the plants are intended for exhibition), the cuttings should be inserted in November for blooming in 8½-in. pots, but for blooming in 9½-in. pots the cuttings may be put in in October. The same remark applies to the following varieties, which are all useful varieties for exhibition purposes, and should be included in every collection, viz., Mandarin (this is a grand variety, and was awarded a First Class Certificate last season), Mr. John Laing, Mons. Roux, l'Admirable; these four varieties are best suited for cut blooms. The following are most suitable for specimen plants, viz., Roi des Precoces (this is a splendid colour, deep crimson with golden centre), Bouquet Estival (very free), M. Pynaert, Van Geert, Alexander Dufour, and Simon Delaux; and the two following varieties can be grown either for cut bloom or specimen plants, viz., Boule d'Argent and Isidore Feral. The above are all Japanese varieties. Of the smaller or Pomponé section, the following should be included in every collection, viz., La Bien Aimée, Surprise, Pomponium (very fine), Curiosity, Lyon (very fine), Frederic Pele, Flora (fine), Illustration (very free), La Vierge, Madame Jolivart (fine), Madame Piccol, Mrs. Cullingford, Nanum, Precocite, Blushing Bride (very fine), Early Blush (very free), St. Mary, Fiberta (free), and Virginia. To the above may be added that splendid dwarf-growing white variety, La Petite Marie, and also its yellow sport, although there is a variety of this year's introduction, named MM. Paul et Son, which is a stronger grower than the last named, and is a very free bloomer. The blooms are yellow and very compact, though small. The plant grows about 12 ins. and makes one mass of bloom.—W. E. Boyce, Archway Road, Highgate.

THE ROYAL AGRICULTURAL AND BOTANIC SOCIETY OF GHENT will hold an exhibition of Chrysanthemums, on Monday, November 8th. The exhibition is to be an international one, and on the same day as the show, a meeting of the "Chambre Syndicale" will take place.

GARDENING MISCELLANY.

Solid Celery.—That it is true in general, that hollow or pipy Celery is always the consequence of using seed of some worthless kind, there can be no question, as a most extensive practice in growing and testing the different kinds of Celeries well proves; but our experience also has proved, that on stiff heavy soils, the same variety of Celery will be specifically heavier than on boggy soils, formed mainly from leafy deposits. I first discovered this some twenty years ago. We had two places in which we grew Celery, one, leafy deposit, and the other heavy clay loam, and in marketing the crop, we found, which was nearly of the same bulk, that that on the clayey loam, was nearly one-third heavier than that grown on the leafy-mould soil. All giant or tall-growing Celeries should be avoided; as a rule they are always more hollow, give twice the labour to work, are inferior in flavour to the dwarf-growing sorts, and under the same conditions, rarely give as much weight of crop. No market gardener that knows his business, ever grows the "giant" Celeries here now.—Peter Henderson, in the *Gardeners' Monthly*.

The Most Useful Peas.—I am an amateur and fond of Peas (who is not?), and should be very greatly obliged for a little advice as to the best few sorts to grow for a succession, say four, as I cannot afford to buy many sorts or to pay high prices. I have hitherto trusted to William the 1st for the earliest gathering. Is there any earlier than this? Ne Plus Ultra has been my mid-season variety, and the old Champion of England the latest. Can I do better than grow these? Is Harrison's Eclipse, mentioned by Mr. Harvey, still expensive.—T. O. O.

Dickson's Champion White Celery.—Although not a new variety, this is one of the earliest and best white varieties that I have grown; it is of strong growth, solid, crisp, and finely flavoured. My first acquaintance with it was a few years since, when I was gardener at Craig-y-nos Castle, Swansea, South Wales, when I received it with other varieties from Messrs. James Dickson & Sons, Chester. I proved it to be the earliest and best, and so have given it a trial in the north. I planted it out on the 14th of May, and I began to lift on the 3rd of August. I had Celery ready for the table five weeks before other gardeners around this part, and I can with confidence recommend it as the best early variety I have ever grown for table or for exhibition.—G. Tyler, gardener to General Rowlands, Plastrion, near Carnarvon, North Wales.

Sutton's Hero of Lockinge Melon.—This splendid Melon is still my favourite. I have grown it for several years in a house, and I have given it a trial in frames this season. I planted two frames on the 26th of April, and cut some beautiful fruits the first week in August. As an experiment, one frame was planted without any bottom-heat whatever, and I cut better fruit from that frame than the other; indeed, they quite surprised all who saw them. Hero of Lockinge is a very prolific Melon, and having a good constitution, is very free in setting. The fruit was about 3 lbs. in weight, beautifully netted, of a rich golden colour, and first-class in quality.—G. Tyler, gardener to General Rowlands, Plastrion, near Carnarvon.

Earwigs and Chrysanthemums.—I have watched with great interest the accounts in your columns relative to the ravages of this little insect. From personal experience, I certainly cannot coincide with the idea that the Earwig does such a vast amount of damage to the Chrysanthemum as your correspondents would have us believe. The question that suggests itself to my mind is this, "Do Earwigs eat Chrysanthemums from necessity or from preference?" Doubtless from necessity. I have, amongst a host of other flowering plants, about thirty Chrysanthemums in variety, some in pots and others in the borders. Now the paradoxical part of the question presents itself. I am persuaded, and it is no exaggeration when I say, there are some thousands of Earwigs in my garden, for they execute a series of acrobatic evolutions on the Indian Corn stems; they literally swarm in the Helichrysum, Phlox Drummondii, and Asters; and amongst

the Dahlias, Castor Oil, and Nicotiana affinis they do "eat, drink, and be merry"; and yet the marauders have not attacked a single Chrysanthemum, nor does the foliage present any appearance indicative of their presence. You cannot get away from the old axiom, "Seeing is believing," and after carefully perusing the accounts narrated in your valuable paper, and comparing them with my own personal observations, I cannot but come to the conclusion, "That while there remains anything else for them to eat Earwigs will never trouble the Chrysanthemum."—*Albert G. Hall, Forest Gate, Essex.*

Lilium auratum.—Having seen an article in THE GARDENING WORLD some time ago, and also the illustration of Lilium Harrisii with 145 flowers on a single stem, I may remark that I have had growing in this garden several good clumps of Lilium auratum, and, to my surprise, I noticed one with a broad fasciated stem, which has been in bloom for the last two weeks, and has had seventy-two flowers on it. The blooms were not so large as the others. The bulbs were bought at Stevens' rooms, and planted out in February last, and were very large and sound. I should be glad to know if more than seventy-two blooms have been produced on one stem.—*G. Tyler, gardener to General Rowlands, Plastirion, near Carnarvon.*

Tangier, North Africa, in June.—The profusion and beauty of the flowers in this country is wonderful. Pelargoniums are large bushes 4 ft. and 5 ft. high, and a blaze of colour. Many of the plants are new to me, and very interesting in their strange shapes and colours; but I am even more pleased to see old friends in such luxury and beauty. Masses of Agapanthus are just now showing brilliant patches in every garden. Rosés do well, the place abounds with the sweet-scented Moorish, from which they make "Otto" of roses, and another form with a peculiar, long, small bud—bright pink. Gardening is left to itself; most people here merely fill their ground with whatever comes first, and let chance and nature do the rest. You see the Grevillea in full flower, and Pau-cratiun maritimum. A skilful gardener might do wonders in this climate. We have a fine view of the sea—Trafalgar Bay is just opposite—and in the distance we get a fine outline of Gibraltar Rock, which stands out grandly. The heat, though great, is never oppressive here, and the morning and evening breezes from the sea are delicious. There is neither cart nor carriage in the whole of Morocco; it is astonishing to see the loads the camels, mules, and donkeys carry.—*G. B.*

Seedling Fuchsias.—I send you a box of seedling Fuchsias, simply to show what can be done in the space of a few months. Seeds were sown on February the 16th, 1886, and many of the plants have been in full bloom since the beginning of July, the plants ranging in size from 8 ins. to 3 ft. in height, and are still blooming profusely—equally as free, in fact, as plants which were propagated from cuttings.—*George Fry, Lewisham.* [The flowers showed a considerable range of variation, being of all sizes, single and double, and very bright in colour.—*Ed.*]

Tropæolum speciosum is most gorgeous here just now, on a south wall intermingled with Clematis Jackmannii; I tried east, north, and west aspects, but reading of Mr. Garland's success a few years back at Killerton, near Exeter, I tried a south aspect, and find it the best for it here.—*Geo. Bolas, Wirksworth.*

On Judging Chrysanthemums.—I would like to ask your Chrysanthemum readers if a fixed standard for judging Chrysanthemum blooms could not be made. It appears to me that large flowers are all the rage now, and through this a good many varieties having perfectly-formed, medium-sized blooms will soon be lost sight of. I think we ought to have them divided into two classes like the Dahlias—viz., show and fancy. I will give you the names of what I should call large show blooms—viz., Queen of England, Empress of India, Golden Empress of India, Alfred Salter, Emily Dale, Hero of Stoke Newington, Mr. Bunn, Lord Wolseley, John Salter, Venus, Princess of Wales, and Nil Desperandum. A number of other sorts could be added, from which a dozen could be selected for competitive purposes in a class for large-flowering varieties. Selecting what I should call fancy sorts, I should name Abbe Passaglia, Angelina, Lady Slade, Eve, Mrs. George Rundle, Mr. George Glenny,

Golden Eagle, General Slade, and Aurea multiflora. A great many more similar flowers could be added to form a fancy class. Were this done the judges could make their awards with much more satisfaction than they can now, with all mixed up together. I saw last year—and with surprise, too—some judges depart from what I call a good rule. They had awarded the prizes in a class for twenty-four blooms, and, I think, gave satisfaction to all concerned, for the most perfectly-formed blooms, with freshness and colour combined, got the prize; but when they came to judge the next class, which was for twelve blooms, to everyone's surprise the very large blooms got the prizes, though they had barely anything but size to recommend them. I heard a good many uncomplimentary remarks made about it, and by men whom I know to be good judges. The general opinion was that they ought to have been commended for size only, as there were several good stands of blooms in this class quite equal to those in the class for twenty-four. I think no credit is due to a grower who produces large, ugly blooms; and size, in my opinion, should count for nothing unless combined with perfect form. I should also like to see a few classes made for single-handed gardeners, as at all the principal shows they have to compete with men who grow large numbers of plants, and who have a good staff of men to help them, which is rather hard on the single-handed man.—*A Gardener.*

Salvia violacea.—I send you a few blooms of this plant, which when seen *en masse* gives a glorious bit of rich purple-plum colour, especially when the sun catches it.—*Geo. Bolas, Wirksworth.*

Earwigs and Peaches.—I see by "S. P.'s" remarks at p. 43, that the Earwigs have been troublesome and destructive to both the fruits and leaves of the Peach and Nectarine in the part he resides in, and it is the same here in Kent. Some time previous to the fruit showing any signs of ripening, our outside trees were attacked by hundreds, yea, by thousands, and we had to work very hard to keep them from damaging much of the fruit. However, we had several eaten, and many of the leaves reduced to skeletons. It is, indeed, exasperating to find that, morning after morning, these mischievous garden pests are destroying the best and most promising fruit by eating holes at the point. We have tried several methods of dealing with them, but I find the bean-stalk plan to answer the best; pieces are placed among the branches at intervals all over the trees. Each morning a man goes round with a pail of hot water, examines the pieces, and if any are found to be hiding down the stems, a sharp blow is given which quickly dislodges them, and falling into the hot water are instantly killed. To give your readers an idea of what we have had to contend with, I may say that as many as a pint have been caught in a morning. In many cases where Pears are eaten near the stalk, I am inclined to think the Earwigs have been the depredators.—*H. Markham, Mercworth Castle, Maidstone.*

How Vegetable Growing at Home is Handicapped.—Visiting Covent Garden Market a fortnight since, I heard some curious revelations, that seemed almost incredible, of what English horticulturists and market gardeners put up with from carrying companies, especially railways; but I was not even so quite prepared for the treatment revealed in the following paragraph from the *Standard* of the 14th inst. that has just caught my eye:—

"RAILWAY RATES.—A Potato grower, living near Spalding, a few days ago consigned to Spitalfields Market, London, two tons of Potatos. The amount paid for carriage and delivery was £2 13s. 4d., and the commission charged for the sale 10s. The expenses incurred in connection with the transaction were thus £3 3s. 4d.; the amount realised by the sale of the Potatos £2 1s. 1d.; and the London salesman has just communicated with the sender, asking for a cheque for the deficiency of £1 2s. 3d. During the past week two other similar cases have occurred, in one case a farmer receiving the sum of 2s. in return for four tons of Potatos; whilst a third farmer, who forwarded to London a large quantity of Potatos, has been written to for a cheque for £12, as the railway charges swallowed up more than the Potatos realised."

In fact, I am inclined to ask you or your readers if they know similar cases, and if they do to have them published, so as to act as levers in passing a railway rates Bill next year. I am surprised Englishmen submit to it, no matter what the pretext. A Covent Garden salesman told me it costs 15s. more per ton to send Potatos from Penzance than from Cherbourg, in France,

and so on for similar cases. He says, "This is put up with because people say it is in the interest of the consumers to have free trade. Nothing of the kind! The producer is the first victim; but all such exorbitant rates are afterwards levied on the consumer." Is this free trade? I will only intrude further to remark that personally I am disinterested, but the disparity seems glaring.—*W. J. Murphy, Clonmel.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

It is now time that the stock of Lachenalias should receive attention, because they will be starting, and it is hardly possible to pot them without damaging the new roots, so tender are they. Keep the bulbs well under the soil, and if they have made new roots, give the soil a moderate watering through the rose, and place the pots in a cool shaded frame until the growth appears above the soil, when they may receive the full light, and air be freely admitted to prevent the foliage becoming drawn. Those Primulas which are required to flower early must now be removed from the cold pits in which they have been growing to shelves near the glass; we have filled two in the intermediate house, where they will come into flower, and be found more useful for staging in the greenhouse or conservatory when the summer occupants are cleared out, as they must shortly be. We have already been visited quite sharply with frosts, and so it behoves us to be on the alert. The lights must be put on the Cinerarias, Primulas, and French Beans the last thing at night, as they are so quickly injured; ventilate freely upon all occasions, so that the growth made may be as sturdy as possible.

It will be advisable now to prepare to place the Azaleas, Heaths, and Epacris, which have been out-of-doors, under cover again; see that whatever position they are to occupy has been cleaned ready for them, and if any doubt exists as to the presence of thrip on the Azaleas, mix a solution of paraffin as previously advised, and thoroughly syringe the whole of them. The Heaths, such as hyemalis and Wilmoreana, are liable to mildew, and in case of there being any trace of it, let them be well dusted with flour of sulphur, and let them be staged in the most airy position, when they will soon recover; if neglected, the foliage will soon all fall off, rendering the plants quite useless. Keep the stock of bulbs regularly potted up, and should any of those intended for late flowering show signs of activity by emitting roots at the base, let them be potted at once, as, if they are allowed to remain as they are, they cannot be expected to flower successfully; much better to retard them in the spring by full exposure, than for the bulb to become impoverished now.

The Roman Hyacinths which were potted for early flowering, should now be uncovered—they should be sufficiently advanced to remove into the frames; light must only be gradually admitted, until the foliage begins to assume its natural colour, although they must be kept ventilated, particularly at night. The pit in which it is intended to grow the Neapolitan Violets, should now be prepared. A half-spent hot-bed will be found admirably suited to their growth; add 6 ins. or more of good sweet soil, in which there is a liberal amount of half decayed leaf-mould, and good sharp grit, so that the soil may not become soddened, as so frequently happens; some of the strongest clumps should be selected for pot-work. These are much appreciated for their delicious perfume, and are most useful for staging purposes in the spring.

THE FRUIT HOUSES.

The stock of Cucumber plants for winter fruiting needing a shift, this has been done, giving them 7 in. pots; this will carry them on until the house is ready for their reception; let an abundance of air be admitted where they are placed, so that they may be kept as sturdy as possible. It will be advisable shortly to make another sowing to succeed this batch, as it frequently happens that they mysteriously die off after giving a few fruits; it is then that this reserve batch is found of such great service.

The Strawberries in pots for forcing must be well looked after, being so full of roots they will need frequent waterings, which should always be of pure

water; we do not approve of the use of manure-water during this period of their culture. To make sure that the turning round to prevent rooting through was thoroughly done; we have had all ours moved, rearranged, and more room given, so that the sun and air may freely play among them; so far, they are a promising lot. Where Grapes are required early, and the Vinery has to be started early in November, it will be advisable to prune the Vines now so that the cuts may thoroughly heal. The house should be painted if necessary, or if this is not done, it must be thoroughly washed, after which, the Vines may be dressed with a solution according to fancy, or painted with "Gishurst," which is even better. Necessary attention should be given to the border by surfacing or otherwise, and the house put into order, to be, perhaps, of use for placing a few special plants in instead of remaining empty.

THE KITCHEN GARDEN.

We have gone through the Celery square, giving the final touch to the early batch, and making the later lot secure by half-earthing. So far we have not observed any trace of insects on our plants: we planted out all ours on the level, and, certainly, we have better heads than when we grew it in trenches; in fact, I am so pleased with it that I shall adopt this plan for the future, but I do not pretend to say it would be advisable everywhere.

The Asparagus beds which were sown in drills we have gone through again with the hand-fork, removing all superfluous roots, after which, a good scuffling is all the attention it will require, for a time at least. Now that we are subject to frosts it will be advisable to break the leaves over the heads of Cauliflowers which are forming; this will protect them from harm and help to keep the flower pure. Tomatos on the walls must be kept cut when they begin colouring, so that the plant may be relieved as much as possible, and induced to ripen up all the crop; if the fruit after being cut is placed on a good airy shelf, they will quickly colour.

It will be advisable to go over the Cherry trees from which the fruit is gathered, and give them a thorough syringing with paraffin mixture; by this means much black fly is destroyed at this season, and the trees consequently will be cleaner next spring. Our Peach and Nectarine trees both inside and out we serve in the same way. Should those inside be infested with scale, syringing in this way two or three times after the crop is off will be found an effectual remedy.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Potting Vanda insignis, V. tricolor, and V. suavis Varieties.—These, like many other Orchids, do not like being disturbed at the roots unless there is actual need for it; and they go two or three years or even more when well established by simply having all the material about them which it is possible to remove taken out, and fresh sphagnum supplied in its place. However, it is at times desirable to give the plants a shift, and for doing that, or for top-dressing, as before described, no better time can be found than the present, when the greater part of them have finished flowering, and recovered from the consequent effects. This section of Vandas flowers at various times, beginning in early summer, and hence it is desirable to get them well established before the flowering time commences. Having also a great leaf-surface, and no pseudobulbs in which to store vitality, they are very apt to shrivel and lose their bottom leaves if they are disturbed just as the bright weather commences in spring; and therefore I consider it better not to leave their re-potting until the month of February, when the re-potting of the Vandas, Aërides, and Saccolabiums from India proper is done, but to see to the large-growing Java and Timor varieties at once. These plants are much better grown now than formerly, most of the growers having found out that they are strictly intermediate or Cattleya-house plants, and that even in that division they succeed best in the coolest and airiest situations.

Of late there seems to be a yearning among Orchid-growers for a new stuff for potting purposes, and German moss litter, such as is used in stables, is darkly hinted at. Let me take the present opportunity to say that I

have experimented with many kinds of newly-advanced materials, but never found anything good but fibry peat of bracken-root and sphagnum moss, and those who seek other for cheapness sake are "penny wise and pound foolish"; for although Orchids—and especially fresh-imported ones—will grow well in almost anything for a time, afterwards, when the stuffs, such as moss litter, decays—which it quickly does—the plants get sickly, and are worse than bad examples of fresh importation.

The large growing Vandas do not like much stuff about them, and, hence, crocks and good pieces of Oak-charcoal (where procurable) should be worked in among the roots; a surfacing of sphagnum moss from 1 in. to 3 ins. in depth according to the size of the pot being afterwards given. After surfacing or repotting, they should be placed in a cool and rather shady part of the Cattleya house, and carefully and rather sparingly watered until signs of growing appears. These large Vandas will, in the ordinary course, frequently lose a few bottom leaves, but if well grown will send up young ones from the bottom, which more than amply compensate for the loss by supplying flowers where they would not otherwise; the plants so furnished are lovely when in flower. I took one of *V. suavis Veitchii* to the Royal Horticultural Society a good many years ago with a main stem and three young growths, altogether bearing fourteen large flower spikes. It is, therefore, better not to be too hasty in sinking the plants which have lost a few leaves in the pot, as if well grown in a moderately cool place the defect will soon be remedied, and the beauty of the plants improved.—*James O'Brien.*

Potting Cool Orchids.—Mr. O'Brien objects to my time of potting these, and recommends January as preferable. As he is a grower of long experience his remarks are always entitled to respect, but by practical experience many Orchid-growers improve upon the advice of their former teachers, and amateurs who he is in the habit of addressing on this subject, like to know the different systems practised in other establishments, and to follow that which accords with their own experience. A large number of amateurs have, at different times, asked me for a rule which they could follow with safety in repotting Orchids of any kind. To lay down a hard and fast line for this, all who know the difficulties of their cultivation will acknowledge is a hard matter. The following was my invariable reply: When the roots first appear at the base of the young growths, is the best time of all, unless the weather be exceptionally trying.

That Hyacinth and other bulbs force better after the turn of the year is no argument in favour of repotting cool Orchids at that time, as all who force these things know they must be potted in September or October to force well; in the interval their roots are active, and spring is their natural time to grow and flower. Orchids, on the other hand, come from the other side of the world, and have a period of growth quite different to European plants generally. This, in the majority of cases, is from July to the end of our winter, and the best time to give new compost is when these young growths show by the roots that an increase of food is required; given then they feel the check less, and can finish their bulbs and flower without interruption. That we often have bright dry days after August is quite true, but the sun is more natural to plants than fire-heat, and its evil effects more easily minimised by shading and damping while the sun is on the house, while cool dewy nights are what cool Orchids delight in.—*W. Baxter, Shackleford, Woking.*

Cattleya bicolor Wrigleyana.—I have pleasure in forwarding you a spike of seven flowers of this very beautiful variety of *C. bicolor*. It certainly is not so showy as the Mossiae and Waruerii sections, still we consider it much more beautiful than some of the long-bulbed section. We have over fifty spikes in flower, and among them are one or two distinct forms. *C. bicolor Measuresiana* has appeared among them, and is a very good thing. The sepals and petals of most have the same tawny yellow of the one sent; whilst in some the lip is just a solid patch of rich rosy purple; the column in many is pure white. You will observe the rosy purple of the lip, of the spike sent, scarcely extends to the bottom, whilst a band or margin of light pink runs round the lower part; also that the column is beautifully shaded with pink. Our plants have been treated to a large share of light and heat, potted in peat with a little moss, crocked almost to the

top of the pots, which are perforated ones, and a good deal of charcoal used in the drainage.—*W. Swan, The Gardens, Howick House, Preston.* [The flowers are exactly as described by our correspondent, and a very beautiful variety it is.—*Ed.*]

FLORICULTURE.

GOLD-LACED POLYANTHUSES.—My show plants of these have been grown in pots all the summer, and they have done remarkably well—better than during the three or four years previously. I attribute this to giving the plants a series of gentle shifts, so as to keep them moving on, and making strong roots. I have tried planting out, but the worms disturb the plants so much that I have had to give up the process, and go back to summering the plants in pots. The earlier they can be potted in summer the better, because they make good roots, and in the spring they start into a very strong growth in consequence, and make good blooming heads. If they are potted in the autumn, it is difficult to get them to root much until spring, and then there is not time for them to develop themselves so as to bloom well, and they seem to flower early in consequence—before they are wanted for show purposes.

My leading varieties this season are of dark grounds:—Cheshire Favourite, Prince Regent, Lord Beaconsfield, a variety that has come to me from North Yorkshire with a good reputation; John Bright, Formosa, and Exile. Of red grounds: George IV, Laucer, Model, Napoleon, Lord Morpeth, and Sydney Smith; and in addition a few fine selected seedlings. The plants are standing on a bed of cocoa-fibre, on a northern exposure, and I have just gone over them, examined the roots, and given a top-dressing of fresh soil. Here they will remain so long as the weather is fine, and then they will go into my Auricula house for the winter.

I am growing the plants this season in rather larger pots than last year. They make a free-root growth in spring, and want room and food also. I found, last spring, that my plants soon dried when a fine day happened, and I found that it affected the flowers, causing them to become small and dull coloured.

I think this has been a good year for all the Primulas, in the open ground they have grown generally all the season, there are good tufts of foliage on the plants, and a marked absence of red spider. It is a very different state of things to last year, when, at this period, the crowns were almost denuded of leaves. That there will be a good deal of autumn bloom I have no doubt, but the Polyanthuses and Primroses are pretty certain to bloom at this season. So far there has been a marked absence of autumn trusses among my Auriculas, but there is ample time for them to put in an appearance yet. My plants are now housed in a north house for the winter, and all I can say of them is, that they appear to be doing as well as I can desire.—*R. D.*

HORTICULTURAL SOCIETIES.

ROYAL HORTICULTURAL.

THE meeting on Tuesday was a comparatively small one—a welcome relief from the high pressure of the last few months. Dahlias and hardy fruits, mainly Apples, were the leading features, and there were enough of both to make an attractive display for the thousands of country cousins who passed through the conservatory during the day. Mr. T. S. Ware made a grand display of all sections of Dahlias, early-flowering Chrysanthemums, Lilies, and herbaceous plants generally; and next to him for extent, variety, and pleasing arrangement came Messrs. Paul & Son, Cheshunt, with a remarkably fine bank of Tea Roses, Dahlias, herbaceous plants, and ornamental-leaved trees and shrubs. Messrs. Kelway & Son again sent one of their superb displays of Gladioli; and Messrs. Rawlings Bros., Romford, who make Dahlias a speciality, had an admirable show of their favourite flowers. Messrs. W. Paul & Son, Waltham Cross, contributed some eight boxes of beautiful cut Roses. Mr. W. E. Boyce, Victoria Cottages, Archway Road, Highgate, showed an exceedingly fine summer-flowering Chrysanthemum, named Golden Fleece, a fine-shaped yellow that will make a good decorative variety. Mr. R. Dean, Ealing, had a good form of *Dianthus Heddewigii*, with dark-

coloured flowers, and named Brilliant. Mr. S. Ford, gardener, Leonardslee, brought up some pretty blue Hydrangeas. From R. J. Measures, Esq., Cambridge Lodge, Camberwell, came a plant with one fine spike of flowers of *Grammatophyllum Ellisii*, to which a Cultural Commendation was awarded; and from Dr. Duke, The Glen, Lewisham, came a pretty variety of *Cattleya Gaskelliana*, named Sunray, and which, besides a bright orange blotch on the lip, had a purple stripe down the centre of each petal.

The new plants certificated were the new *Cypripedium Sanderianum*, noticed in our last, from Messrs. James Veitch & Sons; *Rhododendron*, Queen of Yellows, one of the new seedling hybrid greenhouse varieties, with fine buff-yellow flowers, orange in the centre, from Messrs. Veitch & Sons; *Rhododendron*, Rose Perfection, another hybrid, with bright rose-coloured blossoms, in the way of Princess Royal, but a great advance upon that popular variety, from Messrs. Veitch; and *Selaginella gracilis*, a very distinct erect-growing species, from the South Sea Islands, also from Messrs. Veitch. *Cespadesia discolor*, a very distinct and handsome large-leaved stove foliage plant; *Selaginella tessellata*, a quaint looking species, with drooping tessellate branchlets; and *Davallia solida major*, a South Sea Island species, with large handsome shining fronds, a fine exhibition plant, from Mr. Wm. Bull. *Cyrtanthus hybridum roseum*, an interesting hybrid between *Cyrtanthus* and *Valotta*, with large rose and orange-coloured *Valotta*-like blossoms; and *Crinum Powelli*, one of the finest hardy bulbs that has lately been sent out, from Mr. Bain, gardener to Sir Trevor Lawrence, Bart., M.P. *Ulmus Pitteuersii pendula*, a distinct and handsome weeping tree, with dark bronze-green leaves; and *Dahlia*, The Quair, a remarkably fine single variety, with large well-formed blooms of a rich velvety crimson colour, from Messrs. Paul & Son, Cheshunt. *Dahlia*, Charming Bride, a decorative variety with a light-coloured centre, and the petals flushed with rose on the margins; and *Dahlia*, Lady M. Marsham, a showy decorative variety, with broad petals of a fine shade of crimson-scarlet, from Messrs. H. Cannell & Sons. *Dahlia*, Mrs. Foster, a show variety of beautiful shape, pale fawn ground colour, flushed with rose, and the tips of the petals rosy purple; *Dahlia*, Don Juan, a very neat Pompon variety, almost black in colour; *Dahlia*, Iolanthe, a pretty Pompon with the front of the petals white, and the reverse orange; and *Dahlia* Gazelle, another Pompon, of a buff ground colour, heavily tipped with rose, from Mr. C. Turner. *Dahlia*, Queen of the Belgians, a full well-built double flower, flesh pink with a white centre, very fine, but too nearly alike to Mrs. Gladstone for both to be shown in the same stand, from Messrs. Rawlings Brothers. *Cratægus Lelandi*, a very beautiful pyramidal-habited tree, with its stiff shoots placed at right angles to the main stem, densely laden with bunches of orange-scarlet berries—a very fine novelty shown by Messrs. Veitch & Sons. *Dahlia* Valentine Humphreys, a singularly pretty fancy variety, rose ground, striped with crimson, and orange in the centre, from Mr. G. Humphreys, Kington Langley, Chippenham; and *Dahlia* Empress of India, a very attractive decorative variety, crimson-maroon flushed with bright crimson, and dark in the centre, from Mr. R. H. Munday, Church Street, Basingstoke.

For the inspection of the Fruit Committee, Messrs. Paul & Son, Cheshunt, and Messrs. Wm. Paul & Son, Waltham Cross, staged large collections of Apples; and the first-named firm also exhibited fruiting plants and runners of the present season, in flower, of a perpetual-bearing Strawberry named Roi Henry, the fruits of which are of medium size, somewhat coxcomb-shaped, good in colour, and as good in flavour as autumn Strawberries can be expected. Messrs. H. Lane & Son again showed some of their grand fruiting pot Vines; and Mr. T. Laxton, Bedford, showed a pretty pot tree of the handsome Dartmouth Crab, a new Runner Bean, named the Czar, and an early Tomato for growing in the open air. Mr. R. Gilbert, Burghley, sent a fruit of Her Ladyship's Favourite Melon, of good size, nicely netted, and having thick green flesh. Mr. J. James, Cowley Road, Uxbridge, sent a dish of handsome crimson-coloured fruits of a Tomato, named Eclipse; and the Australian Commission exhibited some large Navel Oranges, grown by Mr. J. Hungerford, Musselbrook, New South Wales.

WIRKSWORTH.

THE hon. secretary of the Wirksworth Floral and Horticultural Society, Mr. Geo. Allen, and the treasurer, Mr. Thos. Atkinson, with the influential committee of management, having W. Sealy Fisher, Esq. for its president, are to be congratulated upon its excellent show of plants, fruits, flowers and vegetables, which was held by permission of Charles Wright, Esq., in his most picturesque grounds at Yokecliffe, on the 16th inst. Not only does this worthy patron of the society throw open his grounds and assist the society freely from his purse, but takes the visitors and gardeners by the hand and spends the whole of the day with them. The society has been established six years, and it must be gratifying to all its supporters to see the rapid strides gardening has made round this secluded spot, amongst the limestone hills. It has held its Chrysanthemum show. Its two Rose shows are affiliated with the National Rose Society. A few years back, Roses were spoken of as incapable of being grown to any perfection here, but one has only to visit the gardens on the hill sides and see such collections as those of C. J. C. Prescott, Esq., Geo. Marsden, Esq., and others to be convinced of the error. It is the only plucky little town in Derbyshire that has held its Rose show, and had such exhibitors as Mr. T. B. Hall, Rev. J. H. Pemberton, Cooling, Derby; Cooling, Bath; Frettingham, &c.

But returning to the show of the 16th, it is our pleasure to chronicle an advance in the receipts at the gate, and superior exhibits on all sides. The arrangements were excellent—plans being provided by the president, by which exhibitors at once saw at a glance where they had to stage, a great point at local shows.

Collections of Potatos have always been a wonderful feature here, and more than 300 dishes were staged, and notably good were Adirondack, Sutton's Seedling, Abundance, Sutton's Prizetaker, Porter's Excelsior, Schoolmaster, Reading Russet and Reading Ruby, Village Blacksmith, Beauty of Hebron, Vicar of Laleham, &c. Mr. Atkinson staged Potato Cetewayo, deep purple throughout. The champion prize winner in Potatos was H. Watshall, Esq., (Mr. J. Stevenson, gardener), whose garden is on a very heavy clay soil. In the special prize-tent, C. Wright, Esq. (gardener, Mr. P. Foulke), took Messrs. Carter's prize for a collection of vegetables, open to all. Messrs. Sutton & Sons' prize, open to cottagers and amateurs, was well contested, five good trays being staged. Messrs. Daniels Bros.' prize for Norfolk Russet Potato, was won by Mr. J. Stevenson; this Potato resembles Village Blacksmith. Master C. Wright's very interesting prize for cooked Potatos was well contested, Sutton's Prizetaker, Kentish Invicta, and Schoolmaster being winning sorts. C. Wright, Esq.'s liberal prizes for window plants we hope to see bring out better productions next year. With a collection of Potatos the prize given by the Committee was won by Mr. J. Stevenson. Mr. C. J. C. Prescott's prizes for Roses brought out thirty-eight lots, and the first prizemen were W. Boyes, H. Chandos Pole Gell, and C. J. C. Prescott, Esqrs. Perhaps the most attractive features in this tent were the centre-pieces for table decoration, buttonhole bouquets, and bouquets shown in pairs, Mr. Geo. Bolas, gardener to H. Chandos Pole Gell, Esq., taking premier honours in all three; the first and second prize centrepieces, shown by Mr. Geo. Bolas and Dr. Webb, had a very bright and pleasing effect, rising well from the cloth with a flat base. C. Wright, Esq., had a fine collection of flowers, and Mr. W. S. Fisher's showed fine taste. Buttonholes brought out thirteen competitors, and five pairs of bouquets were staged, Mr. Foulke and Mr. Fennel, gardener to Mrs. Wood, Wirksworth Hall, taking second and third in the latter. Wild flowers generally were abundantly shown, this being a noted locality for such gems; twelve bouquets and baskets of enormous size were put up, but no trace of any taste for effect was displayed. We noted some splendid boxes of cut flowers lent by Mr. J. M. Johnstone, gardener to Mr. Chadwick, Hinto Hall, Tamworth, and a splendid group of seedling hybrid tuberous Begonias from the Rev. F. H. Brett, notably, whites, lemons, and tinted varieties.

Leaving this tent with many fine things not noted, we open on a grand lot of Fuchsias from C. Wright, Esq., 10 ft. to 12 ft. pyramids, followed by good standards, and a healthy lot of younger plants from Messrs. J. Stevenson & Spencer, gardener to A. Arkwright, Esq., Wirksworth. In the class for twelve

plants, Mr. Geo. Bolas staged the good old *Gloriosa superba*, *Allemanda Hendersoni*, *Cyanophyllum magnificum*, *Sanchezia nobilis*, *Panicum sulcatum*, *Dracæna terminalis* (large, of fine colour), *Croton majesticus*, *Phoenix dactylifera*, *Tritonia aurea*, *Bambusa gracilis*, &c., Mr. P. Foulkes, Mr. J. Stevenson, and Mr. Spencer following, but we could not give names, these having no cards on. Ferns were moderately shown, Messrs. Stevenson, Bolas, and J. Wheatcroft, Esq., securing the honours. Six Chrysanthemums, first, Mr. P. Foulkes, with Madame Desgrange, Gold Button, and Rose Trevenna.

Collection of fruit: In this class, Mr. Geo. Bolas staged a fine well-finished cluster of Muscats, over 6 lbs. in weight, and two highly-coloured bunches of Gros Colmar Grapes, and was followed by Mr. Spencer and Mr. J. Stevenson. White Grapes: Mr. Geo. Bolas staged two rich amber-coloured bunches of Muscats, 6½ lbs. in weight, and was succeeded by Mr. P. Foulkes and Mr. J. Stevenson. Black Grapes: two finely-coloured bunches of Black Hamburgs secured the first prize for Mr. Geo. Bolas, Mr. T. Fennel and Mr. J. Stevenson being second and third; Mr. S. Fisher also staged two very creditable bunches, well-coloured, with perfectly green foot-stalks. Collections of Vegetables were well shown, nine trays being staged; Mr. Geo. Bolas put up a fine lot, with No. 10 Seedling Tomato, Sutton's Dark Red Beet, Sutton's Improved Intermediate Carrot, Reading Ruby Potato, Sutton's Golden Globe Onion, Earliest of All Savoy, Student Parsnip, Snowball Turnip, and Sutton's Latest of All Pea; Mr. J. Stevenson and Mr. P. Foulkes were second and third. Dr. Webb this year had to succumb to J. F. Kingdom, Esq., in the Celery class; but the Rev. T. V. Mellor held his own with Cucumbers. Mr. Geo. Bolas came in first, with spring Onions, Mrs. Hopkins showing a fine sample of Tripoli for this erratic season. Mr. P. Foulke had the best three dishes of Tomatos.

Cut flowers, in the open class, were extensively shown, Mr. Boyes taking first honours for twelve Roses, closely followed by Mr. T. Sharp. Mr. T. Sharp's box of double Dahlias were a splendid lot. Mr. Spencer staged good blooms of Pelargoniums; and Mr. Bolas took the premier prize for a box of twelve single Dahlias, shown in triples, and for twelve Pompons, some of Cannell's gems.

The cottagers' exhibits, forming one side of the large tent, were not up to their usual standard as regards plants and flowers. Messrs. G. Frith, S. Melbourne, E. Farmer, J. Robinson, J. Maywell, J. Stoppard, and J. Cauldwell were the principal winners. The vegetables exceeded in quality those staged in former years, thirty-six dishes of fine Potatos alone giving the judges work. Passing on to the amateurs' tent, Class 3, in which the exhibitors staged their collections of plants in sixes down the centre, Mr. Bolas held his own again with *Gloriosa superba*, *Clerodendron Balfourianum*, *Hibiscus sinensis splendens*, &c., followed by Mr. J. Fennel, with Tuberous Begonias. Mr. J. Stevenson took first honours with good plants, but lacking variety; Mr. Wheatcroft was second; and the Rev. F. H. Brett, staged high-class varieties, distinct but smaller plants. Roses were very weak; Dahlias had to be made up with *Cactus Jaurezii*. Fruit was well shown, Plums especially; but who has not Plums this year? Vegetables were fine indeed, Celery everything that could be desired. Red Cabbage formed a feature in this tent, the worthy secretary staging one alone, which, when trimmed, weighed 11½ lbs. Vegetable Marrows were shown in perfection, Mr. Preston, national schoolmaster, putting up a splendid pair, &c. The judges had plenty of work to do, but it was a pleasure to know that they gave the greatest satisfaction.—*Coris*.

CHELTENHAM.

THIS, the last show of the season of the Cheltenham and County of Gloucester Horticultural Society, was held on Sept. 15th in the Montpellier Gardens, and being so central as well as so attractive, did, I hope, receive good support. Certainly the courteous hon. secretary, Mr. W. H. Bridgewater, does all in his power to make the shows as attractive as possible so as to command support, but, withal, I am sorry to hear that the society financially is in a tottering condition; this ought not to be in such a fashionable place as Cheltenham. I was glad to note that a more extended use was made of the tents; I entirely disagree with the close packing (unless from want of room), where one marches me-

chanically from one tent to the other, only obtaining a breath of fresh air in the few steps it takes; and when the visitor finally emerges into the open air it is with a sense of relief that the parade is over, whereas, if the tents are placed a good distance apart, according to space and position, much of the fatigue is avoided. In the class for six stove and greenhouse plants in flower, the first prize was easily gained by Mr. James Cypher, his plant of *Phenocoma* being very fresh and bright, also well flowered; he had also a very good specimen of *Anthurium Lindenii*. Mr. J. Mould, of Pewsey, was second. In the large tent devoted to the collections of thirty plants arranged for effect, there were three competitors, Mr. J. Cypher again taking premier position, and deservedly so too; his *Crotons* were large, well furnished, and highly coloured, in fact, the plants all round were creditable; the *Palms*, too, were fresh and bright, and evidently had enjoyed a rest from travelling; Messrs. Heath & Son, of Cheltenham, were a good second; Mr. J. Mould, third. There were two entries for twelve exotic Ferns, Mr. Cypher taking first prize with a fairly good-sized lot; second, Mr. Enos Smith. In British Ferns there was a large entry, but nothing of extra merit staged. In *Achimenes* there was plenty of competition, but with the exception of those staged by R. L. Lingwood, Esq., which took first prize, they were very moderate. *Fuchsias*, too, were poorly represented, the first prize lot being passable, but all light-coloured varieties; these were exhibited by Captain Tickell. Mr. Cypher contributed a very choice collection of decorative plants, consisting of *Palms*, *Crotons*, and other such like subjects, which greatly added to the beauty of the tent in which they were staged. Several collections of zonales were staged, those by R. L. Lingwood, Esq., being far and away the best. In the vegetable tent the competition was very keen, and the produce highly creditable, but time would not permit of a thorough inspection. In the classes for collections of nine and six dishes, Mr. A. Cook and Mr. Arkell were first; the exhibits in single dishes were alike good all round. Fruit too was largely exhibited, but as the prize cards were not attached we cannot give names. Taken all round, the exhibits were remarkably clean, and the arrangements highly creditable.—*Cor.*

HEELEY.

THE Heeley Cottage Gardeners' Annual Show was held in a large club-room at the "White Lion" Hotel, Heeley, near Sheffield, on the 18th inst. The exhibits consisted of plants in pots, stands of cut flowers, collections of vegetables and single dishes, amongst them being well-grown plants of *Pelargoniums*, *Begonias*, *Liliums*, *Fuchsias*, &c. In addition to the class for cottagers, which is limited to two and a half miles radius, there was an open class for four varieties of vegetables, consisting of Celery, Cauliflower, Onions, and Potatos. In this class there were seven lots staged, all being large and fine in quality. The first prize was awarded to Mr. Lidster, Mr. Locket being second, and Mr. Lee third. For the best red Cabbage for weight and quality, Mr. Goodlard was first and Mr. Jackson second, whose Cabbage weighed 19 lbs. 12 ozs. Brace of Celery, Mr. Moore first, Mr. Barnes second, and Mr. Hewett third. For a dish of Potatos there were eleven dishes staged, and Mr. Fidler was first, Mr. Gregory second, and Mr. Lee third.

In the class for six Dahlias there were some very fine flowers, Mr. Moore being first, Mr. Needham second, and Mr. Throng third. There was a strong competition in all the classes, there being nine trays of vegetables staged; Mr. Goucher was first, Mr. Binney second, and Mr. Wheatley third. Red Cabbage, Mr. Hewett first, Mr. Agus second, and Mr. Howard third; Potatos, six, Mr. Lidster first and Mr. Deakin second; Cauliflower, Mr. Coats first and Mr. Agus second; Peas, Mr. Lidster first and Mr. Binney second; and Onions, six, Mr. Binney first and Mr. Goucher second. Cut flowers were also well shown in this class, amongst them were some good Dahlias and Roses; Mr. Turner was first and Mr. Lidster second in Dahlias, Mr. Turner first and Mr. Wheatley second for Roses, and Mr. Tomlinson first and Mr. Coats second for three greenhouse plants in flower. There were many nice special prizes of a useful character, varying in value from 2s. 6d. to 15s., which had been given by Mr. Jackson and several Sheffield friends.—*Inspector.*

QUESTIONS AND ANSWERS.

WEEDS.—*W. E., Cilgwyn*: Certainly more effective than salt, and less expensive in the end.

CHRISTMAS ROSES.—*W. E., Cilgwyn*: It is perfectly hardy, and the lights should be kept off until the flower buds begin to show. The stable manure used for a top-dressing will do good, if you see that they are well watered. Never mind their not looking very well just now.

Kew Gardens.—*G. S.*: Write to Mr. Nicholson, Curator, Royal Gardens, Kew, Surrey.

NAMES OF PLANTS.—*J. T. Poë*: *Dendrobium chrysanthum*.

ODONTOGLOSSUM HARRYANUM.—ERRATUM: At p. 45, in the paragraph on this subject, in the first column, for "bright-like tracery" read "bright-blue."

COMMUNICATIONS RECEIVED.—*W. H.—E. J.—B. L.—W. E.—M.—W. K. W.—W. H.—W. P. R.—A. O.—J. H. R.—W. G. S.—M. T.—W. C.—J. U.*

TRADE CATALOGUES RECEIVED.

COLLINS BROS. & GABRIEL, 39, Waterloo Road, London, S.E.—Dutch and other Bulbous Roots, Hardy Perennials, &c.

TRUNG. SZEWCZIK, Chaussée d'Anvers, Ghent.—Azaleas, Palms, &c.

WILLIAM RUM EY, Joyning's Nursery, Waltham Cross.—Roses, Trees, Shrubs, &c.

JAMES COCKER & SONS, Aberdeen.—Hyacinths, Tulips, and other bulbs for autumn planting.

WILLIAM THOMSON & Co., 3, Melbourne Place, George IV. Bridge, Edinburgh.—Imported Flower Roots.

E. G. HENDERSON & Son, Maidla Vale, London, W.—Dutch and other Bulbous Flower Roots, &c.

LONDON SEED TRADE.

September 22nd, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance and slow trade at to-day's market. Rye and Winter Tares meet a moderate demand at very slow prices. The demand for Trifolium has almost ceased. No change in values of Rye Grasses or Clover Seeds. New foreign Spring Tares now offering show fine quality, but at present are held for higher figures than buyers care to pay.

COVENT GARDEN MARKET.

September 23rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Apples, $\frac{1}{2}$ sieve	1	6	3	Peaches, per doz.	2	0	6	0	
Cherries, $\frac{1}{2}$ sieve				Pine-apples, St.					
Currents, $\frac{1}{2}$ sieve				Michaels, each	2	6	8	0	
Grapes, ... per lb.	0	6	2	0	Pine-apples, Eng., lb.	2	6	3	0
Kent Cobbs, 100 lbs.	55	0		0	Plums, $\frac{1}{2}$ sieve	0	9	2	0
Melons, ... each	1	0	2	0	Strawberries, per lb.				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0	
Beans, French, per lb.	0	4		Lettuces . . per dozen	1	6			
Beet, per dozen	2	0	3	0	Mushrooms, p. basket	1	0	2	0
Cabbages per doz.	2	0	2	6	Onions, per bushel . .	4	0	6	0
Carrots, per bunch . .	0	6			Parsley, per bunch . .	0	6		
Cauliflowers, English,					Radishes, per dozen . .	1	6		
per dozen	3	0	5	0	Small salad, punnet	0	4		
Celery, per bundle . .	1	6	2	6	Spinach, per strike . .	2	0		
Cucumbers, each	0	6	0	9	Tomatos, per lb. . . .	0	9		
Endive, French, doz.	2	6	3	6	Turnips per bun.	0	6		
Herbs, per bunch	0	2	0	4					

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	<i>s.d.</i>	<i>s.d.</i>		<i>s.d.</i>	<i>s.d.</i>
Asters, dozen bunches	2	0	4	Liliums in variety,	
Arum Lilies, 12 blms.	4	0	6	dozen bunches	12 0 24 0
Bouvardias, per bun.	0	6	1	Marguerites, 12 bun...	3 0 6 0
Carnations, 12 blooms	1	0	3	Mignonette, 12 bun...	1 0 3 0
Carnations .. 12 bun.	3	0	6	Pelargoniums, per 12	
Cornflower ..12 bun.	1	6	3	sprays	0 9 1 0
Delphinium ..12 bun.				— scarlet, 12 sprays...	0 3 0 6
Daisies, common,				Primula, double, bun.	0 6 1 0
12 bunches	2	0	4	Pyrethrum, 12 bnchs.	2 0 4 0
Eucharis, per dozen ..	2	6	4	Roses 12 bunches	2 0 6 0
Forget-me-not or Myo-				Roses (coloured)	0 9 1 0
sotis, 12 bunches ..	2	0	4	Roses, Tea, per dozen	0 9 2 0
Gardenias, 12 blooms.	2	6	4	Stephanotis, 12 sprays	1 6 3 0
Gladioli .. 12 sprays	1	0	2	Sweet Peas, doz. bch.	1 6 3 0
Heliotropes, 12 sprays	0	6		Sweet Sultan, 12 bun.	3 0 4 0
Lapageria, red, 12 blms.	1	0	2	Tropeoliums	1 0 2 0
Lilium longiflorum,				Tuberose, per dozen.	0 4 0 9
12 blooms	4	0	6	White Jasmine, bun.	0 6 0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.			
Aralia Sieboldi, doz.	6	0	18	Ficus elastica, each..	1 6 7 0			
Balsams per doz.	3	0	6	Fuchsia, per doz.	3 0 6 0			
Begonias, per dozen.	6	0	12	Gladioli, 12 pots	6 0 9 0			
Cockscombs, per doz.	3	0	6	Hydrangea . . per doz.	6 0 12 0			
Cyperus, per dozen . .	4	0	12	Liliums per doz.	12 0 30 0			
Dracæna term., doz.	30	0	60	Marguerites, per doz.	6 0 9 0			
— viridis, per dozen	12	0	24	Mignonette, per doz.	4 0 6 0			
Evergreens, in var.,				Palms in variety, each	2 6 21 0			
per dozen	6	0	24	Pelargoniums, doz . .	6 0 12 0			
Ferns, in var., doz. . .	4	0	18	Pelargoniums, scarlet,				
Foliage Plants, vari-				per dozen	3 0 6 0			
ous, each	0	10	2	Petunias, per doz.	2 0 6 0			

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Liverpool Horticultural Association. THE SEVENTH GRAND FRUIT AND CHRYSANTHEMUM SHOW will be held in St. George's Hall, on the 23rd and 24th November. The Silver Cup given by J. Williams & Co. for forty-eight blooms of Chrysanthemums will be competed for. Entries close November 16th. Schedules on application to the Secretary, EDWARD BRIDGE, Tarbock Road, Huyton.

Next Week's Engagements. MONDAY, Oct. 4th.—Commencement of nine days' Clearance Sale, at the King's Aere Nursery, Hereford, by Protheroe and Morris.—Bulb sales at Protheroe and Morris's and Stevens's Rooms. TUESDAY, Oct. 5th.—Sale of Nursery Stock, at Upper Tooting Park, by Protheroe and Morris. WEDNESDAY, Oct. 6th.—Great Autumn Fruit Show, at the Crystal Palace (four days).—Sales of Plants and Bulbs at Stevens's and Protheroe and Morris's Rooms. THURSDAY, Oct. 7th.—Sale of Orchids at Stevens's Rooms; and Bulbs at Protheroe and Morris's. FRIDAY, Oct. 8th.—Sale of Imported Orchids at Protheroe and Morris's Rooms. SATURDAY, Oct. 9th.—Bulb Sale at Stevens's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 2, 1886.

THE SEED HARVEST.—To gardeners of all degrees, as well as to the seedsman, the character of the seed harvest is a matter of some moment. To the one, when it is favourable, it means seeds of good growth at moderate prices; to the other it means a considerable lessening of the risk that attends both the germination and the quality of seeds when harvested in bad condition. The seed-grower, who takes a contract from the wholesale dealer, as well as the latter, are benefited when a large yield of good quality is securely harvested; the former, having his remuneration fixed by contract, gains by means of quantity, the latter can hold over seeds of good growth for succeeding years of scarcity. Besides, the retail dealer hears fewer complaints of the indifferent growth of seeds when they are plentiful and cheap, than when they are scarce and of tardy and unequal growth. The retail dealer often has blame cast upon his shoulders which he does not deserve. He cannot control the processes of nature, however ardently he may desire to gather the fruits of the earth in the best condition; and he cannot be held accountable for the mistakes, the

shortcomings, and the errors of unintelligent gardeners.

As far as present information goes, there is much reason for congratulation over the manner in which the early-ripened seeds have been harvested. Peas, generally, are harvested, if we except some of the later varieties—late in ripening this year owing to the retarding spring. All the early varieties have been secured of excellent quality, except in some few cases where local showers have disfigured the seeds without materially affecting their quality. We have not had such a good harvest time for the wrinkled Peas for years past; the yield is plentiful, and prices, as compared with some previous years, are expected to be very moderate. One result will be that wrinkled Peas will be much more extensively grown in 1887 than they were in the present year. For the last few years seedsmen have had to depend to some extent upon Peas of colonial growth; the yield of the present year is large enough to enable the large dealers to do without heavy importations, and home samples will equal the best sent from the colonies.

Broad Beans are, on the whole, large, plump, bright and plentiful; it is years past since they were so good in all respects. It is too early yet to speak of Runners and dwarf French Beans; but the weather during September having been open, sunny and dry, has greatly helped their full development.

The harvest of Turnip seeds has been gathered in in various parts of the country; it has been got in in good condition, with the result that there is a fair average crop, if not a large one. Onion seeds looked very promising up to a certain point, when mildew showed itself in the stalks, and this has the effect of seriously interfering with the development of the seeds. It is to be hoped that the recent drying weather has checked to some extent the progress of the mildew, and if so, a fairly good average crop may be looked for. We are thinking mainly of the White Spanish Onion, so largely grown in Bedfordshire.

Later crops include Beet, Carrot, Parsley, Radish, Leek, &c., and these have all been greatly forwarded by the fine weather. Rain has now fallen—a warm and soft rain it is true—and much will depend upon its duration. If October should prove fine and seasonable, the harvest will be completed in good condition; on the other hand, nurserymen and planters are badly wanting rain.

MR. JOHN CRANSTON has purchased the King's Aere Nurseries, Hereford, from the Cranston Nursery and Seed Company, Limited, and after the 2nd of November will carry on the business under the style and title of John Cranston & Co.

A LECTURE on "The Darwinian Theory—What it is and how it can be demonstrated," will be delivered this (Saturday) evening, at the Public Hall, Loughton, Essex, by Mr. Alfred Russell Wallace.

ON one fruit farm at Sutton Valence, in Kent, it is said that 110 acres produced 130,000 bushels of fruit of various kinds.

THE great autumn FRUIT SHOW at the Crystal Palace will take place on Wednesday next, and three following days.

AT the meeting of the Preston and Fulwood Horticultural Society, to be held this (Saturday) evening, Mr. Swan, Howick House Gardens, will read a paper entitled "AN EVENING AMONG THE FERNS."

MR. GEORGE TEMPLE, formerly gardener at Paekwood Grange, Warwickshire, has been engaged as gardener to H. G. Bainbridge, Esq., Malvern Hall, Solihull, Birmingham.

THE twelfth exhibition of the LAMBETH AMATEUR CHRYSANTHEMUM SOCIETY will be held on November 8th, 9th and 10th, at the Bridge House Hotel, London Bridge. Several special prizes are offered for competition.

AMONGST the new books announced for the coming season, we note one entitled "CUCUMBER CHRONICLES," which will be published by Messrs. Sampson, Low & Co.

MESSRS. ROBERT VEITCH & SON, Exeter, have been awarded the First Prize offered by the Town Council of Poole for the best design for laying out a recreation ground given to the town by Lord Wimborne.

OLYMPIA, the new National Agricultural Hall, close to Addison Road Station, Kensington, is to be opened in December, when the attraction will consist of representations by the Great Hippodrome, from Paris, with its entire staff of artistes, stud, &c. The building that has been erected covers four acres, and the "Gardens of Olympia" will be eight acres in extent.

A MAN named William Jackson, described as a gardener, has lately been in the habit of breaking into the Vineries attached to the residences of gentlemen living in the suburbs of Manchester, and stripping the Vines of the ripe fruit, which he sold at low prices in the city. Being brought up before the magistrates the other day, he was committed for trial on several charges.

THE *Pharmaceutical Journal* states that AN EDIBLE FUNGUS, which is shown in the New Zealand department of the Colonial Exhibition (*Hirneola polytricha*), forms an article of considerable export to China, where it is used largely as an ingredient in soups, &c., and also as a dye for silks. It is imported from New Zealand to the extent of about 100 tons per annum. This fact suggests that other objects of Chinese commerce might be worthy of cultivation in the colonies, such as the true Gingseng. *Hirneola polytricha* bears considerable resemblance to the Jew's-ear fungus of this country, which is common on Elder trees in damp shady places.

THE papers to be read at the weekly meetings of the Leeds Paxton Society during the ensuing session, are as follows:—This (Saturday) evening, "The Maidenhair Fern and its Uses," Mr. W. Grix, gardener to Sir Jas. Kitson, Bart., Gledhow; October 16th, "Notes on Gardening: Some of its Difficulties," Mr. J. Newman, gardener to Mrs. F. W. Kitson, Burley Hill; October 30th, "Cultivation of the Pleione," Mr. P. Massey, gardener to T. A. Titley, Esq., Gledhow; November 13th, "General Principles of Gardening," Mr. James Inman, Chapel-Allerton; November 27th, "Mushroom Culture," Mr. J. Bolton, gardener to — Walker, Esq., Hambleton House, Shadwell; December 11th, "Critique on Molyneux's Chrysanthemum Culture," Mr. T. Garnett, gardener to Miss Maekie, St. John's House, Wakefield.

At a recent horticultural exhibition held in Philadelphia, Messrs. Hugh Graham & Co. had a very large piece designed after the "old mill" at Newport, which was made at the request of the management. The stone-work was imitated by using *Hydrangea paniculata*, which is very useful for the purpose, after it has become green with age. *Asparagus tenuissimus* was judiciously interspersed with the *Hydrangea*, which gave the floricultural structure a mossy-like appearance, and decidedly added to its effectiveness. It is round in outline, 14 ft. across, and about 16 ft. high. In one window three white pigeons were in natural positions, and in the other was an owl, looking down as only an owl can. The flowers which were used in the lower part of the mill were Asters, Carnations, Dahlias, and other showy flowers. It was placed in the centre of the hall, and visitors could pass in and about the design through the arches.

THOMAS RIVERS.—I accompanied from Temple Place the eminent gardener, Mr. Thomas Rivers, to Leeds Castle, by invitation, to inspect a Peach border, in which the trees were in a most flourishing condition in respect to foliage and wood; but they did not produce fruit. It was autumn, and this year my Peach trees at Temple Place bore abundantly. Mr. Rivers' practised eye enabled him, in a moment, to name the different kinds. Tasting an Early Anne, he remarked, "now this is a Peach we consider quite second-rate, but here it is in perfection, and very delicious. It is ever the case; fruits in high perfection, though of inferior kinds, will often beat the better sorts when not so well matured." His knowledge of trees in general was as profound as his pomological learning. When walking with Mr. J. G. Waller to the Pont du Gard I gathered some berries of a stunted tree growing upon barren high ground, and laden with black clusters of fruit. The tree to us was a novelty, and so it was when I had

reared it in my garden; but the richer soil caused it to grow full ten feet high, and it never produced a berry. Mr. Rivers, in a moment, detected it in the shrubbery, and naming it, observed that he had not seen one for a long time. With him there were "books in the running brooks; sermons in stones;" and his visits to me, and mine to him at Sawbridgeworth, were full of delight and information. We walked from Maidstone, reaching Leeds Castle early in the afternoon. After lunch we were introduced to the Peach border. It was of considerable length, and fully 8 ft. wide, stocked with trees of vigorous growth; but totally without fruit. "I should imagine," said Mr. Rivers, smiling, "that this Peach border must be a nice little annuity for some Maidstone gardener. I should like you, sir, to see Roach Smith's Peach trees. I am not sure they have any borders at all; the roots of the trees are under gravel walks. Your trees are fed by rich earth, which promotes this exuberant growth of wood and causes barrenness in fruit." He then gave directions that the ground should be laid open; that clay should be laid upon the roots after root-pruning, and that a gravel path should be made within a foot from the wall.—*From Retrospections, Social and Archaeological, by Charles Roach Smith, F.S.A.*

PARK HILL, STREATHAM.

THIS, the charming and conveniently-situated residence of H. Tate, Esq., is, doubtless, well known to many readers of THE GARDENING WORLD, on account of the remarkable samples of Black Alicante Grape which are exhibited each year by Mr. Howe, the able gardener there, and the excellence of which may be judged from the fact of their having taken first honours at the Crystal Palace shows for three consecutive years. Having on several occasions seen the Park Hill Grapes on the exhibition table, I thought I should like to see the Vines that produced them, and an opportunity for doing so recently presenting itself, I gladly availed myself of it, and certainly was well repaid for my visit. Never before have I seen so many large and beautifully coloured bunches on one Vine.

A single Vine fills the whole house, about 30 ft. long, the trunk being of enormous size, as also are several of the main branches that are trained at intervals under the roof. Some of the branches are pruned on the spur system, but young canes are annually laid in over various parts of the Vine, which tend to keep it in a vigorous and healthy state, and also to produce some of the largest and best bunches. The system of gradually extending one or more Vines till the whole house is filled, is one that I think will be more generally adopted in the future, as the splendid results that are obtained in this way speak volumes in its favour; and it is an easy matter to plant super-numerary Vines, to be gradually cut away as the permanent one extends.

Many other things at Park Hill were worthy of more than passing notice, and during a hurried visit I had only time to notice those that struck me particularly when passing through the various structures which contained plants in first-rate condition, some of which were of such large size and so healthy in appearance, as to be worthy of a place among the best exhibition collections. In the central bed of the stove was a grand plant of *Davallia Mooreana*, 5 ft. or 6 ft. over, and in perfect health, as well as several large plants of *Adiantum concinnum*. Growing in pots close up to the glass, was a fine collection of *Adiantum cuneatum*, with well-ripened fronds for cutting purposes. The conservatory contained many fine Palms; the most noteworthy among them being a very fine plant of *Kentia Forsteriana*, and another of *Areca lutescens*.

Between two and three hundred Chrysanthemums are grown for producing large blooms, and although they are in smaller pots—7-in. and 8-in.—than are generally used for that purpose, the plants are in excellent health, carrying their foliage to the rim of the pots, and should not fail to perfect fine blooms. The flower garden, which surrounds the mansion, was gay with the usual assortment of bedding plants, single Dahlias making quite a display in one of the borders, and the well-kept lawn showing off the whole to advantage. In concluding these few notes, I may state that the clean and orderly manner of everything about the place bears testimony to the guiding hand of a skilful and systematic gardener.—*H. Dunkin.*

FRUIT NOMENCLATURE.

THE veteran American horticulturist, the Hon. Marshall P. Wilder, recently remarked at a meeting of the Massachusetts Horticultural Society, when opening a discussion on this subject:—In naming fruits we want to suppress all royal titles, such as emperor, king, or prince; all political titles, such as president or governor; all military titles, such as general, colonel, or captain; all indelicate names, like Hogpen, Sheep-nose, and Big Bob; all ostentatious names, such as Excelsior, Ne Plus Ultra, or Stump the World; and all long names like Doyenné Gris d'Hiver, Nouveau, or Twenty-fifth Anniversary of Leopold the First; and also to strike off the hundreds of Beurrés and Doyennés from the names of our Pears were it possible to do so, and to write hereafter Anjou, Diel, and Boussoch, in place of Beurré d'Anjou, Beurré Diel, Doyenné Boussoch, &c. There are, however, some instances, such as the old Beurré Gris and Doyenné Blanc, when the Beurré and Doyenné must be retained as the original types of certain classes.

There are many other terms which have become unmeaning and useless, such as Pippin, applied to Apples, and Seedling, applied to certain varieties of all fruits, for all varieties are originally from seed. The terms Favourite, Beauty, and Choice not being distinctive appellations, are better dispensed with in most instances; but in some they must be retained, as in the case of Clapp's Favourite Pear, because we have also the Frederick Clapp and Lemuel Clapp Pears. As regards Clapp's Favourite, when it was introduced the Massachusetts Agricultural Club desired to possess the control of the variety and give it its name, and authorised a committee to offer £200 for the stock; but Thaddeus Clapp, who raised it, preferred to have it dedicated as it was, and a figure of the Pear is carved on his monument in Forest Hills Cemetery.

Among Apples we have several Spitzenbergs, Russets, and similar names, which should be dispensed with as far as possible. The terms Doyenné, Bon Chrétien, and Calebasse once had some reference to the forms of Pears, but they have never been adopted in naming American varieties. In the future we desire to use but one word for the name of a fruit, as with the Baldwin Apple, the Bartlett Pear, the Concord Grape, and other renowned fruits, which will be perpetually known by appropriate and easily remembered names. In a word, we desire to establish a system of nomenclature which shall be pure and plain in its diction, pertinent and proper in its application, and an example not only to our own, but to other countries.

THE ARDISIAS.

ARDISIA CRENULATA has long been a cultivated plant in gardens for decorative purposes, its compact habit of growth, bright evergreen leaves, and brilliant scarlet berries being most attractive. It is also a favourite with many for room decoration, but is not nearly so much used for this purpose as it deserves to be. In many private gardens, too, the most is not made of such a thoroughly useful subject, the simple method of raising it from seeds not being perhaps sufficiently understood. Many propagate it by cuttings of the young shoots, but these do not make half such neat plants as those obtained from seeds sown early in the year, and grown on in the stove into 48-pots. The main point in their cultivation as seedlings is to be particularly careful that they are not allowed to get dry while in the small pots. In some of the market gardens they are grown in considerable numbers in this way, but we do not remember to have seen a nicer lot than Messrs. J. R. Pearson & Sons have in their nursery at Chilwell, near Nottingham, and which, we believe, are sold mainly for room decoration. There is also a white-berried variety of *A. crenulata*, but it is not much grown.

A few years ago another handsome species was introduced from Costa Rica, and named, in honour of Prof. Oliver, of the Herbarium at Kew, *Ardisia Oliveri*. It is a handsome plant, and distinct both in habit and general appearance from *A. crenulata*, but at present is not much known. Another species, more distinct still from any others, has been put into commerce this season by Mr. William Bull. This is *A. picta*, an introduction from Brazil, with prettily variegated foliage, the petiole, elongate, lance-shaped leaves being of a dark bronze-green colour, with silvery variegation in the centre, as shown in the accompanying illustration. It is a pretty novelty, and should take high rank amongst fine-foliaged plants.

THE HANDSWORTH NURSERIES, SHEFFIELD.

SHEFFIELD may well be described as a town of contrasts, for, probably, in no other place is beauty and ugliness so closely associated. The town itself is in a valley, yet it possesses as great a variety of street gradients as the most ardent admirer of the picturesque could desire. Its climate is described as vile, by those who are compelled by circumstances to live in it, while its soot-laden atmosphere beggars accurate description; and yet there are gardening establishments in Sheffield, on the west side of the town in particular, which are models of beauty and good order, illustrating, in the highest degree, the triumphs of mind over matter; and on all sides, but a comparatively short distance away, may be seen some of the finest scenery to be found in the midlands. The famous Handsworth Nurseries furnish an admirable illustration of this. If you are making a pilgrimage there for the first time, you will in all probability remember

pleasant residence, pretty views are obtained over the extensive nursery to the Derbyshire hills beyond, and the Yorkshire moors on the right, Sheffield lying in the valley between, but well-nigh out of sight. The nursery consists of some 200 acres, and contains a rich collection of hardy trees and shrubs of all kinds, fruit trees, Roses, etc., including specimens of a great many useful and ornamental subjects, which were obtained and planted as soon as sent out, and are now of the greatest value and usefulness as guides to planters.

But let us look through the houses, as we are anxious to see the Lapagerias and the greenhouse Rhododendrons. The Handsworth culture of the former used to be the talk of the trade, and the show-house still devoted to them is truly a magnificent sight; but, in our opinion, the Lapageria is totally eclipsed as a speciality by the hybrid greenhouse Rhododendrons. For extent and quality of cultivation combined, we know of nothing approaching Messrs. Fisher, Son & Sibray's collection. Six large span-roofed houses are devoted to

The principal Lapageria-house is a large span-roofed structure, the roof of which is completely covered with the shoots of alba and rosea, or rather a variety of rosea named profusa—a broader-leaved, handsomely mottled, and much more free-flowering plant than the ordinary form, and the mass of flowers produced had a singularly striking effect. The Orchid-houses contain fine batches of Vandas, thrifty specimens with leaves to the pots; *Oncidium Jonesianum* in quantity, with many good varieties among them; the Hawthorn-scented *Odontoglossum Madrense*; *O. Insleyi splendens*, many fine varieties; large quantities of *O. Alexandræ*, in the rudest of health; a great number of all the leading *Mazdevallias*, and especially of the white *Tovarense*, which appears to be done specially well; a fine clean lot of *Phalenopsis*, with stout, robust foliage and free from spot or blemish; and a host of other subjects grown in the best manner, which we need not stay to particularise.

Other long span-roofed houses we noticed full of



ARDISIA PICTA.

what you have been told, at various times, of the grand things that have been seen there under glass, and will picture to yourself, out-of-doors, sickly-looking trees and shrubs, befouled with soot and dust—yes, Handsworth, near Sheffield, it must be so! Nothing of the kind. What you will see is quite the reverse of this, and you will be surprised at the contrast. Handsworth is four miles away from Sheffield, and so situated geographically, that it is practically outside the smoke radius, at all events, so far out of it as to suffer little from its influence. You learn how this is on the road, as leaving the valley of the Sheff behind, you have to cross another valley before ascending the hill on which Handsworth is situated. You will learn that the prevailing direction of the wind is west or north-east, consequently the smoke is drawn up or down the valley as in a flue, and thus is the immunity from smoke at Handsworth explained. We have been thus careful to explain the matter, lest, in alluding to the beauties of the situation and the exceedingly fine character of most of the things grown, some may imagine that we are drawing on our imagination.

From the garden front of Mr. Charles Fisher's

their cultivation, and in them may be seen plants of all sizes, and of the most admirable shape, of all the leading kinds that have been sent out. Remembering what leggy subjects the earlier-raised varieties were, the neat bushy habit surprises one, until we learn that it is due to careful grafting rather than to an improvement of the habit, though a marked change in this respect is observable in the later crosses. As seen here, it is impossible to over-estimate the value of this race of Rhododendrons as useful decorative subjects. Being easily grown, and at no time requiring coddling, they can, by judicious management, be had in flower at all seasons of the year, and there is something so fresh and pleasing about their foliage and flowers, that one never tires of them. The flowering house, as distinguished from the growing houses, presents a floral picture not easily to be forgotten, so imposing is the mass of white, scarlet, crimson, pink, salmon, rose, and intermediate shades of colour. A considerable number of the plants we noticed out of doors, in skeleton frames, where they flower even in the summer months, and among them were some beautiful examples of *R. Taylora*, perfect bushes, 8 ft. to 9 ft. in circumference.

zonal Pelargoniums, Ferns in great variety; *Bouvardias*, *Azaleas*, *Hydrangeas*, *Camellias*, &c., all of which are grown by thousands. *Araucaria excelsa* is exceedingly well managed, and the stock of young plants is very fine. In a cool house we noticed a seedling *Stephanotis*, which makes its growth and flowers in a cooler house than the ordinary *S. grandiflora*. This will make a favourite amateurs' plant when it becomes plentiful. The variegated Indianrubber plant, *Ker's* variety, is magnificently grown, the colouring of the foliage being perfect. As seen here in bulk, plants twelve months old with about 20 leaves each, we are compelled to admit its striking beauty. *Nepenthes* are also largely grown; and the collection of *Anætochilus* in a frame, seemed to be particularly happy.

The collection of hardy trees and shrubs, as we have before remarked, is especially fine, but we have not space to-day for any lengthened description. The cultivation of small shrubs in pots is a prime feature, the stock consisting of about half a million; *Ivies* are also well done in pots, and, for planting against dwelling-houses, the variety *Caenwoodiana* is grown to the extent of some 5,000 plants, up to 7 ft. high. But the

Hollies are the prime feature, and next to these the Rhododendrons. The collection of Hollies consists of some seventy varieties, old and new, and the avenue of single specimens of all the kinds that have been planted as they came into commerce is worth a journey to see in itself—the specimens being so large and perfect in their development. Many of them, indeed, are the original plants. The Rhododendron avenue, too, is not to be matched, so grand are the specimens, and so great is the interest attached to them. The golden Yews, too, also demand a word, some of the specimens being quite fifty years old. The practice of planting out examples of all the best things as they are introduced has also been carried out in the case of Roses, and here, in a large quarter, can be seen plants of some 500 varieties; other things are treated in the same way, which cannot now be indicated, but which would be found well worthy of inspection by all lovers of hardy plants. The Handsworth Nursery is in every respect a remarkable establishment, and we shall hope some day to do it greater justice.

THE STRAWBERRY TREE, ARBUTUS UNEDO.

DESPITE what some heated politicians say to the contrary, let us gratefully acknowledge that some good came out of Ireland, for she gave us the Strawberry tree. We have many beautiful evergreens in our gardens, and this is one of them; for its growth and foliage are alike pleasing and ornamental, its flowers hanging in the form of manifold bells of delicate white, giving an additional beauty to it, but when it is covered with a profusion of pendent scarlet berries, it is certainly one of the most ornamental trees we possess. The berries ripen slowly, and remain long on the tree, sometimes up to the period when it comes into flower. It is a generally received opinion that this tree, when young, does not fruit, and that it is only in its more advanced stage that the "Strawberries" ripen to maturity. This is, perhaps, hardly correct, as experience has shown that if this *Arbutus* is planted in common soil, with a damp bottom, it will grow vigorously, flower, and be in every respect healthy, though it will not ripen its fruit until the tree is old; but if it be planted upon a bed of gravel, or upon a sandy bottom, and in an elevated situation, so as never to be subject to any stagnant moisture at the roots—the gravel or sand continually acting as a drain, and consequently keeping the roots quite dry and warm—it will be found that the *Arbutus* brings its fruit to maturity whilst quite young, and by the time the tree attains a tolerable size, say four or five years after it is transplanted, it will, in a favourable season, be entirely covered with a profusion of crimson berries, forming an object of great beauty. At times it partially suffers from severe frosts, but is hardly ever killed outright.

According to Mr. R. Folkard, the tree is one of great antiquity, for he informs us, in his book on *Plant Lore*, &c., that it was held sacred by the Romans. "It was one of the attributes of Cardea, a sister of Apollo, who was beloved by Janus, guardian of gates and avenues. With a rod of *Arbutus*, Cardea drove away witches, and protected little children when ill or bewitched. The Romans employed the *Arbutus*, with other symbolic trees and flowers, at the Palila, a festival held in honour of the pastoral goddess Pales. It was a Roman custom to deposit branches of the *Arbutus* on coffins; and Virgil tells us that *Arbutus* rods and Oak twigs formed the bier of young Pallas, the son of Evander. Horace, in his Odes, has celebrated the shade afforded by the *Arbutus*. Ovid speaks of the tree as 'the *Arbutus* heavy with its ruby fruit,' and tells us that in the golden age, the fruit afforded food to man. This fruit is called *unedo*, and Pliny is stated to have given it that name because it was so bitter, 'that he who ate one would eat no more.' But I have met with people who eat the fruit and appear to like it. Some of the most fruitful specimens of this shrub I have ever seen, were growing on elevated positions, which appeared to suit it exactly."—R. D.

We learn from an exchange that something new in vegetables is being brought forward by the well-known French seedsmen, Messrs. Vilmorin, Andrieux & Co., of Paris. It is called *Choro-gi*, and is a native of Northern Africa. Its botanical name is *Stachys affinis*. It fleshy roots or tubers only are eaten, dressed like string Beans or fried like fritters, and are said also to make an excellent pickle.

NOTES ON BEANS.

WE have three distinct forms of Beans, which are popular and widely grown—Broad or Long Pods, Runner Beans, and Dwarf or Kidney Beans. Of the former, fewer are grown than formerly, because the taste for them seems dying out. They are rather strong-flavoured, apt to stain, and soon become hard and lacking tenderness. Because of their great length, the selected forms of the Seville have been favourably regarded on the show table. For garden purposes, by far the most prolific and useful is Johnson's Wonderful or Giant Long Pod, and for market growth the fine Harlington Broad Windsor is the best. It is curious that whilst in private gardens the long-podded kinds are the most esteemed, market people will have only the Broad Windsors. If we turn to dwarf French Beans, we find that the long-podded Red Flageolet or Canadian Wonder seems to have usurped the place of popularity, owing, again, very much to its effectiveness as a show vegetable.

Forciers of dwarf Beans will use some of the earlier or shorter-podded kinds, but for general crop almost all gardeners grow Canadian Wonder. If henceforth they will obtain seed of the Long-podded Negro—by some rather absurdly termed Monster, or Giant Long-podded Negro—they will find a much better, more prolific, and tender-eating Bean, very long and handsome in pod, and altogether the best dwarf Bean in commerce. With respect to runners, the most useful of all Beans, we have a considerable selection in Champion and Exhibition White and Scarlet—sorts all very prolific and producing fine pods. If we want something bigger and more sensational, we can have Girtford Giant or The Czar; but the prettiest and handsomest of all runners, so far as I have seen samples, is Ne Plus Ultra—the pods long, straight, and even, and of a rich green hue. So far, it has been seen in London only at the cottagers' show held at South Kensington in August, where it was by far the best sample shown. Can any reader tell us anything farther about such a fine selection as Ne Plus Ultra is?—A. D.

THE AURICULA.*

THE Auricula has long been cultivated in this country, and prized by florists as one of their finest flowers. The date of its introduction is not exactly known, but it was a cultivated plant in this country prior to 1597, when it was described by Gerard, who mentions several sorts of Bears Ears (by which name the Auricula was formerly known) as being then commonly grown near London. Since that time great improvements have been effected in the flower, through the efforts of such florists as Campbell, Lightbody, Page, Leigh, Franklin, Bootb, Trail, Morris, Litton, Oliver, Holden, Headly, Ashton, Pollit, Thompson, Turner, Sykes, Waterhouse, Clough, Royston, Read, Cunningham, Butcher, Grime, Kenyon, Wilmer, Spalding, Smith, Pohlman, Martin, Neatherwood, Sims, Simonite, and last, though not least, the Rev. F. D. Horner. It should also be stated that much of the improvement that has taken place has resulted from the active competition which has existed for many years amongst the operatives in the manufacturing towns of Lancashire and Cheshire, and who have carried the culture of this plant to a high degree of perfection. In the language of the florists a single flower is called a "pip," and several of these borne on the same stem constitute a "truss." The individual pip is divided into four parts. The centre of the flower, in which are situated the sexual organs, is called the "thrum"; the circle of white surrounding this is called the eye or "paste"; the next band, which should have a feathery edge, is termed the "ground colour"; and the margin, according to its colour, is called green-edged, grey-edged, or white-edged, as the case may be, while those which have no edge or distinct band of colour surrounding the ground colour constitute a fourth class termed "selfs." Besides these there is another section called alpinas, in which the paste, or centre, is yellow or white, and the body colour either "self" or shaded. These may be had in a great variety of colours, but they are not much cultivated by florists.

PROPAGATION.

The Auricula is propagated by seeds for the production of new varieties, and by division of the offsets

*A Paper read on Sept. 24th, at a Meeting of the Walkley Amateur Floral Society.

for the perpetuation of individual sorts. The seeds may be sown in December, January, February, or the early part of March, but the sooner the better, as if sown at any other time the chance of keeping them through the winter is not so good, owing to their liability to damp off. The seeds should be sown thinly in pots or pans, well drained and filled with light rich soil, composed of two parts of sandy loam, one part of leaf soil, passed through a fine sieve, one part of well-decayed manure about three years old, and plenty of sand. When sown, cover the seeds thinly with sand or fine compost, and place them in a frame or greenhouse in a position where they can be shaded from the sun. A proper degree of moisture must be maintained in the soil by gentle waterings. When the plants are up, care should be taken, when watering, not to wet the foliage; and when the young plants have made three or four leaves they may be placed singly into 3-in. pots in a similar compost to that before mentioned. In the following spring some of the seedlings will bloom, when those that prove to be worth growing should be retained, and the others thrown away.

Various seasons are recommended for propagating by division, but to my mind the best time is when the plants are being re-potted, and this should be done as they are going out of flower, or be left until July, when the growing season commences again. The Auricula has two seasons of growth—viz., from August to the middle of October, and from February till about the middle of June. Active growth is at other times suspended, and while they are in this state they will require very little water, and certainly none overhead. They cannot, however, have too much air; consequently, whatever kind of structure they are grown in, it must be thoroughly ventilated. Although the Auricula may be grown in a shady border, yet the finer varieties can only be flowered in perfection in pots and under glass. For this purpose, after much thought, I decided to erect a small span-roofed house, ventilated according to my own ideas, and which was constructed as follows:—The house is 9 ft. long and 7 ft. wide, and measures 7 ft. from the floor to the ridge. The brick-work at the sides and ends is 4 ft. high, and a single brick in thickness. The fourth course from the ground consists of a brick and a ventilating grate placed alternately the length of the house on both sides, and the glass is so arranged as to give about half-an-inch of ventilation all along the top and bottom of each side, so that there is but little chance of any stagnant moisture accumulating. Where it is not convenient to have a house, a frame, such as is recommended by the Rev. F. D. Horner, would certainly give pleasure to the amateur cultivator. The dimensions of the frame are as follows:—It stands on legs between 2 ft. and 3 ft. high; it is open at the bottom, and the back is of wood; there is also a door in it to give access to the plants, and for the admission of air. The ends are of glass, and are fixed; the front is also of glass, but this being hinged to the frame, it can be let down at pleasure for giving air. The top is protected with lights, which can be tilted, or entirely removed when it is desired to completely expose the plants. In the interior there are five rows of shelves, the rise between each shelf being 2 ins., and the distance from the glass is 15 ins. Each shelf is 5 ins. wide, and a piece about 1 in. in width is cut out along the middle to within a short distance of each end, to permit the water to escape from the pots. The dimensions are:—height from the ground at back, 4 ft. 8 ins.; in front, 3 ft. 8 ins.; width, 3 ft. 8 ins., and length, 7 ft. 2 ins.

REPOTTING.

It is most essential that the Auricula should be repotted every year, so that the tap root may be examined and be cut back as required. This, I think, is best done in July, when each plant should be shaken out, and the roots washed clean and examined, so that if there be any canker or disease it can be cut clean out and the tap root shortened back to the previous year's flower stem; the side shoots should be taken off, and all the wounds dressed with finely powdered charcoal. The pots best suited to the Auricula are those called Long Toms; and for a full-sized plant the pot should not exceed 4 ins. at the top, 3 ins. at the bottom—inside measurement—and 5½ ins. deep, to allow of abundant drainage. The compost should consist of two parts of pasture turf (two years old), one part of cow or horse manure (three years old), half a portion of leaf-soil and half a portion of coarse sand thoroughly mixed together. Put in at least 1½ ins. of

crocks, on these place a thin layer of decayed leaves, unbroken up, to prevent the soil from getting in amongst the crocks; next fill the pots to within about 2 ins. of the top with compost, put in a little sand, and on this place the end of the tap-root, and fill up the pot to the brim; strike it smartly two or three times on the potting bench, and then remove the plant to its summer quarters, which should be under the north side of a hedge or wall. The plants should be elevated about 2 ft. above the ground, and there they may be safely left until November, when they may be placed in the frame or house, giving them all the air possible. Water must be gradually withheld, so that during December and January the soil is just kept from being absolutely dry. If it be kept wet or too moist, the plants will be in great danger of contracting disease and suffering from frost. About the end of February and during March they must have all the air possible and more water; they must also be top-dressed with two parts of rotten manure and one part of loam, having previously removed the old soil to the depth of an inch. From the beginning of April, when they have pushed up their flower stems, they will require to be kept in a moist state at the roots until the end of the blooming season.

INSECTS AND DISEASES.

The roots of the *Auricula*—and especially the tap-root—are often attacked by rot or canker. When this takes place, the foliage changes colour, and the plant droops and quickly perishes. The disease appears to be the result of deficient drainage, an excessive supply of moisture, want of air, and too rich soil. On the first indication of the disease, the plants should be turned out, the decayed parts be cut away, and the roots exposed to the air until the wounds are dry, when the plants should be re-potted in fresh but rather poor soil.—*J. S. Stocks.*

GARDENING NOTES FROM SCOTLAND.

Methods of Cultivation.—I have recently read some timely remarks on the systems adopted by fruit and vegetable growers, who as readily state their disagreements as their agreements with the methods of others. We know it is by no means uncommon to see success of the highest order attend the efforts of some whose systems may appear to be diametrically opposed to those of their neighbours; but if all the details were minutely described, and the circumstances under which opponents in theory followed their practice, it might be seen in the end that, when all was fairly balanced, there would be something like six of one and half-a-dozen of the other. Some time ago I hinted to a very clever grower that he might do quite as well—perhaps better—by growing his Pine Apples in pots of reduced size, compared with the tub-like sizes in which he grew his plants. He could not be persuaded, even by reference to the success of some distinguished growers who fruit their plants in 12-in. (or about that size) pots; our friend has tried both methods, but preferred the large size. The potting stuff in both cases being put in loose, of course gave no chance to the more economical method of moderate potting, which may be practised most successfully by potting firmly, thus saving means and labour. Pine-growing is almost becoming *nil*, and judging from what is often seen at exhibitions, the knowledge of what fine fruit really is, would lead one to suppose is also becoming extinct among certain growers. The past season has been notable for bad Pine exhibitions, especially in collections of fruit.

I notice, also, that Grape growers are often found with opinions very adverse to those of successful neighbours, some putting much value in certain kinds of manure (there are kinds really valuable because of their purity and life-giving power, when skilfully applied to plants and fruits), systems of watering, peculiar methods of pruning, airing and so forth, when the same practice followed in other parts under different circumstances would give very opposite results; and were we to give notes on observation on what I now adduce (say over a period of twenty years in various parts of the kingdom), some very peculiar statements would be given. In passing, let me refer to one instance.

A friend who was a most successful exhibitor of fruits, put much dependence on his method of surface-dressing his Vine borders. Care of superfluous moisture not reaching the roots, certain substances applied during the season to feed the roots, and pruning to the “best bud” nearly completed the secrets of success; but after these prize-taking Vines had done credit to their manager for about twenty years, he removed to something more suitable to his taste. His successor had to make extensive alterations and renovating, and while removing the borders which the pet Vines had been supposed to derive so much benefit from, it was found that the roots had never reached them at all, but found their way into the huge foundations of the structures; while the mass of soil so frequently receiving enriching and careful manipulation, remained all these years in its unwasted condition, and unworthy of the excellence to which it was believed to have helped the Grapes to attain.

Turning to vegetable-growing, I observe lately that writers are disagreeing about methods of growing Celery. Some are dead against the system of earthing up piecemeal, preferring to do the work all at once. It is stated, that by “piecemeal earthing,” water is excluded from the roots, and the crop bolts to seed. I have adhered to the once or twice earthing, in a great measure, for many years, and though generally highly pleased with our Celery crop, good substantial produce being had in abundance from August to June, I should be sorry to denounce the system of our fathers, aye, of my grandfather, who was fifty-two years in one place, and his success as a Celery grower would astonish many who are satisfied with the result of their practice at the present time. It matters not as to whether the ridges are made for one, two, or four rows; we generally follow this good old practice of four rows in a ridge for mid-season supplies, say from October to April, or whether the ridges are a foot deep, or the Celery planted on the surface, and no ridges being formed, but a thick coating of manure dug down and well-trodden; the Celery planted like Lettuce, Cabbage, &c. But watering has something to do with success, but not always by deluging frequently (only the surface in some cases) the plants with cold well-water, or from the cool spring, which often causes the “bolting” which one wishes to avoid.

I believe in treating Celery liberally from the beginning, never checking the growth by drought, cold drenchings too frequently applied, curtailing the roots, or cramping in any form. When planting is done, all that the roots can carry with them of the manure (on the surface of which they have been pricked out) should be taken to the ridges. When the soil is nicely put round the plants, and all made right, a good mulching of manure (rotten stuff is the best), leaf-soil, or grass if nothing better can be had; then a thorough soaking of pond or tank-water which has been well exposed to the air. This will keep the plants in good healthy growing order for a week or two on the driest of positions; then another thorough soaking may be administered; over this (covering the firm mulching entirely) may be placed some well-broken soil, which will keep the roots (which are then active in the mulching and manure below) in healthy condition, and exclude drought. In the driest positions and hottest seasons we never had to give more than three such waterings, and whether we practise “one earthing” or “six earthings” the Celery is much the same, except that the frequent earthing system blanches most completely, while the Celery flavour is retained in the one-earthed lot to a greater extent. Incomparable and Major Clarke’s are A 1.—*M. T.*

THE AMATEURS’ GARDEN.

THE GREENHOUSE.

Those valuable plants, the *Lapagerias*, both *rosea* and *alba*, are now in their most pleasing form; and although we have numerous beautiful plants in the greenhouse at the present time, none are so much admired as these. Their drooping festoons of flowers are very graceful; the blooms themselves have such a fine, wax-like, substantial appearance, and they last for such a long time, that it is not at all surprising they gain favour with many people. For a long period it was thought that these plants were difficult to grow, and the idea has not quite died out now; yet, with attention

to a few matters, anyone can ensure success with them. A mistake that is too frequently made is placing the plants in an exposed part of the house, where they get the full force of the sun, and when this is done failure may be expected; for though the plants may live for a time and even flower, they will not make satisfactory progress, and will probably become weaker and thinner every season. A slightly shaded position—or, at least, one where they will not be exposed to the sun at mid-day—is necessary; and then, if the soil is right, good turfy peat and charcoal, with care in keeping the plants clear of their chief insect enemy, the mealy-bug, *Lapagerias* may be easily had in their most luxuriant condition. No pruning should be attempted; train up all the growths produced, and if at any time they become too thick, remove some of the old ones, as these usually produce smaller flowers than those two or three years old.

Begonias of the *Ascotensis* type are flowering well now. *B. fuchsioides* we have trained to the roof and pillars; the old *Cassia corymbosa* renders the house gay with its multitudes of golden flowers; another old favourite, *Rhodochiton volubile*, has its long pendulous shoots clothed with flowers; *Plumbago capensis* is a mass of its delicate blue or lilac flowers; *Bouvardias*, *Zonal Pelargoniums*, *Scabious* in pots, *Impatiens Sultani*, and *Amaryllis Belladonna*, are all contributing to the floral attractions of the house; the last-named is a great favourite with us, and we have a good number in pots every year, as though without their foliage they have a somewhat bare appearance alone, yet arranged with small Ferns they are charming, their soft pink-veined flowers being very beautiful. *Vallota purpurea* is another useful plant for the greenhouse at this time of the year, and should be grown in quantity. It will be seen from this that we have no lack of flowers, and by means of liberal ventilation in fine weather we hope to maintain its beauty for a considerable time—in fact, until our earliest forced bulbs, such as Roman Hyacinths, can be employed for the same house.

If, owing to the want of adequate space in frames or elsewhere, bedding plants have to be placed in the greenhouse, it will be advisable to have them arranged on frames near the glass, and where they will not interfere with the other plants; otherwise assign one portion of the house to them, as it is not well to mix them with the others, for it is then very difficult to keep the house in a satisfactory condition.—*Scolytus.*

CUT FLOWERS.

Forty years ago, in New York, in constructing a simple hand bouquet, some of us did not know enough to use a thread to keep each flower in its place as the construction went on, and it was some years later that the centre stick was used to steady the structure. The wire design man did not put in an appearance until nearly twenty years later, and when a cross or wreath of flowers had to be made, the cross was usually constructed with pieces of lath, on which the flowers were tied, and the floral wreath had the groundwork of a piece of old barrel hoop or a Willow twig. The bouquet was usually a one-sided affair, the groundwork being a flat bunch of Arbor vite, through which the flowers were drawn. Occasionally a round bouquet was attempted by some artist of local fame, but with a result that must have done violence to the feelings of the poor flowers that were used in the structure.

The character of the flowers used for cut-flower purposes has also been radically changed. Forty years ago *Camellia* flowers were freely retailed at one dollar each, and Philadelphia used to send thousands to New York florists at the holidays, getting 500 dollars per 1,000; while *Roses* were then going a-begging at one-tenth of that sum. Now the *Rose* is queen indeed, and the poor *Camellia* finds none so poor as to do her homage. The culture of *Tuberose*s came a little later. I find, from an old schedule of prices, that in 1865 *Tuberose*s were quoted in November at eight dollars per hundred, and a reference to my own books shows that in that year my receipts from a house (10 ft. by 100 ft.) of *Tuberose*s were 1,500 dollars in November; now they are rarely sold at all in New York, unless to the poorest class—*Dame Fashion* has stamped them out, as she, twenty years before, stamped out *Camellia* flowers; and just here comes the question: May there not be danger of a rebound in the *Rose* “boom”? May there not be danger ahead in placing so many eggs in one basket, fascinating though the basket be?—*Peter Henderson, in the Ladies' Floral Cabinet.*

THE DELL, EGHAM.

ON high ground on the edge of Windsor Park, stands Baron Schroder's pretty house and garden, which latter is one of the richest and best kept in England. In every department of the garden neatness and good order prevails; outdoors the walks are always bright and weedless, the verges sharply cut, the grass short and smooth, and the rare dwarf-growing Conifers, Golden Hollies and flowering shrubs are trimmed and tended with as much care as the greenhouse plants; while indoors the houses are always comfortable, the paths and stages scrupulously clean, the plants in good condition, and some or other of them making a fine show of bloom every day in the year. Go when one will, there is a pleasant day's work to inspect the rare beauties at The Dell, but at special seasons, a glowing display of flowers greets the eye. When the Rhododendrons are in bloom, the gardens are at their greatest beauty, for then the scene on the garden side of the house is matchless, the whole view being bounded on all sides by raised and undulating banks of the best and richest-coloured Rhododendrons, with here and there, in the fore-ground and space beyond, the brilliant colours of large clumps of the same, blended with the softer tints of the masses of the white *Kalmia latifolia*, and the white, rose, yellow and salmon-coloured varieties of *Azalea pontica*. It is, indeed, impossible to imagine or describe anything so lovely as The Dell in the Rhododendron season; and in the houses the *Cattleya* flowering-time is a very gay one also.

THE DRIVE.

At the entrance lodge stands a patriarchal Oak, and some specimens of *Abies Douglasii*, mounting into the air 60 ft. or 70 ft., tall, thin, and straight, and having more the habit of the Larch than of the Douglas Fir. They are very beautiful and unlike any other conifers, their different habit of growth, it is supposed, being the result of grafting—if so, it would be desirable to get some grafted *Abies Douglasii*. The carriage drive is planted on both sides with golden Hollies, and such conifers as are neat in growth, and which may be always kept within the limits allotted to them; hence a very pretty and neat effect is insured, summer and winter, by the large oval or conical specimens of golden Yews, yellow and variegated *Retinosporas*, dark-tinted *Thujas*, and golden *Arbor Vitæ*—each perfect in shape, and standing alone in a manner calculated best to display its own beauty, while harmonising with its fellows for general effect. Arrived at the house, a splendid view is obtained over the dell, and through

A GLADE OF GIANT BEECHES AND OAKS,

Windsor Castle appearing at the end. This is a grand view, and with the bracken-clad grove and graceful deer forms a picture not likely to be forgotten by any visitor to Baron Schroder's garden. On the other side of the house, which is fitted with a continuous glass front and pretty Fern rockery at the end, the flower garden appears. This is restricted to one geometrical design, with fountain and basin in the centre, and four figures holding aloft baskets in which variegated *Agaves* are planted. A good number of the smaller beds are planted in carpet style, and in others the carpet and old style bedding is mixed, and altogether a very pretty and bright effect is made. For bright and rich colours the tuberous *Begonias* share honours with the *Pelargoniums*, and among the last-named some of the oldest are the best, such as Beaton's Indian Yellow, the soft salmon-cerise *Lucius*, and the old scarlet *Warrior*; but out of them all, new and old, for good trusses of dark blood-red, none come near the now general favourite, *Henry Jacoby*.

CONIFERS AND RHODODENDRONS.

Studded about the smooth lawn beyond the flower garden are a large number of grand specimens of Cedars, *Araucaria imbricata* (50 ft.), *Libocedrus decurrens*, all the best varieties of *Abies*, *Cupressus*, *Retinospora*, &c., in grand specimens, the whole being bounded by the raised banks of Rhododendrons before mentioned. On the left of the house is an object of great interest—viz., a huge specimen of the old double white *Camellia*, which has grown and flowered magnificently outdoors at The Dell for many years. It is planted against an old wall, but grows away from it into a dense bush some 20 ft. in height and 25 ft. in width. It is now covered with prominent buds too numerous even to guess at their number.

THE SPLENDID BLOCK OF GLASSHOUSES

Is reached by means of a tunnel built of white porcelain-faced bricks. This is an admirable contrivance, as the flower garden and pleasure grounds round the house are divided from the garden under glass and the kitchen and fruit gardens by a road. The houses, which are spacious and well built, occupy the centre of a square, the 300 ft. range of Peach, Nectarine and Plum houses enclosing one side, and the equally fine range of Vineries another. The offices and the comfortable bothies for the young men are also within the square, the whole being built on a very convenient plan.

THE ORCHIDS.

Baron Schroder has a very famous collection of Orchids, which occupies the principal houses, some of the specimens, like the new ivory-white *Vanda Dearei* which has just flowered there, and attracted many visitors, being unique. Among them we noticed the unbeatable *Odontoglossum crispum Veitchianum*, the superb *O. c. Ballantinei*, *O. c. Sanderianum*, *O. c. apiatum*, *O. c. Schroderianum*, *O. Pescatorei Veitchianum*, *O. P. Schroderianum*, *O. excellens*, *O. excellens Knoxii*, and other priceless treasures, together with a good general collection which steadily improves in condition every year.

In the cool houses there is a great show for bloom on the *Masdevallias* and *Odontoglossums*, some of the *O. crispum*, *O. Coradinei*, *Oncidium varicosum*, *O. Forbesii*, *O. incurvum*, &c., being in flower, while overhead a very showy and interesting collection of chimaeroid *Masdevallias*, with their curious bat-like flowers, appear. Among these the most striking are *M. chimæra*, the yellow-ground variety; *M. c. Shieldsiana*, with large upright flowers of bright reddish crimson, freckled with white; and *M. c. Winniana*, with very dark crimson and white flowers with remarkably long tails. *M. erythrochaete*, *M. Houtteana*, and a few other smaller kinds are also very pretty.

THE CATTLEYA AND LÆLIA HOUSES

Are very rich in good things sending up a great profusion of flower sheaths and spikes well advanced, the white *Lælia anceps* being marvellously well done. Among them are large specimens, with five to seven spikes, of *L. anceps Dawsoni*, which none of the new-comers have yet deposed from its place as prime favourite; also showing numerous spikes among the white varieties are *L. a. alba*, *L. a. Veitchiana*, *L. a. Hilli*, *L. a. rosea*, *L. a. Williamsii*, *L. a. Percivaliana*, *L. a. Stella*, and *L. a. Sanderiana*; the distinct-looking *L. a. Schroderian*, of which so much is expected, does not intend to flower this year. Other notable specimens in this house are a fine lot of Messrs. Veitch's superb hybrid *Cattleyas* and *Lælias*, some large *C. exoniensis*, well-sheathed specimens of white *C. Mossii*, a grand mass of the yellow *Sobralia xantholeuca*, and *Cattleya Skinneri alba*, which will have a dozen and a half spikes. Also in bloom are *Cattleya Loddigesii*, *C. maxima Peruviana*, a grand variety; *C. calummata*, *C. Harrisoniæ alba*, a lovely white *Cattleya*; *C. Devoniensis*, a fine hybrid; *C. Acklandiæ*, and *Lælia elegans*. In

THE AERIDES HOUSE,

Aerides suavisimum has four very fine spikes of fragrant wax-like flowers; two plants of *Vanda Sanderiana*, each bear five spikes of its rich and massive blooms; *Dendrobium Phalaenopsis* is well bloomed; *D. superbiens* has four long spikes of violet-crimson flowers, and *Oncidium Lanceanum*, *O. Kramerianum*, *Cypripedium Arthurianum*, *C. vexillarium*, *C. cœnanthum superbum*, *C. Spicerianum*, *C. Godefroyæ*, *C. concolor*, *C. Leeannum*, *C. Sedeni*, *C. Dominiana* and *C. insigne Sylhetense* are well in flower. In the other houses the *Phalaenopsis* are progressing favourably; the large lot of *Calanthes* are grown to the highest perfection, and the flowers of some good *Vandas*, *Odontoglossum Insleayi splendens*, *Epidendrum xanthinum* and other things appear. In the large house, the Orchids which like such treatment, are grown among grand

SPECIMEN FOLIAGE PLANTS.

One magnificent *Alocasia Veitchiana* has leaf-blades 6 ft. in length, and many other things are worthy to match with it. In this house, the evergreen *Dendrobes* attain such perfection, that *D. thyrsiflorum*, *D. Farmeri*, and others of that class make growths 2 ft. or 3 ft. in length, and flower splendidly. The *Bolleas* and *Pescatoreas* also do well on the shady side of the house, and flower profusely without injury. At present in flower, are a large form of the primrose-coloured *Pescatorea cerina*; the singular and beautiful *Peristeria*

pendula, with a massive drooping spike of thirteen fleshy french-white flowers dotted with crimson; the spike is broader than long, and the flowers, and the manner in which they are produced, are novel and attractive. In the same house, also in bloom or bud, are the very rare *Oncidium Brunleesianum*, the showy *Calanthe igneo-oculata*, *C. masuca*, *C. plerochroma major*, *Dendrobium Brymerianum*, and some showy *Ixoras*, *Allamandas*, *Bougainvilleas*, and other stove plants. Besides the grand collection of Orchids, houses are devoted to each of the

OTHER SECTIONS OF PLANTS

Usually met with in gardens, some of the best and most useful for cutting or for decoration having each a house to itself. Thus the *Imantophyllums*, *Camellias*, *Azaleas*, *Ferns*, *Pelargoniums*, and other florists' flowers have each proper houses allotted to them, and the gorgeous collection of scarlet *Nerines* are now producing in their house a grand display; the white and crimson *Lapagerias* in their quarters are equally fine; and the large and well-budded collection of *Chrysanthemums* are having a very large and ornamental new house built for their reception.

THE FRUIT HOUSES, &c.

These have been heavily cropped this season all round, the six large Vineries having still untouched one good house of *Madresfield Court* and two of *Museat of Alexandria*, and the *Pinerias*, *Melon*, and other fruit houses are up to the best possible in health of plant and crop and freedom from insects. In the frame ground some pretty dwarf table plants are grown, a whole pit being filled with the white and green *Caladium argyrites*, which is a grand plant for the work when grown like these.

The vegetable and fruit gardens, enlivened by large borders of *Zinnias*, *Asters*, and herbaceous perennials, are as neatly kept as all the rest of the establishment. There has been a very heavy crop of Plums this season, and Pears and Apples have been fairly plentiful; indeed, all the crops have been satisfactory, and Peas particularly good; Veitch's *Perfection*, Sutton's *Emerald Marrow*, *Premier*, and *Ne Plus Ultra* are still in good bearing, and will continue to supply until cut off by frost. Sutton's *Mammoth Negro*, a late dwarf Bean, is also highly prized here; the rows of it which are just turning in are nearly all Beans, and are excellent in quality. Of *Brussel Sprouts*, too, there is a piece at The Dell which would take some beating. Spaces in the kitchen garden, too, are used for planting *Bouvardias*, *Carnations*, &c., for winter flowering, and it may be said that for really successful all-round gardening, The Dell can rank with the best.

Baron Schroder has a great love for his home and his gardens, and they are worthy of his love, and Mr. Ballantine, his gardener, who has had charge during the making and perfecting of it, has his heart bound to The Dell by the remembrance of many a success and many a difficulty overcome.

JOHN LAING.

WERE the question to be asked, Who among the host of earnest floricultural workers have done the most during the last quarter-of-a-century to bring florists' flowers into popularity? few, we imagine, would have a better claim to recognition than the subject of our portrait on the opposite page, Mr. John Laing, of the Stanstead Park Nursery, Forest Hill. Inseparable as is his name from the tuberous-rooted *Begonia*, it is only right, however, to state that it is not yet twenty-five years since Mr. Laing took that flower in hand; indeed, it is only about twelve years since he took up the varieties then in existence with a view to their further development; but during the last twenty-five years Mr. Laing has been a sort of champion improver among improvers, and there are few popular flowers that he has taken in hand, but what he has left very different to the state in which he found them. As regards the tuberous *Begonias* in particular, we are sure it will be freely admitted that the marvellous improvements that he has brought about since he first raised, exhibited, and obtained a First Class Certificate for Royal Standard, his first certificated variety, entitle him to all the honours that his floricultural brethren can bestow upon him. Such being the case then, we feel that many of our readers will like to know something of our friend's career from early life to the eminent position he has won for himself in the ranks of horticulturists.

Mr. Laing was born in October, 1823, in the parish of Carriston, near Brechin, and commenced his gardening career at an early age in the gardens at Old Montrose, then under the direction of Mr. Reid, an able and enthusiastic gardener, who at that period was also a very successful exhibitor at the Montrose flower shows. Mr. Reid also knew herbaceous plants well, and had the care of a fine collection, and, doubtless, it was owing in no slight degree to his enthusiasm, that his pupil acquired such a strong love for the study of botany. He was at Old Montrose four years, and during that time spent his leisure hours in gathering and identifying the wild plants of the district, in which agreeable work he derived much valuable assistance from a young medical student with whom he was in close friendship until the latter received an appointment in Mauilla. Having acquired a good knowledge of the native flowering plants of the district, Mr. Laing took up the study of mosses, Jungermanni and other Cryptogamic plants, but the time available for such work was very limited, as Old Montrose being a sort of market garden, the hours of labour on four days in the week, during the summer months, were from 5 a.m. to 8 p.m.

From this place the young gardener went to Kinnaird Castle, the seat of the Earl of Southesk, where he discovered several mosses new to the locality, and amongst other interesting plants found *Coralorhiza innata*, the only European species of a very interesting genus of Orchids, and which grows in boggy places. Owing to the long hours of labour, the young men employed in the gardens here were allowed eight days' holiday in the summer, and when the first of these annual holidays came round, Mr. Laing and a couple of friends undertook on foot a botanical excursion to the Grampians, during which they visited Ballater, climbed to the summit of Lochnagar, where they found *Azalea procumbens* growing in large patches as smooth as a carpet. The view across the river Dee to Ben Macdui was much enjoyed, and examining the rocks as much as time would permit, several other rare and interesting plants were found, including *Saxifragarivularis*. Resting at night at a farmhouse in the Spital of Glen Mick, the party visited Glen Clova, and on the mountain side, to the eastward of the Kirktown of Clova, they came upon Lough Brandy—a black dangerous-looking lake—on the borders of which they found *Lobelia Dortmanna*. On the following morning the party, in charge of a guide, visited Glen Dole, where some of the rarest British plants are known to grow, and many of them were found, including *Dianthus alpinus*, *Sonchus alpinus*, *Linnea borealis*, &c. The remainder of the trip was spoilt by rain, which, coming down incessantly for some hours, put the party into uncomfortable straits, and compelled them to return homewards.

At the end of two years, Mr. Laing left Kinnaird Castle and went to the Royal Botanic Gardens at Edinburgh, under the late Mr. McNab. Here, botanising was carried on with renewed vigour on every available opportunity, and it was while on one of his holiday rambles on Salisbury Crags that he made a most important "find," none other than *Dianthus cæsius*, which had not before been recorded as growing there. When he exhibited the specimens he had gathered, at a meeting of the Edinburgh Botanical Society, the

learned professors and other members present cast doubts upon the veracity of his statements, and even hinted that he must have first planted the *Dianthus* on the rocks. However, taking the clerk of the society with him one evening, he showed him the patch of plants in a dangerous and well-nigh inaccessible position, which settled the question at once, and shortly afterwards the reward came in the form of an associateship of the society, which entitled the holder to all the privileges of a Fellow, without having to pay a subscription. Mr. Laing took advantage of this to regularly attend the monthly meetings, and exchanged specimens with the Society or its members. At this time he was endeavouring to qualify himself for the curatorship of a botanic garden, or to go abroad as a collector, but being disappointed in obtaining a government appointment at Madras, then vacant, he changed his mind and decided to go into the nursery business.



JOHN LAING.

In the August of 1847 Mr. McNab procured him the appointment of manager of the Onchan Nursery in the Isle of Man, which belonged to the late Mr. Spittle. The nursery was about twenty acres in extent, and had been badly managed; nevertheless, Mr. Laing made it pay expenses the first year, and might have stopped there as proprietor if he liked, as the nursery was offered to him on favourable terms, but failing to see his way clearly to making such a nursery pay well, he decided upon leaving the Island.

In 1847 the Royal Caledonian Society offered a Silver Medal for the best fasciculus of British mosses, which Mr. Laing decided to compete for; but knowing that Mr. McIver, then at Kew, had been collecting all over the country for the late Sir William Hooker, he felt he had no chance against him, and decided to limit his collection to the specimens he had collected within a radius of ten miles of Edinburgh. Before the competition came off, Mr. McIver received an appointment to go out to Madras, which removed the opposition. While in the Isle of Man, Mr. Laing arranged, mounted,

and named his collection, carefully recording the habitats, &c. The whole were bound up together and returned to Edinburgh, where it was unanimously awarded the Silver Medal. The collection was examined by Professor Greville, Dr. Balfour, Dr. Neil, and others, and every specimen but one was found to be correctly named, the doubtful one being a variety of *Hypnum complanatum*, which they did not name. Mr. Laing has won many medals since, but none are valued more highly than that which he gained for his mosses.

On leaving the Isle of Man, Mr. Laing went to Chester, and for six months had the charge of the indoor department of Messrs. F. & J. Dickson's nursery, but being subsequently offered the post of manager of the whole nursery, he declined to accept it on the ground that he did not feel equal to the occasion. Leaving Chester he was shortly afterwards engaged as

gardener to Earl of Rosslyn, at Dysart House, Fife. Here Mr. Laing soon discovered that the study of botany had to give way to the pursuit of floriculture, as Lord Rosslyn was fond of his garden, and especially partial to Rhododendrons and Hollyhocks. Of the former he had the finest collection in the country, and under Mr. Laing's management the same was soon said of his Hollyhocks. Crossing the small compact-flowered English varieties with the large broad guard-petalled Scotch flowers, Mr. Laing obtained a greatly improved race, which enabled him to secure first honours at Edinburgh against both English and Scotch growers. He also turned his attention to the show Pansy, and by careful hybridising was successful in obtaining many fine varieties, including Countess of Rosslyn and Colonel Wyndham, &c., which in their day eclipsed all others. Success also attended his efforts in hybridising Rhododendrons, and he had the good fortune to be the first to flower Rhododendron Dalhousianum in Europe, as was duly recorded by the late Sir William Hooker in the *Botanical Magazine*.

With Calceolarias, Cinerarias, and Chrysanthemums he was also most successful at the Caledonian Society's Shows; with the latter, indeed, he took all the first prizes in Edinburgh for several years, and Mr. James

Douglas maintains still, that the Dysart blooms were as fine as any that have been seen in the south. After twelve years' service at Dysart, Mr. Laing in 1860 joined the Edinburgh firm of Downie & Laird, and came to London to open the nursery at Stanstead Park.

In 1875 the firm of Downie, Laird & Laing was dissolved, in so far as it related to the partnership in London; since then the nurseries have become considerably developed and extended, until they are second to none in that district. Here he has continued to raise new Hollyhocks, Pansies, more especially the showy fancy varieties, Penstemons, Phloxes, Antirrhinums, Fuchsias, and bronze and tricolor-leaved Pelargoniums, and quite a respectable-sized catalogue could be filled with the fine varieties in each section, of plants which he raised and put into commerce. He improved them all so much in fact, that progress became slow, too slow, and it was then, about twelve years ago that he turned his attention to the tuberous-rooted Begonia.

By carefully studying the nature of the plant, he came to the conclusion that there was a grand future for it as a greenhouse decorative subject, and as an outdoor summer bedding plant; and that his conclusions have long since been justified, those who have had an opportunity of seeing the Forest Hill collection must have been fully convinced. The tuberous Begonia is one of the flowers of the day, and is destined to remain so for some time to come, because it can not only be grown by those who have greenhouses, but any amateur can have his bed by simply planting the tubers in a rich soil, the same as he would plant Potatoes, and protecting the plants from frost as they come through the ground, by placing a flower pot over them at night. It is not our intention now, however, to write the history of the improvement of the tuberous Begonia as Mr. Laing has made it—that can be done on another occasion; our main object to-day is to put before our readers a brief outline of the career of a successful florist, who, during a well-spent life, has been the means of gratifying the tastes of thousands of his fellow men, and created a love for florists' flowers in many who had not known the pleasures to be enjoyed from their cultivation. Mr. Laing, we should add, has been a member of the Floral Committee and a Fellow of the Royal Horticultural Society for a quarter of a century, and that he enjoys the esteem of troops of friends goes without saying, for that is the case with all true florists.

NOTES ON LILIUMS—VI.

AT p. 59, your correspondent, Mr. Tyler, makes enquiries respecting the number of flowers known to have been produced on fasciated stems of *Lilium auratum*; and seeing that my closing remarks in my last chapter were confined to this species, and with a promise to continue them in the present chapter, I will not make any apology for answering Mr. Tyler's query here. It runs thus: "I should be glad to know if more than seventy-two blooms have been produced on one stem." My answer in brief is: Yes.

I can myself testify to this species bearing nearly double that number of flowers, or, more strictly, miserable representations of the flowers of this truly noble and imposing species; for there is no grander ornament among hardy bulbs than this, the golden-rayed Lily of Japan. It was in the year 1876, that this sent forth its disfigured stem and its crowded mass of flower buds; all who saw it regarded it as "peculiar," but none of the many visitors admired it; not so, however, with another plant of the same species flowering, at the same time, in another part of the garden. This only carried ten flowers, and the maximum height was 7 ft. 6 ins.; the blossoms individually measured, on an average, 10 ins. across, and were the admiration of all who saw them.

My experience of Lilies with fasciated stems is, that they are not satisfactory, and certainly 70 or 100 blossoms huddled together can hardly be regarded as either ornamental or picturesque. I doubt not, but the plant to which Mr. Tyler refers, has only small blossoms, and not such as one is wont to find on good flowering auratums. Mr. Tyler will readily see that I prefer quality to quantity, and I doubt not but that many Lily-growers are like-minded. What I regard as my very best auratum of the present season, carried twenty-one fine flowers, which averaged 9 ins. across; the bulb was planted in a 9-in. pot, and produced three flowering stems, the full height from the pot was 2 ft. 4 ins. It was of fine substance, very heavily spotted, the sepals well imbricated, and having a reddish crimson band through each of the petals. The identical plant to which I refer came under the notice of the Editor of this paper, and by whom it was much admired.

No Lily, perhaps, embraces so great a number of forms as does *Lilium auratum*; indeed, so variable is it that it is difficult to find two spotted alike, the result of which is that many fine forms of sterling merit are selected from the batch, and which, deservedly, fetch good prices. As regards the variability of this Lily, it is such that, where they are grown in quantity, they may be had in flower for several weeks in succession; in height they vary from 18 ins. or 20 ins. to 6 ft., while in colour they vary from pure white with pale yellow bands and a few spots, to thickly crimson-spotted flowers, and the band running through the petals from yellow to deep crimson. I need hardly add that the last-named are most conspicuous among

the rest, and are worth obtaining good stocks of. Among the varieties of this beautiful Japanese Lily, none can equal the two to which I shall next refer; the first of which is

LILIAM AURATUM VIRGINALE.—A majestic Lily, attaining a height of 6 ft.; it is as remarkable for its gigantic proportions of height and circumference of stem as it is for its noble flowers, and the numbers which are produced from strong flowering bulbs. The flowers are white, of a rather creamy hue, and having a pale yellow band on each petal; this usually bears upwards of thirty large handsome blossoms. Another variety of *L. auratum* is known as

LILIAM AURATUM PLATYPHYLLUM, which is, in short, a gigantic form of the type; it does not materially differ from the original in the colour of its flowers, but in its remarkable size and the stout overlapping of its petals, it is simply unique. I have, this season, had its massive blossoms measure 11 ins. and 12 ins. across, and I have reason to believe that, when fully established (for it may be observed that the bulbs, producing these monster flowers, were only planted in April last), it will even exceed the great size here given. To all growers of this extensive and lovely genus, the advent of this, the largest Lily known, will be welcomed. As with auratum, so with the two varieties above-named, they all rejoice in light sandy loam, or loam and peat in equal parts. For another magnificent form of this Lily, we have only to turn to the one known as

LILIAM AURATUM RUBRO-VITTATUM.—An exceedingly handsome and rare Lily; it is known among the Japanese as Banc. e. Sage, or King of the Lilies, an honour in which all who have seen it will heartily concur; as is depicted in the varietal names here employed, the usual band of yellow is replaced by one of deep rich scarlet, which contrasts in a remarkable manner with the white ground of the petals upon which numerous spots of a rich reddish hue are disposed, making in all the grandest Lily the world has yet produced. It is equally hardy as the rest, but owing to its exceptional beauty and rarity, all possible care should be taken of it in spring, that the late nipping and often destructive frosts do not cut it down. No time is better for planting these forms of auratum than the present, for, unless it be a few very late planted or weakly varieties, these have now ceased flowering, and as soon as the flowers fade, they may be transplanted without further delay. I urge this early planting more particularly as referring to home-grown bulbs; imported ones, which are divested of root and branch at home ere they are sent to this country, may be planted any time from October to the end of March.

At this season of the year we are naturally expecting the usual autumnal rains, and which, considering the long-continued drought which we have experienced, and which has caused many of our finest hardy perennials at this season to drop and fade for lack of moisture, will have the effect of starting many Lilies quickly into root-action, and if these with their newly-formed roots have to be disturbed later on, it must end in the loss of many, if not all, of the fibres, besides exposing the bulbs to vicissitudes from which they might well be spared. Many amateurs do not order their Lilies till early in spring, which is not at all favourable for the transplanting of this genus, and not infrequently ends in failure and disappointment, consequent upon the check thus received; and to those who may be about to enter upon Lily culture for the first time, I may say that there is nothing more important and more consistent with ultimate success than early autumn planting. All the taller species and forms are benefited by deep planting (about 6 ins. to the base of the bulbs), as at this depth they do not suffer so quickly in dry hot weather in summer.—J.

WALLFLOWERS.

I HAVE seldom seen these hardy biennials looking better than this season. But the other day a market gardener invited me to look at his breadth of blood-red plants, and I found a huge piece of several acres in extent, all big bushy plants, some 12 ins. high and as much through, and so generally even as to look as if mown over. These plants will begin to flower freely soon, and if the winter be open will give a supply of flowers all through it. These are from an early February sowing, the plants being got out into fairly good soil early in the summer, and since have been kept very clean. This market grower regards a breadth of

Wallflowers, such as this, to be worth far more to him than any vegetable crop, and will be productive of some return over a long season, finishing up about the middle of April next.

Those who wish to embark in the cultivation of Wallflowers for market should obtain seed from some good high-coloured strain, for colour means value, and an early-blooming strain is also more profitable than a late one. It is of the greatest consequence that seed be sown early, to enable plants to be got out early. The plants should not be put out amongst other crops, except Lettuces, Strawberries, or some similar crop which will not interfere with the Wallflowers when full grown. The finest of all the yellow kinds is the rich golden Bedford yellow, a very compact robust sort, distinguished by its very dark green foliage. It is rather taller than the Belvoir yellow, and much dwarfer than the golden, which reaches a height of 13 ins., is very erect, and has pointed pale green leafage. Belvoir yellow is the latest bloomer of all, but being so dwarf makes good masses. The golden does well for centres or big beds, but the Bedford yellow, in colour and habit, is a fine companion variety to the blood-red.—A. D.

GARDENING MISCELLANY.

Fuchsias in the Garden.—A pretty little garden, in which the use of standard and trained Fuchsias, standard scarlet Pelargoniums, and standard Petunias is displayed, is that of Mr. Paice, The Limes, Egham. A row of closely-clipped Limes runs along just inside the railings; seen beneath them are the magnificently-flowered Fuchsias and other plants named, with a few Sunflowers in the background. So densely are the plants flowered that the whole of the space is filled with colour. Among the best Fuchsias are the old Rose of Castile and Souvenir de Chiswick. The path to the door has arches covered with Fuchsias, hanging in great profusion, the first, a white variety, being like Mrs. Marshall Improved. We have seen nothing like Mr. Paice's garden this season, and we recommend our readers to take care of their old Fuchsias and standard Pelargoniums, and give them a trial out of doors next year.

Earwigs and Chrysanthemums.—I have been waiting for further evidence against the Earwigs, but none appears to be forthcoming; and what has been given so far has failed to convince me that the Earwig is the rogue and vagabond that the case for the prosecution has tried to make him appear. Surely, the Earwig is not endowed with such an amount of instinct that he can know or distinguish friends from foes, or possesses such a delicate sense of honour that he will not injure those who are kind to him, but only such as would annihilate him! And yet, if the evidence already given does not point to such a conclusion, to what does it lead, or what does it indicate? I and other interested readers are bound to accept the good faith of your correspondents who say the Earwig does injure their Chrysanthemums; and especially to consider the testimony of your correspondent who says he has caught one or more in the act of eating some part of the Chrysanthemum. Since I read that statement I have made diligent search for any injury that could by any impartial reasoning be laid to the charge of the Earwig, and I must say that I have failed to find any such injury, and that notwithstanding the fact that the insects are more numerous with me this season than ever, I have not destroyed one. My present experience is only a continuation of past experience in regard to this matter; but I will now say that although I will trust them with my growing plants, I will not trust them with exhibition blooms, nor any Chrysanthemum flowers that I wish to preserve uninjured, for there is no doubt they will occasionally sever the petals against the calyx and disc, which is an undesirable operation for the cultivator. It is strange, in my opinion, that the evidence on this question should be so conflicting, and perhaps there is more truth than at first appears in the remarks by Mr. A. G. Hull at pp. 58 and 59; but in this garden there is any amount of choice in "feeding grounds," and yet the Earwigs are present in large numbers on the Chrysanthemums! Personally, I think the Earwig, during the growing and "bud-setting" period, does far more good than harm to the Chrysanthemums; and certainly my plants were never so free from green-fly as they have been this year. I

have not yet had to use any tobacco-powder, and Earwigs are much more numerous than usual. Of course, the Earwigs may not be entitled to all the credit for keeping them in check, but I give them their share of credit ungrudgingly. I think we gardeners would have more successes and fewer failures were we to more frequently enlist as friends, instead of combating as foes, the rival forces that bounteous nature places at our disposal; endeavouring rather to discover the benefits a small and humble creature may bring us, than to be so ready to destroy it for some small or fancied injury. —*J. Udale, Elford, Tamworth.*

HAVING read with much interest the different opinions that have been expressed respecting these marauders, I should like, with your permission, to add my experience of them. I have been watching very narrowly for the past few weeks, and have come to the conclusion that they do eat both buds, stems, and leaves of Chrysanthemums, having caught them in the very act. I know two or three young growers of this favourite autumn flower, who, having been rather too easy with these little pests, have had some of their best buds eaten half-way through, and, in consequence, they have spoilt one very fine collection in particular that I recently saw. I am inclined to think with a former correspondent that the Earwig has been putting on its best behaviour at Hull and elsewhere this year, and my advice to all growers is to keep a sharp look-out, and kill all you can get hold of. I find that with me they are very partial to the dark-coloured varieties, such as *J. Delaux*, *Fanny*, *King of Crimson*, *Cullingfordii*, *Refulgence*, *Julia Lagravere*, *Early Red Dragon*, and *Comte de Germiny*, with several others. It would be very interesting to know if any other readers of your valuable journal have noticed this preference on the part of the Earwig. —*W. Ransom, Aberglaslyn, Stunford Hill.*

I NOTICE that the Earwig is the subject of much comment in your column. It does not appear to be so plentiful in the north as in the light, sandy soils and milder climate of the south of England, where, according to some of your correspondents, it plays sad havoc, especially with the foliage and fruits on Peach trees, which they are very fond of, as I found in a former place. We have between 200 and 300 Chrysanthemums in pots and in the borders, and some of their leaves and stems having been eaten by something, the plants in pots were examined nightly, when we occasionally pulled the Earwigs through the holes they had made in the leaves, and which they were undoubtedly devouring. Earwigs are not particular as to what they eat, and appear to have tremendous digestive powers, and a stomach for Chrysanthemums if they come in their way, as well as for Peaches and Nectarines, Castor Oil Plants, Dahlias, and even *Nicotiana affinis*. —*B. L.*

The Bismark Apple.—When at Stanstead Park Nursery, Forest Hill, a few days ago, we noticed this fine Apple fruiting freely on some trees in pots, and on others in the open ground. In appearance the fruits somewhat resemble the *Nonsuch*, but are more highly coloured. It would seem to be a very free bearer, for some of the grafts put on last spring have borne fruits.

Golden Balm.—Your excellent correspondent, "M. T.," at p. 55, speaks highly of the Golden Balm, and being located so far north, we may take it, I suppose, that the plant is of a good hardy nature. I should like to know if it is a better grower than *Lamium aureum*, which I was induced to try through seeing it used with good effect in some carpet-beds in one of the public parks of this county, Yorkshire. The plants which I put out, have been miserable in appearance, being, in fact, no larger than when they were planted in the spring. If the plants are not sufficiently large to give effect at once, it fails to grow and show itself successfully; perhaps the plant mentioned by "M. T." would succeed better. —*B. L.*

Ajuga reptans purpurea.—"M. T." also mentions this subject, which is the very best hardy dark-foliaged plant that we have; being of a good hardy nature, it is equal to all conditions of climate and position, and there is nothing like a poor soil for bringing out its colour. We plant, however, in good soil, leaving the colour to be brought out by the sharp bracing air of the Yorkshire moors. *Alternantheras* are not to be compared here with *Ajuga reptans purpurea*. —*B. L.*

The Most Useful Peas.—Your amateur correspondent, "T. O. O.," should try *Laxton's Earliest* of All for his first crop, *The Conqueror* for the second, and *Ne Plus Ultra* and *Champion of England* for general and late use. He cannot do better than stick to the two last. —*Leguminous.*

Good Peas.—I am glad to inform "T. O. O." that, as regards price, the *Eclipse* Pea is within easy reach of all. The retail price last year was 1s. 6d. per quart, and I should advise him to give this a trial. To succeed the above, either *American Wonder* or *McLean's Little Gem* will do; both are enormous croppers, while the flavour is excellent. For a mid-season Pea I do not think *Stratagem* can be surpassed, while for a late variety he cannot do better than stick to the old *Ne Plus Ultra*. —*W. Harvey, Spalding.*

Lisianthus Russellianus.—Mr. Latham, Botanic Gardens, Birmingham, has a fine stock of this beautiful plant, and it is flowering freely with him, its bright purple blossoms being very showy and attractive. Another good old plant well grown and seen here in perfection is *Clerodendron fallax*. This is grown extensively, some fine specimens with large spikes of its handsome, showy, bright, scarlet flowers being wonderfully attractive. The *Lapagerias*, both alba and rosea, are also very fine just now; there are hundreds of flowers open on the plants, which are growing luxuriantly in the conservatory. *Aristolochia ringens* is also in flower, its peculiar blossoms being very attractive. A nice plant of *Vanda Sanderiana* in flower is the admiration of all who visit these well-kept gardens, where something novel and interesting is always to be found. —*A. O.*

Golden-leaved Bedding Plants.—Seeing "M. T.'s" remark in your last respecting the *Golden Balm*, I am tempted to ask whether *Pyrethrum Golden Feather* is not degenerating? I have not been able to get a good golden strain for three years, nor have I seen the plant so bright anywhere this year as of old. The variety known as *laciniatum*, sent out by the late Mr. Robert Osborn, is far before it here. This season it has been beautiful. —*Ebor.*

The Nut Weevil.—In his report on "Insects Injurious to Fruit Crops," Mr. Charles Whitehead states that Kentish Filbert growers realise the havoc made by the Nut Weevil, *Balaninus nucum*, too frequently, though it must be said it is not common to find one who knows the veritable offender, or who is acquainted with its actual *modus operandi*. The gourmet loving freshly-gathered Filberts with his wine often anathematizes this interferer with his delights, and the schoolboy cracking nuts with his teeth gets his mouth filled ever and anon with bitter-flavoured dust. The only opportunity of working against this Weevil is when in grub form; it is in the ground near the Nut trees from September until March. Dressings of lime or of gas-lime would be likely to kill the grubs, and applications of ashes, earth, or sawdust soaked in paraffin or carbolic acid solution, would make their quarters unbearable if they did not kill them. These dressings should be dug-in deeply, as the grubs go down some distance. Nut plantations are dug in the late autumn or winter, and the land is hoed in the early spring with prong-hoes to break the clods, to level the ground, and move the soil. After an attack of Weevil, this spring hoeing should receive more attention, and be done deeper and better than usual, in order to kill the maggots or destroy the pupæ which may have been formed.

The Madresfield Court Grape.—This grand Grape is very often discarded on account of its liability to crack. Having charge of a vinery where it has been very successfully grown this season, a few notes on the treatment it has received may prove of service to some of your readers. The Vines in question, are planted in a lean-to house, with six other varieties, and the border extends both inside and out. The house was started early in March, and was ready for thinning by the latter end of May. During the dry part of June the border had a good soaking, both inside and out, with manure-water. When the berries commenced colouring a sharp look out was kept for the first sign of cracking, which was not long in manifesting itself; a small gimlet was obtained, and inserted through the centre of each shoot, immediately below the bunch, and some spare lights were placed over the portion of the outside border allotted to the Vines in question, to protect it from receiving any

more water. No more water was placed on the floors than was necessary, but, as the centre of the house is devoted to Ferns, there was not an altogether dry atmosphere. The result of the experiment was, that not a berry was afterwards observed to crack. My opinion is, that the splitting of the berries is due to an excessive elaboration of sap, and by the insertion being made in each of the shoots bearing fruit, the sap is thus checked. *Madresfield Court* I consider to be one of the best mid-season Grapes, and I would recommend those who have not been successful in bringing it to maturity, to adopt the above plan, which, I think, will prove to be the best remedy. —*Wales.*

Autumn Cauliflowers.—Immense breadths of this valuable vegetable has been planted this season, not only for the use of the dinner-table proper, but with the object of being prepared as a condiment for home consumption, and also for exportation. Fancy 100 acres being thus pickled! yet such is a fact, and I am told all for the foreign markets. An eminent London firm having purchased one piece containing the number of acres mentioned, has got a large staff of workmen and women busily employed in this, doubtless, profitable business. I presume that for exportation the pickle is sent out in jars of various sizes, or it may be put into tubs or other vessels in a more convenient form for transit; at all events the produce of 100 acres must be enormous, and would astound some of our forefathers could they witness the pickling process now going on in this country, and the wholesale way in which fruits and vegetables are cultivated to be converted into condiments to suit every requirement. —*G. F., Lewisham.*

Another Trouble to Grape Growers.—By same post I send you a box containing a bunch of *Lady Downe's* Grapes, which is being seriously damaged by a spinning caterpillar, or grub of some kind. I find the insect is in other bunches as well as the one sent, but at present it is not in great force, only an odd berry or two being injured, which I shall cut out and burn. I shall be glad of any information as to its name, origin, and means of destruction. —*J. U.* [Only once before (three or four years ago) have we seen Grapes injured in the same way. In that case the grower was a very successful exhibitor of Grapes in the neighbourhood of London, and, we believe, he had been troubled with the pest for two or three seasons. The caterpillar, on being submitted to Prof. Westwood, was recognised by him as the larva of a little moth known by the name of *Lobesia reliquana*. You would do well to go over the whole of the bunches with a soft feather, and remove the web with which they fasten the berries together. When the grub is disturbed, it drops from the bunch by a slight web, and is then easily caught. —*Ed.]*

Sutton's Giant Curled Parsley.—When I took charge of these gardens some twelve months ago, I was informed that there had never been a good supply of Parsley, and that in this garden it never grew well. I have, however, at present a beautiful batch of *Sutton's Giant Curled*, which grows to a large size and is beautifully crisped. —*G. Tyler, gardener to General Hugh Rowlands, Plastirion, near Carnarvon.*

The Potato Disease.—I was taking up a quarter of *Magnum Bonum* last week, and found many tubers diseased, although they were growing on light soil. The crop was a good one and the tubers very fine. —*G. Tyler.*

First Class Certificates and Daffodil "General Gordon."—In the spring of 1884 a Daffodil must have bloomed in some part of England that would be noticeable, so as to call it "*Spurius coronatus*," because such a name appeared in the conference list of that year. In the spring of 1885, Mr. Krelage, of Haarlem, sent to South Kensington a large-crowned Daffodil, with the express wish that it be called "*General Gordon*." No doubt, at a sitting of a floral committee, a large-crowned Daffodil got a First Class Certificate, but whether it was "*Henry Irving*" or the General that was honoured, is a matter to be settled by whoever produced cut blooms to check Mr. Krelage, and be recognized as similar to the *Spurius coronatus* of the expert of 1884. I strongly suspect that "*Henry Irving*" played the part of *Dromio*, in the "*Comedy of Errors*," for the most extraordinary part is this, he has been on the stage again this year in his real character to receive double favours, while "*General Gordon*," as was wont about this period, has been

dishonoured and deserted. I still refuse to recognize Mr. Krelage's flower by any other name, so does Mr. Krelage; and to set the matter right, I would suggest that the gentleman who first put "Henry Irving" counterfeiting on the stage should confess the error, and let the General get his honours next spring, but not as "Spurius coronatus." The Royal Botanic gave the certificate in one case, the Royal Horticultural in the other.—*W. Baylor Hartland, Temple Hill, Cork.* [Our correspondent does not seem to quite understand the bearings of the case, and will excuse us if we put him right. The facts are as follows:—Several years prior to the Daffodil conference of 1884, Mr. Peter Barr selected a large form of *Narcissus spurius* from a bed in his nursery at Tooting, with a view to growing it on to take the place of the type. To this selected form he gave the name of *N. spurius magni-coronatus*, and under this name it was exhibited by his firm at the Daffodil Conference. Subsequently, when the Daffodil Committee revised the names for the sake of brevity and uniformity, the name was altered to *N. Spurius coronatus*, and so left in the committee's published list. On April 14th, 1885, Messrs. Krelage and Son exhibited at the meeting of the Floral Committee, cut blooms of a variety named General Gordon, and which the committee certificated; but before the committee had completed their labours for the day it was pointed out to the chairman that the variety in question was identical with the one to which the Daffodil Committee, in the previous year, had assigned the name of *spurius coronatus*; and the members of the Floral Committee being satisfied by the evidence produced before them from the Messrs. Barr's collection, expunged the name of General Gordon, and certificated the plant under the name of *N. spurius coronatus*, which name, according to the rules of priority, is now recognized, and to avoid confusion should be maintained. As to the variety named Henry Irving, we may as well state (as we were present at both exhibitions) that at the Royal Botanic Society's exhibition, held on April 22nd, a variety was certificated under the name of *spurius coronatus*, which, as we remarked at the time, "differed, as it seemed to us, from the plants so named and certificated at South Kensington a fortnight ago." We thought then, as we do now, that the variety shown was Henry Irving, and that it was certificated in error, as the two varieties are as distinct as any cultivator of Daffodils could desire; Henry Irving having the divisions of the perianth placed at right angles from the tube, so that with a sword the trumpet can be cut clean out without touching the perianth, which could not be done in the case of *spurius coronatus*, and which is moreover of a lighter shade of colour. Ed.]

A Monstrous Helichrysum.—Among my everlasting flowers I have a very curious one now in bloom; I have never seen the like before, and do not know if any your correspondents have. As you will see, the large central flower is surrounded by about twenty-four smaller ones, after the manner of the "Hen and Chickens" Daisy. I have many with a number of flowers in a close head, but none with the smaller ones radiating in this fashion. Carter's strain of African Marigold is grand with us this season; for size, richness and brilliance of colour they are superb.—*J. May, The Gardens, Kenton Grange.*

Gaillardia grandiflora, var. Admiration.—I send you some blooms of this pretty new variety. I find the Gaillardias do best in Scotland kept over the winter in a cold frame; and a supply is best kept up by cuttings taken from near the root, and put in in August.—*W. Cuthbertson, Rothsay, N.B.* [A large handsome variety with bright yellow florets, crimson at the base, and large dark maroon-coloured disc. Ed.]

Lilium auratum.—Your correspondent, Mr. G. Taylor, asks at p. 59., if anyone has seen a fasciated flower stem, with more than seventy-two flowers upon it: it may interest him to know that such monstrosities have been very common of late years in Lancashire. I mentioned one, I think, in your column in 1884, which was exhibited at a flower show held in the Town Hall, Eccles, but am unable for the moment to give the numbers, but I think I am correct in saying that there were more flowers and unopened blooms upon it, than on your correspondent's. But there was one at Mr. Alderman J. Harwood's, Buile Hill, Pendleton, which threw up a strong tall fasciated stem, which had nearly double that number upon it. Mr. Lowe, the gardener, asked me to look at it, and it was a remarkable specimen, the

flowers being large, and a succession of blossoms opened for a considerable time. The most remarkable thing was, it had not been shaken out for three years, and was still in the same soil and pot; perhaps Mr. Lowe could give the exact number of blossoms.—*N. J. D., Ammonford R.S.O., S. Wales.*

Late Gooseberries.—I should be much obliged to any reader for the names of the latest varieties of Gooseberry, that is to say, of any sorts that are later than the Red Warrington. This grand sort gave us good fruit until the second week in September, but being desirous of planting more, should be glad to know of any that keep later.—*Con.*

Beaumontia grandiflora.—Mr. Ruffett, of Panshanger, who exhibited some flowers of this noble Indian plant at a meeting of the Floral Committee held in April last, writes to the *Gardeners' Magazine*:—"I purchased a small plant of the *Beaumontia* about 6 ins. in height, and all I could learn about it was that it was a grand thing. I repotted it immediately in a compost of equal parts fibry loam and peat, with a little silver sand, keeping it in active growth. When it had attained the height of 3 ft. it was planted out at the warm end of a large conservatory, where it grew fairly well for three years, but made no sign of flowering. Feeling assured that it required more solar heat to develop its growth, I had it removed to the back wall of a Banana-house, which is a span roof resting on a wall 10 ft. high. It was now a plant considerably over 20 ft. high, and in a place that rendered it difficult of access. The consequence was that it was much mutilated in the process of removal; so much so that I quite despaired of success in the operation. However the thing was accomplished, and when a year had gone by it began to make rapid growth, and had to be stopped back to prevent it overgrowing everything. The use of the knife was evidently not to its liking, for it still made no sign of flowering. I, therefore, allowed it a space under the north side of the roof to grow as it liked, and then the tables were turned, and I had my reward for humouring its nature. In the following spring, after one year of free growth only, it made a grand display of flowers, and has continued to do so, the present being the third year of its flowering with me. I find it a very free-flowering plant, not requiring a great amount of fire-heat, but all the sun-heat and light possible. It is something to know that this magnificent Indian plant is satisfied with our weak sunshine, provided it is left alone to make free growth in its own way.

PRODUCER AND CONSUMER: DISTRIBUTION REFORM.—Mr. H. J. Jenkinson has put forward a scheme for bringing the producer and consumer together without the intervention of so many middlemen or distributors of produce as at present. Mr. Jenkinson brought his views under the notice of the Postmaster-General, and of the Secretary of the Royal Commission on Depression of Trade and Industry, but as neither of these officials were able to deal with the matter, he now suggests that the scheme should be carried out by a limited liability company. The scheme is described as follows:—"Agents of the company to be employed in every town and village, who can receive orders for any articles of commerce. The orders to be accompanied with a deposit of the price and cost of carriage, &c. The agent will then communicate direct either with the manufacturer or with the agent residing where the orders are to be executed, and the article required will be sent either direct to the purchaser or to the agent through whom the order was given. For this service rendered by the company a per-centage upon the price of the purchase will be included in the amount deposited. The per-centage charged by the company on all orders for goods, as sole middlemen between the producer and consumer, can be arranged on any workable basis: say, five per cent. for orders of £5 and under, with no less charge than 6d.; above £5 and not more than £10, four per cent.; above £10 and not more than £20, three per cent.; above £20 and not more than £50, two-and-a-half per cent.; above £50 and not more than £100, two per cent.; above £100, one per cent. The per-centage required to pay the company, as compared with the present retail trade, will be very small, for the expenses will be comparatively light, the whole being a ready money business, requiring no dead stock, bad debts, or high rents, and only a limited number of servants. The first requisite for carrying out the scheme would be a directory containing the names and addresses of all manufacturers and wholesale firms. This would be useful to the general public, and could be produced so as to realise a profit."

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

It will now be necessary to give all the houses a thorough turn out, cleansing as much as possible; and if the material which has been used upon the stages has become at all dirty or soured, let it be replaced by fresh. All bulbous plants which have been flowering for any length of time had better be placed in the cold frames to ripen off, gradually withholding water to assist in the operation. I allude particularly to *Achimenes*, *Gloxinias*, tuberous *Begonias* and *Caladiums*, which can be readily spared from the warmer houses; in fact, room must now be found for winter-flowering plants, such as *Begonias*, *Goldfussias* and *Centropogons*, &c. Creepers on the roofs, now going past their best, may be partly pruned back, and, if dirty, thoroughly cleaned, and neatly tied in, so as to admit as much light as possible. If the surface soil of any specimen plants has become greened, let it be removed, and fresh be given; do not stage too thickly, or damp will soon take effect.

We have gone through our stock of Orchids, potting nearly all of them, staging them on one side of the stove by themselves; by this means we find they keep better through the winter months, and can be specially treated. *Anthurium Scherzerianum* we have placed by the side of them, having repotted the whole stock. *Calanthes* are very promising, the flower spikes coming up stout, and the foliage a good dark green, denoting health. These have been removed from the intermediate house into the stove, the little extra heat being necessary now. We shall give them a little weak manure-water now and then to help to fully develop the spikes. *Poinsettias* are likewise receiving the same attention, and are much benefited; in fact, they seldom retain much of their foliage unless liberally treated at this season. In their case a variation should be frequently made in the stimulant given.

The plants which have been plunged for early forcing will be benefited if removed from the bed and placed on a thoroughly exposed ash-border. If room can be found for them, a good position will be by the side of the pot Strawberries. Let them be regularly supplied with water, the change in position being made to secure a thorough ripening of the wood, without which it is quite useless to hope for success this side of Christmas. Some of our earliest forced Azaleas, I notice, are already showing colour. This is sooner than required, but still we can easily retard them by leaving them out of doors under shelter of some *Magnolias*. The batch of *Cyclamens* have been placed on shelves in the intermediate house, close to the glass, and are making a good growth; in fact, with us they generally succeed best in this temperature.

The *Hedychiums*, of which I wrote early in August, are again throwing up their spikes of bloom, thus plainly showing how much they appreciate being kept growing on instead of drying off after flowering. The batch of *Primulas* placed inside are fast throwing up their trusses of flowers, and will come in extremely useful for staging in the greenhouse, which we hope to turn out this week. Be careful that the Roman Hyacinths do not remain too long in the plunging material, or the flower-spikes will certainly be much damaged—in fact, rendered almost useless.

THE FRUIT HOUSES.

I can only repeat the advice given lately, to attend to the lifting of Peach trees, or the renovating of borders, as the work can be proceeded with; time frittered away now is a sad mistake, and generally leads to a rush later on. We are now busy preparing the houses for winter Cucumbers; first giving a thorough washing, and then painting all through; the trellis, which is moveable, we paint over with pure paraffin oil, and so try as much as possible to get a clean start. I may say, unfortunately, we have a bed of *Gardenias* in the centre house, which renders these precautions necessary. It is a most difficult matter to free either Melons or Cucumbers of mealy bug, as the foliage is so tender.

We have, to-day, renewed the bottom-heat to the late Melons, which are swelling away and netting nicely; they require constant care now to bring them to perfection. In case of heavy and continuous rains, it will be advisable to lay upon their sides, facing the

south, all the Strawberries in pots; as, although requiring abundance of water, delugings at this season are best avoided.

THE KITCHEN GARDEN.

The fine weather lately has permitted us to very nearly complete the hoeing and weeding of all the squares, so that we shall be tidy for the rest of the season. We are waiting for rain, to enable us to plant out Cabbages and Strawberries for a new plantation; these we do not expect, or allow, to fruit, but we look to them simply to furnish us with runners for layering for next season's forcing. A good sowing of French Beans, in pots, should now be made, to succeed those sown in the heated pit. Mustard and Cress, too, must now be sown inside, as no reliance can be placed on the out-door supply.

Those who sowed Brown Cos Lettuce, as advised, will, like us, be in possession of plenty of good salad-ing for some time to come; the only thing necessary will be to see that frequent tyings are made, instead of all at once. Globe Artichokes should now be cut over, and all the old stems removed; should there be any blanks in the quarter, as the young suckers appear, take them off the old stool and plant at once. As soon as large enough to handle, let a good breadth of Lettuce be pricked out to stand the winter; if the foot of one of the south walls can be spared, they will stand without further protection. Attend to the gathering in of fruits. Pears ready with us, are Beurré d'Amanlis, Beurré Superfin, Louise Bonne of Jersey, and Gratioli. — *Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Shading on Orchid Houses.—The shading should now be removed from the north or shady side of the intermediate house and others containing Cattleyas, Lælias, &c., and also from over all resting Dendrobes, and from now until the time comes for taking off all blinds, great care must be taken to only have them down when necessary to protect the plants from injury by the sun. Keeping them over-shaded in the autumn is a fruitful cause of spot and decay in all Brazilian and Mexican plants, such as Barkerias, dwarf Lælias, &c., as when so treated they seem to make sappy growth, and not of the requisite hardness desirable to tide them over the long sunless periods we get during our winter. Free ventilation when the sun only comes out in gleams renders it possible to keep the shading off without fear of injury.

All the houses should still have just $\frac{1}{2}$ in. of air left on at night in the bottom ventilators; indeed, in houses that admit of it, it is a great aid to Orchid culture, even in the dead of winter; certainly the cool Odontoglossum house should never have all the bottom ventilators entirely closed, unless there is a fear of not keeping up the necessary temperature. Just a suspicion of air at the bottom makes a great difference in the quality of the air in the house, and does not much interfere with the heat; it is also a great safeguard against a too high night temperature, which never fails to work destruction among all classes of Orchids.

The Pleiones will now be losing their leaves and sending up their flowers, and, consequently, will require but little water; the different varieties of deciduous Calanthe, such as C. Veitchii, will also be now finishing up their growth, and as their leaves turn yellow, less water should be given them, but they should still be kept in a good light place to send up their flowers.

THE TEMPERATURES FOR OCTOBER should be:—Warm or East Indian house, 70° to 75° by day, 65° at night; Cattleya or intermediate house, 65° to 70° by day, 60° at night; Cool or Odontoglossum house, 60° to 65° by day, 55° at night.—*James O'Brien.*

Orchids in Flower at Kew.—A good number of Orchids were in flower, I noticed, when on a recent visit, among them being a plant of the new *Aërides Sanderiana*, and near it, suspended on a raft, a small plant of *Dendrobium Phalaenopsis* was also in bloom, the spike bearing four fine flowers. Several plants of *Saccolabium Blumei* were also flowering; one nice plant with several leads bore eight flower spikes, seven of which were fully expanded. *Masdevallia Shuttleworthii* in a 4-in. basket was carrying eight flowers, and *Phalaenopsis Lowii*, a gem among the moth Orchids,

had no less than forty-two flowers, quite half of which open with their delicate rose tint, presenting a very pretty sight. It is not often one sees this plant doing well; here it was suspended within a few inches of the glass on a block, which was covered with living sphagnum, and seemed quite at home. The sweetly-scented *P. violacea* was also in flower close by, as well as the tiny *P. Esmeralda*. Among the *Zygopetalums* in flower was a plant of *Z. Gauteri* with seventeen flowers. Some *Odontoglossums* were also in bloom, such as *O. Rossi*, *O. Alexandræ*, *O. constrictum*, &c. *Oncidium*s were represented by *O. tigrina*, *O. ornithorhynchum*, *O. papilio*, and several others. Among the *Cypripedium*s were the pretty *C. concolor* and *C. Godfroyæ*; many others were also flowering. Some of the *Vandas*, too, are in bloom, as well as *Phajus*, *Spathoglottis*, *Lycastes*, and *Cælogyues*. Altogether, I thought for the time of year the houses were looking particularly bright.—*J. S. B.*

Mr. Cypher's Orchids.—Some very fine things are now in bloom at the Queen's Road Nursery, Cheltenham. Several of that grandest of *Aërides*, *A. Lawrencei*, are in bloom, one with twenty-seven very large and finely-coloured flowers. *A. Rohaneanum* is also flowering profusely, and is very delicate and fragrant. There is also a grand lot of extra varieties of *Dendrobium bigibbum*, which is a speciality here, in flower; *D. Goldieanum*, with fourteen flowers on a spike; and a good lot of the pure white *D. Dearei*. Among other good things are *Cypripedium Spicerianum*, with seven spikes open, four having two blooms; *Oncidium Lancianum*, with twenty-eight flowers; *O. ornithorhynchum*, with about 2,000; *O. pretextum*, with over 450; some good *Cattleya speciosissima*, and *C. Eldorado*. *Oncidium microchilum*, too, is in flower; it has brown and yellow sepals and petals, and a curiously shortened lip, white and violet.

FLORICULTURE.

PINKS AND PINK CULTURE.—Calling at the Royal Nursery, Slough, a few days ago, I saw that the Pink pipings struck during the summer were all planted out in nursery beds ready for sale, and a better lot of plants I do not think I ever before saw. As Pinks are a little impatient of overmuch moisture at the roots during late autumn and winter, the beds were raised 4 ins. or so above the ground level, so that they should have as much natural drainage as possible. It is said that the Pink is not so much grown as it used to be. I am not sure if this is correct, but there are a great number of plants at Slough, and I suppose this may be taken as some indication that they will be required in the season by those desirous of purchasing.

I think the Pink is a thorough amateurs' flower, because at no period of its cultivation is the protection of glass required, unless it be for the purpose of rooting the pipings. I may state that John Ball, the Pink grower at the Royal Nursery, instead of putting his pipings in squares on the top of a dung-bed, and covering them with a handlight, now puts them in pots and plunges the pots in a slight hot-bed in a frame. That this answers, is shown by the size and vigour of the plants I saw in the nursery beds.

The Pink is planted out in the flowering beds in October, and on until November. It is a good plan to make up the bed in September; Pinks like a rich compost, and a suitable one is made of two parts of sound, well-sweetened turfy loam, and one part of rotten cow-dung. In selecting a spot for the Pink bed, it should not be one where the water is likely to lie; and when it is made, it should be 9 ins. above the level, so as to allow for sinking. The planting is best done in the early part of October; the plants should be a foot apart when they are strong, and a little closer when they are small. The plants should be pressed firmly into the soil, and any having long shoots liable to injury from being blown about by the wind should be pegged down to the soil. Planting done, the principal work will be keeping the beds free from weeds, watering when required, and stirring the surface occasionally when it is hard. If hard frost operates to thrust the plants up out of the soil, they should be firmly pressed into it again when a thaw sets in, and the soil has dried enough to enable this to be done. By the end of March the beds should be trimmed and made up so as to look as neat as possible, and at this time a

top-dressing of 1 in. or so of well-decomposed manure will be found of great advantage.

A selection of good, useful, laced Pinks will be found in the following list:—Bertram (Turner), Berard (Turner), Clara (Maclean), Emerald (Hooper), Ensign (Fellowes), Ernest (Maclean), George White (Paul), Godfrey (Turner), John Ball (Maclean), Mr. Hobbs (Looker), Prince Frederick William (Hooper), Reliance (Hooper), and Shirley Hibberd (Turner). I have included only the exhibition Pinks, as they are termed, and they represent the best of the South of England flowers now cultivated.—*R. D.*

THE ROSEWOOD.

Brazilian Rosewood, which is the Rosewood *par excellence*, has been used in Europe for furniture purposes for at least 200 years, and if the dates on some articles of this material, shown at South Kensington, be correct, for nearly 300 years. Tables and cabinets were made of it long before mahogany was brought across the Atlantic. According to a Brazilian official publication, Rosewood trees are abundant in all the provinces on the east side of the empire, from Pernambuco to Rio de Janeiro. The exports of this wood from Brazil have increased tenfold within the last fifty or sixty years, and now amount in value to about £100,000 per annum. Notwithstanding its importance, and the length of time it has been used in Europe, the species of tree which yields it is not yet known. In Brazil it is called Jacaranda-wood; but in that country there are several Jacarandas: the black, the purple, the violet, the white, and the thorny Jacarandas, the species of which are known, besides the Rose Jacaranda, of which apparently only the genus is known. At all events, the botanical source of Brazilian Rosewood is not known in Europe. According to the catalogue of the Kew Museum, it is supposed to be obtained from one or more species of *Dalbergia*. In East India there are three dark heavy woods belonging to this genus, well-known for their useful properties, which somewhat resemble, though they have not the beauty of Brazilian Rosewood. These are the *Dalbergia latifolia*, the *D. sissoo*, and the *D. cultrata*. Indeed, the *D. latifolia* has been long well known in England as East India Rosewood. Rosewood being known to be distinctly resinous—a property which is well seen by lighting a splinter of it—a number of experiments were made to determine the amount and character of the resins and resinous colouring matters which Brazilian and Honduras Rosewood, as well as two species (*Dalbergia latifolia* and *D. sissoo*) of the Indian woods referred to, contained. The results of these experiments, which consisted in treating the sawdust of the different samples with naphtha, ether, and alcohol, showed that the character of the resinous matters extracted from these woods is nearly the same in all, and that there is no great difference in their quality. For example, the naphtha extract was, in most cases, about $1\frac{1}{2}$ per cent. of the wood, the ether extract averaged nearly 4, and the spirit extract roundly 14 per cent. The total extract was rather higher in the Brazilian than in the East Indian woods. The naphtha extract has the characters of ordinary Pine resin—viz., ready solubility in spirit, and the high characteristic odour when heated. Both the ether and the alcohol extracts are very dark-coloured, and the latter especially has a very strong tinctorial power, one part in 100,000 of alcohol showing a distinct colour in a test tube.—*From the Transactions of the Edinburgh Botanical Society.*

FREAKS OF TASTE.

It is interesting to watch the fluctuations in tastes and diversity of opinions as they go and come in connection with flowers. So changeable are we, that at one time we are found admiring a plant, and soon after passing it as unworthy of note.

I have just been reading an article on the single Dahlia, in which the author says the Dahlia was accommodating in the hauds of ambitious florists. It doubled and doubled until it became as full, formal, stiff, and gigantic as possible. But later on a change occurred in popular taste. Double flowers palled, and the more simple forms of them were sought out. Fashion, very sensible for once, declared in favour of the single Daisies, Asters and Dogwood, and he might

have added single Dahlias. Reforms were taken up in all directions, and so he goes on. Now the question is, are those reforms wise or desirable to the extent suggested? Should we cast away our old familiar and favourite flowers that have been held in high esteem for many years in the past? I am sure they will be regarded for many years to come.

But my intention is not to find fault with plaudits of any flower; merely to call attention to the curious freaks that human tastes are subject to. They turn and return to the same thing. A plant at one time in the highest estimation, lost, revived again with renewed honours a few years later.

To produce a double flower in any class has always been the height of a gardener's ambition, and double flowers have been appreciated by the whole community. A double flower always took precedence. There is no doubt this is an extreme view. There are many single flowers which, for distinctness of colour and exquisite lines, will always be held in admiration. But in general, double flowers, I think, will always have the preference. Double flowers are extra efforts of Nature, and we may admire them just in the same ratio that we admire an elaborate piece of mechanical work from the hand of man. The fact is, that the simplicity of the design enables many to grasp wherein the beauty lies, whereas in the double forms the work is more intricate, and requires a higher education to be able to balance and distinguish the details of the subject.

Single Dahlias, I admit, are very beautiful in their chaste lines and colours; but when we look into the double forms and note the more extensive formation with the same distinctness, their petals so regularly set, we must allow them the preference. It may be (as it is) called stiffness by some, but I fail to see it in that light. For many years past the perfect formation of a flower has been the great criterion by which judgment has been given of their merits, and I'm sure will hold its own for many a day to come.

I do not wish to be thought as condemning single flowers; but I do so when it is with the intention of degrading other old favourites, such as the double Dahlia. I only wish to shew where such notions will carry us, not only in this but in many things. How often do we see plants discarded for years, even lost, and yet reappear in popular appreciation, as if they had never been abandoned. Is fickleness a law of Nature? For the advancement of the profession it is perhaps well it should be so to some extent. There is an old saying, and often true, that changes are lightsome, and fools are fond of them; but I would say it in another form for this subject: Changes are lightsome, and we all should be fond of them when they do not detract from the merits of old floral friends. Give us the single Dahlia, I say, or any other single flower. It need not interfere with our love for the double ones.

Freaks of fancy are all the more curious because they have generally tended to detract from their parent forms. At the present day single Roses are the applauded; but who would dare to place them on the same level or as superior to the double? No one will try this, I am sure.

There are many freaks of fancy just as curious in regard to other matters in connection with plants as this. When a new plant is first introduced with the slightest deviation from its parent, it receives signal praise over its predecessor because it is slightly different, though without any mark of superiority, just because it can be called a new one, and for a time may carry one away by mere novelty. But eventually novelty palls. We appear to hold, as the Scotchman does, that all new things are bonnie (pretty). This is not always true when compared justly with the older ones. The aspirations to acquire new things, is perhaps, one of the best traits anyone can have. I love it, because the effort gives you personal insight into the merits of the novelty, and enables you to judge for yourself, and satisfies a craving to see that which we have heard of. I have no blame to attach to parties recommending novelties. In many instances they may see beauty in their productions which we cannot. It is thus in every line we follow, and so we must put up with it, I suppose, to the end.—*N. Robertson, in American Gardeners' Monthly.*

THE second annual exhibition of the SHEFFIELD AND WEST RIDING CHRYSANTHEMUM SOCIETY will be held in the Corn Exchange, Sheffield, on November 19th and 20th.

HORTICULTURAL SOCIETIES.

PRESTON AND FULWOOD.

ON Saturday evening last the annual meeting of the Preston and Fulwood Horticultural Society was held, under the presidency of Mr. W. Swan. There was a fine attendance, including Messrs. J. B. Dixon (treasurer), J. Atherton (secretary), W. Troughton, E. Payne, C. Parker, A. Waters, R. Frisby, Henry Terry, P. Whittle, P. Haworth, John Letts, John Williams, P. Gannon, J. Royle, and W. Bardney (Liverpool).

Mr. Atherton read the eighth annual report of the committee, in which they tendered their sincere thanks to all who by their liberal support enabled the Society to continue its beautiful annual displays of the choicest of nature's productions. The show held in March was one of the best gatherings they had held, for in addition to the fine display of plants and flowers, two evening concerts were given, in which four eminent vocalists took part. This proved one of the most enjoyable attractions the society had provided, and which the committee hoped to repeat. The committee with pleasure could state that they had a balance in hand of £8 7s. 9½d. This was exceedingly gratifying, especially considering the large sum paid for the concerts. The committee thanked Col. Wilson and Geo. Galloway, Esq., for the support they had rendered to the society; J. B. Dixon for his untiring exertions as treasurer; the mayor and chairman of the Parks Committee, for permitting Mr. Rowbotham, their curator, to again send a splendid collection of plants; and to Mr. William Troughton, for the excellent display of plants and other floral decorations that did much to enhance the beauty of the hall.

Mr. J. B. Dixon submitted the balance sheet, which set forth that the receipts of admission to the exhibition were £48 14s. 2d., subscriptions £96 10s. 6d., and sundries, making the total into £160 3s. 0½d. There were expended for vocalists £17 17s., band £12 2s., prizes £64 12s. 9d., and other items, making the total spent, £151 15s. 3d., thus leaving in hand £8 7s. 9½d. Mr. Payne moved the adoption of the report and balance sheet. He remarked that they were in a very flourishing condition, thanks to the efficient manner in which their secretary and treasurer fulfilled their duties. He hoped that success would continue to attend their efforts. Mr. Charles Parker seconded the proposition, which was adopted. The election of officers was then proceeded with. The chairman proposed that the president of the society be E. Garlick, Esq., J.P., who had given them a forecast of the manner in which he would fulfil his duties by his regular attendance at their monthly meetings. Mr. Waters seconded the motion, and it was carried with acclamation. Mr. Atherton moved that J. B. Dixon, Esq., be re-appointed treasurer. In seconding the proposition, Mr. Troughton said no society in the country had a better treasurer than they had, and when they had got a good man it was their duty to stick to him.—Carried. Mr. Dixon tendered his thanks for the honour conferred upon him, and assured the members that he would have pleasure in again performing the duties. The chairman proposed that Mr. John Atherton be re-elected secretary; he had fulfilled the duties with efficiency for several years, and as a mark of their appreciation of his services, they, a few months ago, made him and his wife beautiful presents. Mr. Terry seconded, and Mr. Payne supported the motion, remarking that they were greatly indebted to Mr. Atherton for his past services.—Carried. In acknowledging the compliment, Mr. Atherton promised to further the interests of the Society to the utmost of his ability. If they would all pull together success would reward their efforts. The following committee was appointed: Messrs. W. H. Wilding, J. B. Jones, E. Payne, Jno. Letts, Jas. Rigg, R. Frisby, J. Royle, J. Healey, C. Parker, E. Sendall, Hy. Winwood, J. Newton, P. Whittle, J. Robinson, R. Leazell, P. Haworth, W. Willan, T. Moss, J. Starkie, Hy. Terry, W. P. Roberts, Geo. Hutchinson, W. Swan, A. Waters, Jas. Clark, W. Troughton, Jno. Williams, and P. Gannon, with power to add to their number. It was further resolved that a sub-committee, consisting of Messrs. Swan, Newton, Roberts, P. Haworth, and J. Royle, prepare the schedule for the forthcoming spring exhibition. The meeting closed with a vote of thanks to the chairman.

QUESTIONS AND ANSWERS.

FUCHSIAS.—*J. H. L.*: Keep them in the cool greenhouse, and reduce the supply of water until the wood is well ripened and the leaves fall off. During the winter keep them in a cool place, but out of the reach of frost, and keep the soil on the dry side, but not dust dry. Early in February prune them back to the well-ripened wood, and put them in a gentle heat to start into growth. When this commences shake out the old soil, repot them, and grow them on liberally in a warm greenhouse until you can safely put them out of doors. By giving them a good compost, liberal shifts, and careful watering, you should have fine plants in August.

NAMES OF PLANTS.—*Q. R.*: 1, Hieracium aurantiacum; 2, Chelone barbata; 3, Leucanthemum maximum; 4, Agrostemma coronaria; 5, Lychnis chalcidonica fl. pl.; 6, Bocconia cordata; 7, Claytonia sibirica. *W. D. Marks*: A very tiny specimen. Please send bulb and leaf showing manner of flowering, or, if that is not possible, describe growth, and say how the flowers are produced, and how many on a spray. *J. Morrison*: 1, Dendrobium chrysanthum; 2, Diplacus glutinosus; 3, Begonia, not recognised. *J. B. K.*: 1, Polemonium Richardsoni; 2, Abelia rupestris; 3, Anemone japonica Honorine Jobert; 4, Hieracium aurantiacum; 4, Aster Amellus. *Peter Wilkinson*: 1, Asplenium bifforme; 2, Davallia bullata; 3, Lomaria spicant; 4, Polystichum aculeatum cristatum; 5, Polypodium vulgare.

NAMES OF FRUITS.—*J. Jones, Tamworth*: 1, Denyer's Victoria; 2, Pond's Seedling; 3, Washington; 4, Coe's Golden Drop; 5, Magnum Bonum (fine); 6, Belle de Septembre. *W. Martin*: 1, Paradis d'Automne; 2, Bergamotte d'Esperen; 3, Glou Morceau; 4, Catillac; 5, Beurré de Capiaumont; 6, Jersey Gratioli. *E. Hayward*: The numbers nearly all got loosened from the fruits, so that we have no means of distinguishing them. 1 and 5 are Ribston Pippin, so is another without a number. The round fruit is Cox's Orange Pippin, and the two small ones, Colonel Vaughan. *J. C.*: A small fruit of Beurré de l'Assomption.

COMMUNICATIONS RECEIVED.—*M. C.* (next week)—*J. W.*—*M. T.*—*C. F. H.*—North Wales.—*R. G. W.*—*B. L.*—*E. J.*—*J. A.*—*H. W. W.*—*W. P.*—*W. H.*

TRADE CATALOGUES RECEIVED.

H. CANNELL & SONS, Swanley, Kent.—The Best Plants to flower all the Winter, Bulbs, &c.

JOHN HISCOCK, 107b, Queen's Road, Peckham, S.E.—Hardy Bulbous and other Flower Roots.

LONDON SEED TRADE.

September 29th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow sale for Winter Tares and Rye. Clover Seeds and Rye Grasses offer freely without finding buyers. Blue Peas sell slowly at lower rates. Canary Seed steady; Hemp and Linseed is neglected.

COVENT GARDEN MARKET.

September 30th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 6	3 6	Peaches, per doz.	3 0	9 0
Cherries, ½ sieve			Pine-apples, St.		
Currants, ½ sieve			Michaels, each	2 6	8 0
Grapes, ... per lb. 0 6	2 0		Pine-apples, Eng., lb.	2 6	3 0
Kent Cobbs, 100 lbs. 55 0			Plums, ½ sieve	0 9	2 0
Melons, ... each 1 0	2 0		Strawberries, per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, ... per doz.	2 0	2 6	Onions, per bushel ..	4 0	6 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen ..	1 6	
Celery, per bundle ..	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun. 0 6		

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	2 0	4 0	Liliums in variety, dozen bunches	12 0	24 0
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun...	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun...	1 0	3 0
Carnations, 12 blooms	1 0	3 0	Pelargoniums, per 12		
Carnations, ... 12 bun.			sprays	0 9	1 0
Cornflower, ... 12 bun.			—scarlet, 12 sprays..	0 3	0 6
Delphinium, ... 12 bun.			Primula, double, bun.	0 6	1 0
Daisies, common, 12 bunches	2 0	4 0	Pyrethrum, 12 bunches	2 0	4 0
Eucharis, per dozen ..	3 0	5 0	Roses, ... 12 bunches	2 0	6 0
Forget-me-not Myosotis, 12 bunches ..	2 0	4 0	Roses (coloured)	0 9	1 0
Gardenias, 12 blooms.	2 6	4 0	Roses, Tea per dozen	0 9	2 0
Gladioli, ... 12 sprays	1 0	2 0	Stephanotis, 12 sprays	1 6	3 0
Heliotropes, 12 sprays	0 6		Sweet Peas, doz. bch.	1 6	3 0
Lapageria, red, 12 blms.	1 0	2 0	Sweet Sultan, 12 bun.	3 0	4 0
Lilium longiflorum, 12 blooms	4 0	6 0	Tropeolums, ...	1 0	2 0
			Tuberose, per dozen.	0 4	0 9
			White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	0 10	2 0
Asters, per dozen	3 0	6 0	Fuchsia, per doz.	3 0	6 0
Balsams, ... per doz.			Gladioli, 12 pots		
Begonias, per dozen ..	6 0	12 0	Hydrangea, per doz.		
Chrysanthemums, doz.	4 0	12 0	Liliums, ... per doz.	12 0	30 0
Cockscombs, per doz.			Marguerites, per doz.	6 0	9 0
Cyperus, per dozen ..	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracena term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
—viridis, per dozen	12 0	24 0	Pelargoniums, doz. ..		
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ferns, in var., doz. ..	4 0	18 0	Petunias, per doz. ...		
Ficus elastica, each ..	1 6	7 6			

VEITCH'S BULBS

FOR PRESENT PLANTING.



JAMES VEITCH & SONS,

Royal Exotic Nursery, Chelsea, S.W.

VEITCH'S HYACINTHS FOR BEDDING.

In distinct and decided shades of colour.

Specially selected varieties to flower at the same time, producing large trusses of bloom.

DARK BLUE	15s. 0d. per 100; 2s. 0d. per doz.
BRIGHT BLUE	15s. 0d. " ; 2s. 0d. "
CRIMSON	20s. 0d. " ; 2s. 9d. "
BRIGHT RED	20s. 0d. " ; 2s. 9d. "
PURE WHITE	27s. 6d. " ; 3s. 9d. "
WHITE, tinged rose ..	25s. 0d. " ; 3s. 0d. "

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BLUE, all shades	12s. 6d. per 100; 1s. 6d. per doz.
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WHITE, all shades	22s. 6d. " ; 3s. 0d. "
MIXED, all colours	13s. 6d. " ; 2s. 0d. "

VEITCH'S MIXED TULIPS.

SINGLE, finest mixed	3s. 6d. per 100.
DOUBLE, finest mixed	3s. 6d. "

VEITCH'S DUTCH CROCUS.

LARGE GOLDEN YELLOW, 11s. 6d. per 1000; 1s. 6d. 100.	
LARGE BLUE	13s. 6d. " ; 1s. 6d. "
LARGE STRIPED	13s. 6d. " ; 1s. 6d. "
LARGE WHITE	14s. 6d. " ; 1s. 9d. "
MIXED, all colours	12s. 0d. " ; 1s. 6d. "

SNOWDROPS.

DOUBLE or SINGLE	21s. per 1000; 2s. 6d. per 100.
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SCILLA SIBIRICA.

30s. per 1000; 3s. 6d. per 100.

For other bulbs for Planting or Pot Culture, see CATALOGUE, forwarded Gratis and Post Free on application.

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NEW CLEMATIS, "BEAUTY OF WORCESTER."

RICHARD SMITH & Co. are now booking orders for this charming novelty for delivery in September. For description and figure see GARDENING WORLD, July 3rd. Price, 5s. each.

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ORDER AT ONCE TO SECURE THE STRONGEST PLANTS.

Liverpool Horticultural Association.

THE SEVENTH GRAND FRUIT AND CHRYSANTHEMUM SHOW will be held in St. George's Hall, on the 23rd and 24th November. The Silver Cup given by J. Williams & Co. for forty-eight blooms of Chrysanthemums will be competed for.

Entries close November 16th. Schedules on application to the Secretary, EDWARD BRIDGE, Tarbock Road, Huyton.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, OCTOBER 12th, and WEDNESDAY, OCTOBER 13th.

SHOW OF HARDY FRUITS.

N.B.—Open to Fellows at Twelve o'clock on Tuesday, and the Public at One o'clock;—on Wednesday at Ten o'clock, a.m.

CHRYSANTHEMUM SHOW. YORK,

1886. Held in the FINE ART EXHIBITION BUILDING, on NOVEMBER 17th, 18th, and 19th.

Liberal Prizes for PLANTS, FLOWERS, FRUITS, and VEGETABLES. Schedules, &c., to be obtained of

J. LAZENBY, SPURRIERGATE, YORK.

Next Week's Engagements.

MONDAY, Oct. 11th.—General Meeting of the National Chrysanthemum Society at 7 p.m.—Bulb Sale at Stevens' Rooms. Sale of Orchids at the Castle Nursery, Lower Norwood; and continuation of Sale at Cranston's Nursery, Hereford, by Protheroe and Morris.

TUESDAY, Oct. 12th.—Fruit and Floral Committees of the Royal Horticultural Society, meet at 11 a.m. Show of Hardy Fruits (two days).—Sale of Imported and Established Orchids at Protheroe and Morris's Rooms.—Extra Sale of Dutch Bulbs at Stevens' Rooms.

WEDNESDAY, Oct. 13th.—Meeting of the Floral Committee of the National Chrysanthemum Society at the Royal Aquarium at 1.30 p.m.—Bulb Sales at Stevens' and Protheroe and Morris's Rooms.—Sale of Nursery Stock (two days) at Elvaston Nursery, Borrowash, by Protheroe and Morris.

THURSDAY, Oct. 14th.—Sale of Orchids at Stevens' Rooms; and Dutch Bulbs at Protheroe and Morris's.

FRIDAY, Oct. 15th.—Sale of Nursery Stock at the Wood Lane Nursery, Isleworth; and Established Orchids at the Rooms, Cheapside, by Protheroe and Morris.

SATURDAY, Oct. 16th.—Bulb Sales at Protheroe and Morris's and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 9, 1886.

THE FUTURE OF FRUIT CULTURE.—We recently referred to one of those large nurseries in which, by tens of thousands, fruit trees of all kinds—and specially those suited for market orchard culture—are annually raised. What we saw at Mr. Bunyard's Maidstone establishment may be seen almost identically in many other large nurseries, and the tens of thousands of trees annually prepared for sale at Maidstone develops into hundreds of thousands—really, we might, with truth, almost say millions—over the entire kingdom. It is obvious, therefore, that a market upon a large scale must be found for these myriads of living trees and bushes, the fruit producers of the future, and that market is considerably contingent upon the encouragement or

otherwise found by fruit growers for the sale of their produce.

To stop in any way the production of this vast army of trees would be a misfortune, and very probably would result in almost complete paralysis of our nursery trade. On the other hand, we seem approaching to a condition of things when it is needful to check production and give time for the development of that balance between demand and supply which will result in profit and a means of living on both sides. If it will not pay to grow fruit in bulk, the motive for purchasing and planting of young trees seems removed. As long as it will pay, even if the margin of profits be but small, so long will growers of fruit purchase trees and plant them. It is distressingly obvious that at present the prospect is far from being hopeful, for we seem to have created supplies far in excess of the demand, and with the result that returns are absolutely profitless, and in many cases even worse will follow if this depression in prices continues.

We may this year, for instance, say that depression is due to the excessive crops of fruit found on every hand, and that prices will rise when crops are lighter. That sort of reasoning, however, brings poor consolation, because light crops mean, in many cases, little or nothing to sell. Were it in the power of man to distribute fruit production over the seasons in such fashion that each one should produce its fair average crop of some sort, all might be well; but of all things impossible any such arrangement is one. We have seen during the past season enormous crops of bush fruits. Those, it is true, seldom fail us, but they can hardly be so heavy next year. Pears, too, are plentiful, and with two seasons' abundance, a fair crop even of these fruits seems impossible next year also. It is certain that the coming season's Plum crop will be a light one, for two successive heavy crops never happen. We may say the same of Cherries, seldom at any time of any great importance.

Our chief hope for next year lies on the Apple crop, which, comparatively light this year, may be expected to prove a heavy one in the ensuing season, and, with other fruits short, may possibly be a profitable one. Still, it is too evident that a large crop of any one kind of fruit, even if other fruit be scarce, cannot prove so profitable as would be a moderate crop of fruit in variety. We have this season seen Plums bearing a big crop, also a disastrously unprofitable one. We may expect almost the same state of things next year with Apples should anticipations be realised as to produce. Certainly Apples are far less perishable than are Plums, and the market need not be glutted as we have seen it this year. Still, it is the case that large growers plant most extensively of fairly early, because the most productive kinds, and these must be forced on the market in their short season or spoil. Few, too, care to risk the storing of Apples in bulk, because of the expense involved, and the possible loss from decay. For these reasons it is to be feared that a big Apple crop will not bring to growers the profits they have a right to look for from the possession of a wealth of this popular fruit.

Some blame for this depression of prices may be found in the difficulty experienced in bringing producer and consumer into close and profitable contact. A big crop of fruit on the trees may, in the estimation of the grower, seem worth a large sum of money, and he estimates his returns accordingly; but, in reality, whilst on the trees, the fruit is not worth to him one single halfpenny. It must be gathered, packed, "transitted"—if we may coin a word—and pass through, perhaps, two or three other interested hands before it finally gives up its profits. Of these the grower usually gets the smallest portion, whilst the lion's share is divided

between carrier, salesman, market-owner, and shopkeeper or dealer. The metropolitan markets, for instance, seem to exercise a sort of mesmeric power over the growers. Nay, if they know that glut, glut is everywhere, still there is no cessation of the supply, no seeking for other outlets. All is forced into one centre, with the result that the eventual price of the fruit is treble to the consumer, simply because cost of distribution is so great.

Without doubt also, in this old country, growers of fruit are terribly handicapped. We have a very uncertain climate, and no man can safely forecast, even when the greatest promise is evident, what the eventual product of a season will be. We have heavy burthens in the shape of rates, taxes, and tithes of a national character, and rents, wages, manures, and other expenses of a personal character. All those, especially when compared with the state of things existent in newer countries, are terribly heavy and burdensome; they threaten to strangle fruit cultivation presently, and thus kill the bird which has laid the golden eggs. Even our country, in becoming the market of the world, has attracted to it the produce of all climes where the cost of production is almost nothing. In the effort to combat such various difficulties we may do something, but it seems obvious that little is possible short of vast agrarian changes, which will relieve land and the hapless cultivator of the burthens which now fetter him.

The outlook at present is not a pleasing one, and with every desire to stare difficulties in the face, it is hard indeed to take a very optimistic view of the future prospects of fruit culture. We venture to think that of all the developments of market gardening, that which relates to fruit culture is the most important. Anything, therefore, which can serve to promote the welfare and prosperity of so important an interest merits our most anxious consideration. May we appeal to those amongst our readers who are closely engaged in this branch of gardening to give us some of their experiences, aspirations, or suggestions, such as Mr. Harvey did a fortnight ago, calculated to throw light upon the probable future of fruit culture?

WE understand that the Council of the Royal Caledonian Horticultural Society have awarded THE NEILL PRIZE, which is of the value of £40, to Mr. Malcolm Dunn, of Dalkeith Palace Gardens.

PRIMROSES are stated to be in full bloom in the woods around Ashford, Kent; and at Mersham, in the same neighbourhood, two Apple trees are in full blossom.

A GENERAL meeting of the members of the National Chrysanthemum Society will be held on Monday evening next, at 7 p.m., at the Old Four Swans, Bishopsgate, E.C.

MR. RYDER, late gardener to Lord Bateman, Shobdon Court, Herefordshire, has been engaged as gardener to Sir William Anderson Ogg, Oakfield, Dulwich, S.E.

IN Canonbury Square, Islington, near to Queen Elizabeth's Tower, two Horse-Chestnut trees have taken advantage of the recent remarkably high temperature to come out with a second crop of leaves this season; one of them has three spikes of flowers open.

THOSE who are desirous of becoming candidates for the pension of the GARDENERS' ROYAL BENEVOLENT INSTITUTION should send in their applications at once to the secretary, Mr. E. R. Cutler, 50, Parliament Street, S.W.

CHRYSANTHEMUM GROWERS should make a note of the fact that the Floral Committee of the NATIONAL CHRYSANTHEMUM SOCIETY meets at the Royal Aquarium on Wednesday next at 1.30 p.m., and also on the following dates at the same hour:—October 27th, November 10th and 24th, and December 8th.

WE understand that the Commissioners of Woods and Forests have entrusted Messrs. Dickson & Co., Waterloo Place, Edinburgh, with a commission to supply a large quantity of forest trees from their nur-

series, to be delivered in the Isle of Man in November. The trees, which consist of Larch, Austrian Pine, Alder, Birch and Scotch Fir, are wanted in connection with the carrying out of a resolution by the Commissioners to proceed with extensive planting on the Crown lands on the south of the Island, which at present are practically waste—growing nothing but furze.

A COVENT GARDEN POTATO SALESMAN has requested his clients to cover the trucks with straw after this date. If the weather continues warm, a thin layer over the Potatos will be sufficient, but it should be put on in any case, as it makes the trucks look brighter, and the tubers make a better sale.

A COURSE OF LECTURES ON AGRICULTURE will be given at the City of London College, White Street, Moorfields, E.C., on Tuesday evenings, at 7 p.m., by Mr. BERNARD DYER, F.C.S., F.I.C. The course of lectures will treat of soils, plant life, manures, tillage operations, live stock and food.

WOODSIDE, FARNHAM ROYAL.

WITH some 2,000 seedling Cinerarias still in small pots, and about 800 propagated plants, including all the best kinds raised by Mr. James during the past six years also still in 60's, it is evident that Woodside is not now quite so gay within the houses as it will be about next April. Only those privileged to see the grand show of flowers which Cinerarias give here, can realise how beautiful a display is made. The wonderful perfection of form, allied to breadth of petal and general substance, are features in which no other strain excels, or, indeed, equals. We have heard it remarked that the flowers shown from time to time by Mr. James have been dressed; certainly, if such be the case, then myriads must have also been dressed, as the same singular even-rayed appearance in the petals is found all over the plants in the blooming season.

The chief plants grown here for the production of seed are, Cinerarias, Chinese Primroses and Calceolarias, and these may be said to furnish a succession of bloom for six months of the year. Cyclamen are also grown, but not in so marked a degree at present; however, there is no doubt but that these will form a striking feature shortly. Whilst the Cinerarias are in 60's, Calceolarias are tiny plants not long pricked out from the seed pans, and Primulas are in diverse-sized pots, ranging from 32's down to small 60's. During the summer, some important alterations have been made in the glass houses, for the three admirable spans have each had 31 ft. more of length added. Thus for the plants named, with a few other things, there are now 333 ft. run by 11 ft. wide houses, and as the stages on either side are 4 ft. wide, there is the considerable area of 2660 square ft. of space on which to stand plants.

Lighter or more suitable houses for the culture of the particular plants named could hardly be found; some important alterations, too, have been made in the heating arrangements, for, satisfied of the value of top-heating, Mr. James has had in two of the houses an inch iron pipe run along on either side close up to the bars and about 4 ft. from the plants. These pipes also help to support the roofs, for they are gripped at intervals by means of uprights standing on the stages. These pipes heat wonderfully soon after the fire is on. In the other house only one pipe is employed. Not only in the case of Primulas, but with Cinerarias and Calceolarias it is found of the first importance that damp should be dried up quickly, or otherwise the pollen is injured materially. Then, on either side, the stages are removed from the plates, so that there is an interval of some 2 ins. wide between the stage and side of the house. Through this the heat rises from the large pipes below, so that every effort is made to enable a fairly dry atmosphere to be maintained during the blooming and seeding seasons. Then in the new parts of the houses the staging is of corrugated iron, made specially in 4 ft. widths; this tips or slopes very gently indeed to the sides of the houses, and being impervious to moisture, is for the purpose almost imperishable; upon this is laid small washed shingle, filling up the hollows so as to make a fairly even surface on which to stand the plants. This sort of staging is being largely adopted now by market plant-growers.

Of Chinese Primulas there is a large and very interesting collection. The old white is well represented, as also is a newer and finer white, the product of cross

fertilisation, and which does not flush its blooms with pink so much as does the older variety. Alba magnifica has also been crossed with a good white, with the result, that whilst the peculiar habit of that good kind is retained, the calyx or flower-sheath is so shortened, that the blooms are not forced off, as is the case with the original kind. That a Primula having such an admirable habit, and very free blooming, should have yet, as a rule, carried such thin heads was a puzzle to many; but the cause is now made clear, as it arose from the long form of the calyx of the flower, which literally lifted the blooms off the truss. A year or two since, a cross was effected between one of the plain-leaved whites and a purple kind, and curiously enough from the batch of seed produced came white, purple, and reddish or lavender mottled flowers on both plain-leaved and Fern-leaved forms, making six kinds in all. These are all good, and the white is of a fine pure nature, and produced under the leafage. It is a curious fact, but true, that we almost always find the purest white flowers in Chinese Primroses on the dark-leaved foliage.

Red forms are found in a fine strain which originated at Chalfont Park, and also in Mr. James' own selection of the Meteor type—rich and vivid in hue and large in flower. Purples and rose tints are also present, as also some of the rich carmines and pinks, which are so delicately tinted and are so beautiful. A batch from a couple of named kinds, obtained from a seed-house in the midlands, is a very disappointing lot, the leaf-stalks being long and the flowers pale of hue. Mr. James is working to obtain good sturdy habits as well as fine flowers. A semi-double red, which itself sported from Chiswick Red a year or two since, has this year thrown a foliage sport in six plants, the leaves resembling those of a Cyclamen, being rounded and solid and only slightly serrated; this is the oddest sport in the way of foliage yet seen in the Chinese Primrose. A batch of the blue kind is also being grown, but further reference must be left until the blooming season. Outdoors there is a big breadth of the fine Giant Pyramidal Red Mignonette, a very superb strain of this sweet-smelling plant, and the earlier spikes of seed are being harvested.

Pentstemons are good, and from a batch of seedlings some very fine flowers are obtained. The stock is from Scotland, but the soil here is good and holding; hence the plants thrive well and produce huge spikes of flowers. Antirrhinums, also, are good, and some of the paler forms of Delphiniums from seed are very refined and beautiful. Fancy Pansies thrive well under a north fence, where the soil is cool. Being naturally watered by springs, the soil is much more retentive than might have been expected, considering the elevated position of Mr. James' present house at Woodside.

CALANTHE WILLIAMSII.

THE genus Calanthe is a favourite one with all lovers of Orchids, on account of their very easy cultivation and free-blooming proclivities during the duldest months of the winter. Some or other of the species, or fine garden varieties, are largely grown by many for decorative purposes, with whom Orchids are not a speciality. During the last few years some very fine seedlings have made their appearance; and also from Eastern Asia have come some beautiful and distinct forms of which, as yet, we know nothing of the origin. Among the latter must be included the fine acquisition introduced by Mr. B. S. Williams, and which has been well figured and described under the name of *C. vestita* Williamsii in *The Orchid Album*, t. 134.

As stated in the work just alluded to, this variety "adds a new charm to the genus, since it will introduce among our winter-blooming Calanthes a most distinct and showy form, which will be welcomed by all plant growers as being superior in beauty to all those which have preceded it." It is a deciduous plant, with pseudo-bulbs like those of *C. vestita* Turneri, and a spike of flowers of a similar character. The sepals and petals are white, faintly margined with rosy crimson; and the lip and column are deep rosy crimson with an intense crimson eye. It flowers during December, January, and February, is a strong grower, and requires similar treatment to the other deciduous forms. Mr. Williams, than whom few have done more for orchid culture, is to be congratulated on the possession of so thoroughly good a novelty.

BEGONIAS AT MAIDENHEAD.

THE rapid advance which has become so apparent during the past few years among the tuberous-rooted section of this family, together with their adaptability for bedding and other decorative purposes, is fast gaining for them a well-deserved popularity—a popularity it is to be hoped they may long enjoy. Only some half-dozen years ago the places where Begonias were used as bedding plants at all might almost have been counted on the fingers of one's hands; while to-day they are the recognised bedding plants in hundreds of gardens, and what more delightful have we for the summer and autumn months than these

no small degree—for they may now be seen by thousands in these nurseries in almost every possible stage. The "Floral Nurseries" are situated on the main Bath Road, and about ten minutes' walk from the Maidenhead station on the Great Western line; the exact position of the nurseries is that known locally as Castle Hill; this is considerably above the level of the town and is somewhat exposed; the ground is generally poor and stony, and such as will require enriching for years to come. I mention these particulars with a view to illustrate that the Begonia as a bedding plant is not fastidious as to soil; indeed, on the contrary, it appears to delight in any good ordinary soil, kept rather moist during dry weather.

year, and which is repeated year by year; so that in the one case you may enjoy the Begonia and its flowers to the utmost, while in the other, you must cut it down for stock almost as soon as it reaches its best.

Still another point, and which is more applicable to small gardeners and amateurs, is that Begonias for bedding purposes, so long as kept comparatively dry and secure from frost, need no heated structure in the winter; and further still, they will start into growth naturally in spring with little or no heat at all; at most, if accommodated with slight warmth from a dung-bed, it will be all that is needed. The last point to which I shall refer, as favouring the use of the Begonia for bedding purposes, is that, by carpeting the vacant beds with bedding Violas and other spring-flowering plants, as soon as the Begonias are lifted, you may embrace a totally distinct feature and also enjoy a fair amount of pleasure from them, especially as these may remain till the end of June, when the Begonias would be fine plants in boxes for putting into the beds. Having said so much, I must leave the matter in the hands of your intelligent readers, to decide for themselves.

Before taking leave of the Begonias in the open beds at these nurseries, I cannot but call attention to the different types of Begonias to which Mr. Owen is now paying special attention, and as being particularly adapted for bedding purposes. The first of these is the erect-flowering type, all of which possess a dwarf sturdy short-jointed habit of growth, with stout stems and flowers fully erect when expanded. The next type possesses the same habit generally, but have the flowers semi-erect or assuming a horizontal position. Both these are very dwarf and compact, and commence flowering at the first joint; from the apex of the tubers these are both invaluable strains for bedding; the third type is quite distinct from either of those previously mentioned, and which partakes more of the character of *B. Veitchi*, *B. Froebeli* and *B. roseiflora*, which three may be numbered among the gems of hardy plants; and it is not unlikely that one or more of these species have at some time played some part in developing this particular variety. Be this as it may, there is every likelihood of this latter making a most useful and valuable bedder. The leaves are of considerable substance and lie close to the ground, while the flowers are borne on stout stems well above the leaves.

Then if we would search for variety of colour or form, we have it here supplied, from the snowiest whites, and pale primrose and straw, onward into buff, orange and chrome, until we emerge into pink, rose, salmon, scarlet, orange-scarlet, lake, crimson, magenta, rose-violet, cerise, together with an endless variety of intermediate shades, for which it is next to impossible to find distinctive names; these great variations of colour are more particularly noticed in the singles, many of which attain to a great size. In the doubles the colour generally is more decided; it may be well to add that among these latter there are many, consequent upon the great weight of their blossoms individually, that are delightfully adapted for hanging baskets; and by employing them thus, they may be admired with ease and without handling the flowers, which, generally, are so fragile as to break upon the least touch in a wrong direction.

Not only were the beds without gay with thousands of plants in full splendour, but some three large houses are filled with finely grown and well-flowered samples of these highly decorative plants; strong, stout, vigorous plants, in all sizes, meet the eye as you pass from house to house, and these covered with large handsome flowers, in such a variety of colour, as to be almost overwhelming; so great and varied a display, in fact, that mere description falls a long way short of the actual splendour in which this truly noble group of plants are arrayed, which must be seen to be realized. One of the gems of the season, however, may be found in the variety *Imperial*, which was recently awarded a First Class Certificate by the Royal Horticultural Society; in colour it is rosy cerise, nearly 6 ins. across, is of great substance and of noble bearing, and possesses a sturdy vigorous habit. Those with Picotee edge are simply charming, especially so when the ground or predominant colour is white, and margined, very delicately in some instances, with magenta, whilst in others the margin is of a rose colour, and others still of varying shades.

It is worthy of special note that some of the varieties, and especially the doubles, are the best grown as basket plants, arranged so as to hang a little above the level



CALANTHE VESTITA WILLIAMSII.

Begonias? A few years ago, even where Begonias were employed as bedding plants, it was a rare occurrence to meet anything but *Vesuvius* or allied strains; and while these were welcomed at the time, and formed quite a new feature in the out-door departments of gardening, they have to-day to give place to newer kinds and newer types, which lend themselves in a remarkable manner to this particular purpose.

Among the few nurserymen who have made Begonias a leading feature may be mentioned Mr. Robert Owen, of Maidenhead. Barely two years have elapsed since Mr. Owen established himself in his floral nurseries there, being, however, at the time the fortunate possessor of fine strains, both of tubers and seeds, which for years previously he had been carefully selecting and improving. The result of Mr. Owen's labours is now fast becoming apparent—and that in

Considering the light, stony nature of the soil with which Mr. Owen has to contend, and the remarkably fine condition they were in at the time of my visit, it is not too much to presume that they may be grown in almost any garden. This section of Begonias, too, has advantages over the majority of bedding plants, which may not have occurred to all of your readers; and it may serve probably to enlighten some at least, if I state what I consider these advantages are: firstly then (and to be reasonable at the same time), tuberous Begonias were, in September, in full bloom out of doors, and had been since the early part of July, and will so remain till repelled by autumn frosts; on the other hand, if we peep into a garden where the zonal Pelargonium still holds sway, there is little fear of catching the "scarlet fever" now, for the Pelargoniums are all beheaded to provide cuttings for plants another

of the eye, and not high up overhead, which necessitates neck straining and twisting to get a glimpse of them. By placing them thus within easy view, their huge massive flowers are seen to advantage; or if baskets be not at hand, a few may be suspended in pots, which would be equivalent.

Taken as a whole, Mr. Owen's Begonias make up a magnificent display, such, indeed, as is rarely, if ever, witnessed in the provinces; and judging by the size attained, to which may be added form and substance of its blossoms individually, one would imagine that further improvement was impossible; not so, however, with the closer observer and the enthusiastic florist, whose labours are marked with that amount of assiduity, which, after all, is the key-note of their success.—J.

THE CULTURE OF FRUITS IN POTS.

WHERE a large quantity of fruit is required from a limited quantity of glass, culture in pots, in my opinion, is the most simple and profitable way of obtaining it. Pot fruit is condemned by many as being flavourless; and though the crop be sufficient to repay for the trouble of potting, watering, etc., the fruit is said to be small and unfit for a gentleman's table. This, in my opinion, is an erroneous idea, as I have seen trees of Peaches and Nectarines carrying as many as fifteen dozen of splendid fruits—size, colour, and flavour being equal to those picked from trees planted out in houses specially devoted to their culture. As Peaches, Nectarines, Plums, and Pears will all succeed under the same treatment, I will confine my remarks especially to them, and, doubtless, what I have to say may be of use, at least, to some of your readers.

THE HOUSES.

The construction and position of the houses is one of the most important things in all fruit growing, especially for pot-work. The houses must be in the sunniest position, and built of the lightest materials, as light is the chief object. Two houses are needed if anything like a succession is to be kept up; one a cold house, the other with a flow and return pipe round, will be found to answer admirably. Span-roofed houses not too lofty, are the best, with doorways large enough to allow the trees to be taken out and in as required. There must be ample ventilation, both top and bottom, and in the front. I prefer the lights to open individually, so as to admit of air being given where required. Lean-to houses answer almost as well, and also admit of the back wall being utilized for trees planted out if required, as there will be sufficient light forthcoming from between the trees to insure good well-coloured fruit.

PURCHASING THE TREES.

This can be done at any nursery where a quantity of fruit trees is grown, and about the end of October is, perhaps, the best time to buy them. Pyramids or half-standards are the best, and the purchaser will find it more profitable in the long run to obtain a good start by giving a fair price for well-trained trees than to purchase small sickly ones at a low rate.

PREPARING THE COMPOST AND POTTING.

The soil best adapted for trees is a good yellow fibrous loam from an old pasture, a third portion being old mortar-rubble that has been put through a $\frac{3}{4}$ -in. sieve, and $\frac{1}{2}$ -in. bones. If the loam is of a light character, so much rubble need not be placed, but I prefer placing this to dung, as the loam is more lasting. A shovelful or two of soot is also a good ingredient, and a good help to keep the foliage green. Do not break up the compost too fine, and if in a wet state it will be found better for working if a day or two's sun and air is allowed upon it.

Do not place the trees in too large pots, as nothing is gained by overpotting, and the trees, too, will be easier for shifting about. Trees fresh from the nursery will, when being potted, require to have the tops of all straight roots removed to induce them to send out young fibres, as these are the roots that sustain the tree. Do not use too much drainage, and let the roughest pieces of turf be placed next, as the finer portion of the compost is liable to block the drainage. Do not place the tree too deep, and leave plenty of room on the surface for water. The soil must be well

worked among the roots, and made firm with the potting stick. In potting old trees, the best time for the operation is about the middle of October, and the trees then should have all loose soil removed, and straight fibreless roots shortened back. Generally, the best fibrous roots are on the surface, and it is advisable to subject these to as little disturbance as possible. Two sizes larger is found to be an ample shift; particular care must be taken to ram the new soil well down to the drainage, as when the trees advance again into growth, they quickly consume what little new soil is allotted to them.

Trees in large pots or tubs continue fruitful for several years if top-dressed every season, and when this operation is done, a sharp grained hand-fork to work away all loose soil from the surface, will be found best to use. As much as possible, without injury to the roots through removal, a richer compost than that used for potting may be given and well rammed. Bone meal is a good lasting manure, and suits trees admirably. After all potting and top-dressing is completed, and the trees have had a good soaking with water, they can be placed in the coldest house for

WINTERING.

This gives the gardener the use of another house, viz., the warmest of the two, and which is always handy, especially at this season of the year, for flowering Chrysanthemums or wintering bedding plants, etc. The trees may be placed as thickly as necessary and the ventilators thrown wide open, except on frosty nights or very bad weather, when it will be advisable to close the house. On wet or muggy weather an occasional wetting with the syringe will be found beneficial, as it helps to keep the buds firm and plump. Care must be taken not to allow the soil to become too dry, to injure the roots; and if frost sets in, it will be found necessary to cover the pots with litter, to protect them from being frozen.

STARTING INTO GROWTH.

The time for starting greatly depends on the time the fruit is required, and the quantity and size of the trees at command, but if Peaches and Nectarines are required about the middle of June, the warmest house will require to be got ready by the beginning of February. The trees of the different kinds of fruit intended to be forced must be selected, taking care to use the earliest varieties. Where there are two or three trees of a variety, it will be advisable to leave one for the later house, as this makes more variety in each house and is more interesting to the cultivator. A temperature of 45° to 50° with a run up to 55° at mid-day, will be sufficient until the buds commence swelling, when a 5° rise may be made. Keep the trees and floors well moistened, and take particular care in watering, never allowing the trees to become dry, or the buds will fall. In mild weather it is a good plan to keep a crack of air on both top and bottom ventilators. This, I think, is preferable to shutting off fire-heat, as it keeps the atmosphere more growing, and is also a help to strengthen the buds. When the blooms commence bursting, the temperatures may again be increased 5°, and this will be found sufficient until the blooms are set.

SETTING AND THINNING THE FRUIT.

While the trees are in bloom the ventilators must be kept well at work, admitting plenty of air on sunny days to allow the pollen to become dry for fertilizing; and again to be very careful of cold searching winds. A camel's-hair pencil is about the best thing to use, and the trees should be gone over every day about noon until the fruit is set. Keep the house more dry while the trees are in bloom, and when blooms begin to fall and the shoots commence growing, then the syringe may go to work, particularly when the house is closed, when the temperature may be allowed to rise to 80° on bright days. When the fruit is about the size of nuts, thinning should be done where necessary. This operation is not advisable to be done all at once, but rather take off a few by degrees; and again, it is a matter of discretion as to how many the cultivator may require his trees to carry. Where it is necessary to crop heavy, the healthiest and strongest trees must be made to do the chief of the work; as a weak tree, if cropped at all heavy, is almost sure to fail. Trees that have made a good start may have liquid manure-water given them, care being taken not to give them too strong a dose at first, but gradually increase its strength

as the trees increase in growth. Trees of the first year seldom do much and if small, it will be better to get a season's growth in them before attempting to fruit them.

AFTER TREATMENT.

When the growths have made five or six leaves, stopping should be done, and all future growths at a like number. A turf placed endways round the inside of the pot will be found a great help to watering, and where artificial manure is at hand, no fear of its being washed out of the pot at watering time need be entertained. The cold house will, of course, have been coming on naturally, and every encouragement should be given. Air may, of course, be given more freely than that advised for the earliest house, but still cold draughts must be avoided, or the leaves will shrivel, and the blooms fail to open perfectly. Fertilization must be seen to when the trees are in flower, and if green fly should at any time make its appearance, fumigation must be done without delay. In orchard houses, nature, in my opinion, should be imitated as much as possible, and on dull wet days a good syringing will do much good, as it keeps down insects, besides freshening up the trees.

Trees that are carrying fruit and swelling freely may be well fed with manure water, and a handful of soot sprinkled on the surface of the pot and watered in occasionally is a good ingredient, and also keeps the pots free from worms. Any large trees that have failed to carry a crop may be gradually hardened off, and placed out of doors in a sunny position. When the fruits commence to colour, place the tree (or trees) nearest the light, and a crack of air on the nearest ventilator. This is what imparts flavour into the fruit, and the tree, if turned round occasionally, will help the fruit to colour beautifully. When nearing ripeness, a little more air should be admitted, and I prefer to pick the fruit a day or two before eating, as the practice of netting may be then dispensed with, if the trees are carefully gone over once a day. Pears should be gathered when they leave the stalk easily, and placed on an airy shelf before using; but great discretion must be used at what time to send them to table, as some varieties so quickly go past their best, and are afterwards useless.

RIPENING THE WOOD.

As the fruit is gathered, place the trees out of doors in the full sun, to insure well-ripened wood for the next season. It will be advisable to allow trees of the first year to remain and make as much growth as possible, before placing them outside. I have found it better not to plunge the pots, as it helps the trees to make more roots, but a very sharp look-out must be kept for water. Pruning may be done at potting time, but if the shoots are kept stopped at the time advised, very little is required. One thing is always advisable, not to allow the trees to become too thick; this can always be remedied by keeping the centre of the trees well thinned. I prefer a moderately thin tree, to a thick one that has been trained in this or that form, with growths all thickly grown together, allowing no light to reach the fruit, and no chance of the wood attaining that rich brown hue that always denotes ripeness.

Manure-water may always be given in abundance to trees that are carrying fruit, and always bear in mind the advisability of keeping trees that are ripening fruit nearest the glass. Some varieties of fruit, especially Peaches, are naturally more mealy, or in some degree inferior to others; but I will endeavour to give the names of a few varieties which, in my opinion, are most suitable for pot-work. Doubtless, some may know of other varieties equally as good, but I will only mention those which I have seen and know to do best.

SELECT VARIETIES FOR POT CULTURE.

Peaches: Waterloo, Hale's Early, Rivers' Early York, Royal George, Grosse Mignonne, Dagmar, Violette Hâtive, Bellegarde, Lord Palmerston, Princess of Wales, and Desse Tardive. *Nectarines*: Pine Apple, Rivers' Orange, Lord Napier, Stauwick, Elrue, Violette Hâtive, Newton, and Albert Victor. *Pears*: Williams' Bon Chrétien, Brockworth Park, Souvenir du Congrès, Beurré Hardy, Louise Bonne of Jersey, Duchess d'Angoulême, Bergamotte d'Esperen, Du roudéan, Pitmaston Duchess, Marie Louise, and Beurré Diel. *Plums*: Early Favourite, Jefferson, Transparent Gage, Victoria, Purple Gage, Reine Claude de Bavay, Prince of Wales, and Coe's Golden Drop.—*Wales*.

GARDENING NOTES FROM SCOTLAND.

Hints on Storing Fruit.—At the present time the housing of fruit demands much attention, and in districts where scarcity prevails—and such are numerous, so far as Apples are concerned—the greatest care should be exercised that no loss is incurred through bruising the fruit by rough handling. It is not necessary to go much into details as to how fruit should be stored; but it is of much importance, especially in northern parts, that the fruit should be in condition for gathering. Often Apples and Pears are all but ruined by harvesting them while they are not matured. The fear of injury from frost urges many to collect all and sundry kinds, and shelve or box them as expeditiously as possible.

Apples are not generally the tender fruit which some believe they are. It is not uncommon to pick up, in orchards, Apples which have lain on the ground all the winter, and not the mildest of seasons either. We notice that on our heavily-cropped trees—not in the orchard—the fruit is still swelling rapidly. The mild weather which we have experienced for some ten days may be helpful to this, the thermometer several times standing at 60° during the night; and while the fruit is improving we think it unwise to remove it from the trees. The fruit-house having been made clean, dry and damp proof, it is well to get the earliest fruit in first, keeping kinds in order according to their time of ripening. Some prefer thin layers standing singly, so that air may pass freely above and below the fruits. This is strictly essential for Pears; but late-keeping Apples may be placed in boxes, barrels (as American fruit is consigned to this country), or in heaps along shelves, where they can remain undisturbed till they are wanted for use. We know how market-men have to turn their fruit-storing space to account, and ridges on floors like Potato-pits are had recourse to. Careful handling when gathering, separating the bruised ones from the sound fruit; free ventilation at first till fruit has sweated dry; close, dark, dry quarters afterwards, and even temperature are the chief items of attention.

Pears are preserved in various ways, but we have seen them do best laid out thinly on shelves in a dry airy fruit-room, and then kept dark with sheets of paper laid over them to prevent evaporation. I am not sure that there is much good in the paper, but put a deal of value in not crowding them together; wherever there is a bruise decay sets in. Arrange the kinds by themselves; put each lot, for convenience sake, in divisions so that they may be comeatable when they are wanted. A few placed in heat every eight days or so, will keep up a supply for dessert, and help to prevent a glut coming in and going to waste.

Peaches, Nectarines and Apricots will now be getting well over, and can be removed to a dry warm room to ripen. Where these are under glass they are very manageable—a dryness can be maintained, and sun-heat harvested; but in northern latitudes the ripening of these must take a very artificial form, and though they may slightly shrivel, they often are of great service. Walburton Admirable and Barrington Peaches we have often seen in fine condition at the end of October. Melons should be cut when the foliage shows signs of decay, and removed to a place where heat will ripen the fruit. Such practice is seldom necessary except where warmth from manure has to be depended on; and late Melons from manure beds are not often first rate. The Beechwood and Golden Perfection class of Melons are very useful under such circumstances, and often attain excellent flavour weeks after they are cut.

Plums are this season looked upon as something in the nature of a deluge, and many are allowed to waste because the prices are so low as to render it profitless work to gather the fruit. The heavy crop also has been the cause of much inferior quality, which has been all but worthless when gathered. Fine grown fruit, we notice, still commands a ready market, and are bringing fair prices. In northern districts, where standard trees are not planted orchard fashion as in the great Plum districts, there are not many of the fruits going to waste. There are many ways in cooking by which Plums are of great value.

Wasps came very suddenly to grief this year, after a short but destructive period of existence. Many of the best kind of Plums on walls were attacked before

they were ripe—especially Jefferson's; but, though these are gathered comparatively hard, they come in useful enough, and not at all despicable on the dessert table. Flies, we notice, are busy at work, and not easily baffled in finding such favourite food as Plums. We would, therefore, advise the removing of all the fruit to a dry, cool room; and, if the quantity will admit of it, a portion of the Plums can be removed to a dry warm position to ripen as they are required. Coe's Golden Drop does well with such treatment. Reine Claude de Bavay is liable to crack if left out at this season. It may be kept like Golden Drop for weeks to come.—*M. T.*

Scottish Horticultural Association.—A meeting of the Scottish Horticultural Association was held on Tuesday evening at 5, St. Andrew Square, Edinburgh—Mr. Alexander Milne, president, in the chair. A paper on "The Cultivation of Orchids" was read by Mr. James Cole, Craigleith Nurseries. He pointed out that the cultivation of orchidaceous plants was no longer the privilege of the few, now that their nature and requirements were better understood. The present development of cultivation was chiefly due, first, to the useful information given by those who had studied the plants in their native habitats; second, to the practical application by home cultivators of the varied observations of travellers; and third, to the discovery that many of the most ornamental species required less heat and less expensive appliances than was at one time thought necessary. A paper on "The Propagation of Plants" was read by Mr. Charles Taylor, Royal Botanic Gardens. He said the whole system of successful propagation might be briefly described thus: to produce circumstances and surroundings that would prevent undue evaporation, and at the same time to maintain circulation and plant growth until roots could be formed in the cutting, and a union between stock and scion. Amongst the exhibits forwarded to the meeting were Chrysanthemum blooms (Madame Desgrange) of the white and golden varieties, from Mr. W. Rushton, Clerwood, and a collection of Apples from maiden trees, including an American variety named Washington, from Mr. John Downie, Beech Hill, Corstorphine. Discussions followed the reading of both papers.

NOTES ON LILIUMS.—VII.

IN the various chapters which have preceded the present one, I have endeavoured to bring before the readers of THE GARDENING WORLD some of the best and most important species constituting a race of plants which, as a whole, is unparalleled. In the present chapter I shall chiefly refer to the Tiger Lilies, *L. tigrinum*, which during August and September form one of the principal features among Lilies in the embellishment of the hardy plant garden; not that they are during the time herein stated the only Lilies to be found in flower, for some of the auratum are then resplendent with beauty, and bear their noble flowers away into the latter months of the year; even now, October 5th, I have auratum struggling to expand, and if the weather continues favourable, I shall hope to have flowers for some time yet. Still, I must add, these are being produced from late importations, and are the exception rather than the rule.

THE TIGER LILIES are highly decorative subjects, very hardy, of good habit, and vigorous constitution; and growing luxuriantly in the most ordinary vegetable soil. It is equally at home in the humble and modest garden of the cottager, as it is in the more sumptuous flower borders or beds which invariably surround the mansion of the noble lord. No late-flowering Lily is better adapted for massing than this one, not only on account of its perfect hardiness and the ease with which it may be grown generally, but on account of its cheapness; indeed, a hundred of good-sized bulbs—all flowering bulbs, too—may be purchased for less than single bulbs of some of the rarer species and forms. For these reasons the Tiger Lilies should be planted by hundreds in all establishments where large and spacious borders exist, or where there are thinly planted shrubberies or woodland-walks where they may be eventually naturalised. In the herbaceous or mixed border none are more thoroughly at home than these, for they soon become established, and annually increasing in size and importance, form, in a couple of seasons, highly valuable and imposing objects for early autumn blooming. The varieties of this species are not numerous, and next week I will name the whole of them that are worthy of cultivation.—*J.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

A general clearing up will now be the principal work in the kitchen garden, all spent crops removed, the ground re-dug and planted for winter, and everything placed in order before bad weather renders the work difficult or impossible. The season is keeping exceptionally fine, the few slight frosts we experienced last month did very little damage, and if it were not for the falling leaves we might fancy it is still summer. The ground is in capital order for digging or lifting roots of all kinds, and the late Potato crops should be taken up without delay, storing them in a cool, dark, but not too damp a place; or where there is a large quantity, they are sometimes placed in heaps covered with dry soil, and then with straw or litter.

In all households Onions form an important part of the vegetable supply, particularly in winter. The harvesting of these needs some care, and though reference has been previously made to the subject, a few additional notes may be useful.

When lifted or pulled from the ground, the Onions should be laid on the surface, if the weather be dry, for a day or two, to permit the superfluous moisture to evaporate; and the brighter the weather when thus exposed, the more likely are they to keep satisfactorily. There is also another point that requires attention—viz., when they are sufficiently dried, and the tops removed, they should be sorted according to their sizes, placing the smallest by themselves for late use, and the largest, which are generally also the least well ripened, must be used first. Solid, firm, properly-matured Onions of medium size will keep well for a great time if stored thinly in a cool place, either on shelves or floors.

It may be also desirable to lift the Beet now, and these require special care to avoid injuring the skin of the roots, or they will lose colour and prove very disappointing when cooked. The leaves should be cut off, but not too close to the crown of the root, and the latter must not be broken or cut in any way. When they have dried somewhat on the surface they may be stacked in a frost-proof shed, and covered to prevent damp getting at them. Carrots can be treated similarly, but these and Parsnips will not be injured by frost; indeed, some people prefer them after they have been frozen, and the only advantage of lifting a few is that they may be ready to hand at any time when the weather is very severe, and it might be difficult to dig them from the open ground. It, of course, seems unnecessary to perform these operations while the weather continues so warm, but it may change very suddenly, and heavy storms of rain would render the ground very difficult to work properly, and would, moreover, unfit the roots for storing, as if put away in a wet state they will not keep so well.

THE FLOWER GARDEN.

Very seldom are we favoured with such a prolonged display of flowers as is the case this season, and the warm weather seems to have given new life to the majority of autumn-flowering plants; Dahlias are still quite gay, Sunflowers are as showy as ever; the Michaelmas Daisies adding wonderfully to the beauty of the garden. We have one long border which is very attractive with Stocks, Asters, Convolvulus, Tropæolums, and other annuals from late-sown seeds; Mignonette still affording abundant supplies of its fragrant and favourite flowers. We always have a good supply of the last-named from early summer to late autumn out of doors, and then we have some in pots for the greenhouse, so that we are not without its flowers for a very long period at any time of the year. We have three Michaelmas Daisies that can be strongly recommended, namely, *Aster novæ-anglæ rubra*, red; *A. novi-belgii*, blue; and *A. amellus bessarabicus*, dark lilac. These are so distinct in colours, and such wonderfully free flowerers that they can be safely included in any collection, being far superior to the old form of *A. amellus*.

Leaves are falling rapidly, especially from the Limes, and attention must be given to sweeping these up from lawns and paths, as in the event of rain coming they are liable to be drawn in by worms, and paths are then much spoiled in appearance. Place the leaves together in a heap or slightly spread out, as they will be useful for placing on the borders when partially decayed. Have the lawn mowed now, and it will not need much more cutting; trim the edges, and give the same care in clearing up as advised in the Kitchen Garden.—*Scolytus*.

GRASMERE, BYFLEET.

IN his interesting garden of hardy flowers, and flowering and foliage trees and shrubs, in which so many rare and beautiful things from different parts of the globe are brought together, Mr. Joseph Stevens has relied entirely on his own judgment in selecting suitable situations in the open ground for his plants, and not made any provision for nursing them under glass at times as many do. That this is the best course to pursue is proven by the many rare plants which have done well under Mr. Stevens's unwavering treatment, while they have been frequently lost by those who protect them in winter. Among such we noted *Aralia Maximowiczii*, a really handsome and tropical-looking plant, which has here attained a height of 8 ft.; *Aralia pentaphylla*, with leaves something like those of the Virginian Creeper, which is now a bush some 10 ft. across, and many Bamboos and other plants usually considered subjects for culture under glass. In front of the pretty cottage residence of Grasmere is an irregular raised bank, which would delight the eye of any lover of

WILD GARDENING,

And which no one could fail to call beautiful. In prominent positions in the front portion some choice Ferns are planted, and behind them, as an undergrowth, rises some beautiful Bracken, 8 ft. or 9 ft. in height, with here and there a dense cluster of the double rose-coloured bramble, and the gay scarlet-fruited *Rosa canina*, above and behind them still being some golden Hollies, the graceful Linden tree, and other tall shrubs, the whole forming a pretty piece of natural gardening, and one, too, which takes care of itself.

On the other side of the house is the lawn, on which are some noble conifers, each standing out singly, and with plenty of room for them to form themselves perfectly on all sides. The most noteworthy are *Cupressus Lawsoniana gracilis*, a grand specimen some 20 ft. in height; *C. L. erecta viridis*, *Abies lasiocarpa*, *A. nobilis*, the golden *Thuja Vervæneana*, *Cedrus atlantica*, *Wellingtonia gigantea*, *Araucaria imbricata*, *Cryptomeria japonica*, *Cephalotaxus Fortunei*, and *Libocedrus decurrens*. All these are grand objects, but the last is one of the finest specimens of its kind we have ever seen; it is 30 ft. in height, and has a forked stem, which is about 4 ft. in circumference at the base. Besides these large specimens of conifers, small ones of every obtainable kind are planted near them, and when they all assume their characteristic growths, they will be very beautiful and interesting to both plantsmen and botanists. Joining the Pinetum is the meadow, and round it runs

THE HERBACEOUS PLANT GARDEN,

Which also contains specimens of rare trees and shrubs, many of them not yet generally known in this country. For example, we noted many varieties of Laurel, from that with a leaf only 1 in. in length to the variety known as *macrophyllus*, with leaves as large as an India-rubber plant; of the sweet Chestnut (*Castanea vesca*), the Fern-leaved variety, the variegated, the jagged leaved, and another beautiful kind (*Castanea filicifolia*) with the usual broad leaves on the lower part of the shoots, but with those at the point narrow, pendulous, whip-like, and very elegant; and so on, throughout, most of our well-known trees Mr. Stevens has of each curious varieties and rare abnormal forms. In

THE HARDY FLOWER GARDEN

The Delphiniums, Phloxes, Pæonies, Irises, Funkias, and other showy things, which, awhile ago, made such a display are now almost over, and their places taken by that chaste and pretty white *Pyrethrum uliginosum*, the perennial Sunflowers, the *Solidagos*, the Michaelmas Daisies, autumn Crocus, &c. which with the many other autumn flowers make still a good show. Of the Asters as seen at Grasmere, *A. amellus* and *A. Bessaribicus* have many hundreds of bluish mauve flowers; *A. Chapmanni* is a fine large pale blue; *A. coccineus*, rosy magenta; and *A. dumosus*, *A. horizontalis*, and *A. Reevesii*, pretty small lavender-flowered kinds. Of the *Solidagos* (Golden Rod) *S. nemoralis*, *S. Riddellii*, *S. stricta*, *S. cæsia*, and *S. odora*, have all bright yellow flowers, the last named being very fragrant. Among the other plants in flower in the borders and among the pretty Fern-planted rockeries, we noticed some fine clumps of Pampas Grass, *Sedum spectabile*, the rose and crimson varieties; *Statice latifolia*, *Eucomis punctata*, *Achillea Ptarmica flore pleno*, Campanulas, two or three species,

Matricaria inodora flore plena, *Oxalis Boweana*, double and single *Helianthus*, *Tradescantia virginica*, many kinds of Heaths, *Polygonum Brunonis*, *P. vacciniifolium*, some Pentstemons, *Veronica novæboracensis*, many late Roses, *Rosa rugosa*, red and white varieties being very pretty in front; a very large and showily flowered collection of *Althea frutex* of all colours, and both single and double; *Althea grandiflora* with bright salmon flowers which was figured from the Grasmere plant; *A. cannalina*, 12 ft. across, with hundreds of rose-coloured flowers; and, still, a very respectable sprinkling of *Anemones* which, by planting at the end of April and beginning of May, Mr. Stevens succeeds in keeping back until the end of the summer and autumn, a plan which others might well adopt by planting a portion of their roots in April.

IVY-CLAD ARCHES

Here and there over the walks are turned broad bower-like arches, densely clad with Ivy of different kinds, and in a secluded part of the garden a very tropical looking effect is given by training the common Clematis (*Travellers' Joy*) over a number of tall trunks of tree Fern (not living), forming, as it were, a large summer-house supported on many quaint pillars, and beautiful even now that the flowers have passed, as they are succeeded by a dense covering of their flossy seeds. At the extreme end of the walk a long row of all the varieties of autumn Crowns (*Colchicum*), make a very fine show, the pale rose, white, tassellated, and crimson varieties, being in flower in great quantities. Here we come to

THE KITCHEN AND FRUIT GARDEN,

which is walled in on a curious plan of Mr. Stevens's, the walls enclosing the square instead of being built straight, are laid zig-zag, in angles of about 12 ft., so that different aspects are given for planting different trees, more wall surface afforded, and the greatest amount of protection secured; both sides of the walls are planted with Peaches, Nectarines, Pears, Apricots, &c., and this season the crops have been very fine, a good lot of large and well-ripened Peaches and Nectarines remaining still on the trees. At intervals, too, on the walls trained Gooseberries are planted, and these are trained straight up or turned back according as they are required to fill the narrow spaces allotted to them; in this way they fruit very profusely, some of them having a surface of 8 ft. in height and 2 ft. in width, which was densely laden with fruits this season. The Gooseberry is a favourite fruit here, and in the garden outside the walls here, there are over 200 kinds planted.

THE NEW GARDEN.

The new garden in front of the house has its centre planted with fine beds of Asparagus, the feathery plumes of which harmonise well with the flowering plants and shrubs. The fence which encloses it is covered with rambling Roses, American Blackberries, and other useful and elegant trailers, the borders being chiefly occupied by a fine collection of variegated and coloured-leaved plants, which look as pleasant as flowers all the year round. Here are the many varieties of variegated *Euonymus*, several kinds of coloured-leaved *Elæagnus*, the golden and the variegated Elder, three kinds of variegated Box, several of Privet, *Deutzia gracilis variegata*, *Cerasus Lauro-cerasus variegata*, *Wiegelia hortensis argentea*, *Osmanthus illicifolius variegatus*, *Bambusa Fortunei*, many gold and silver *Retinosporas* and other conifers, variegated *Laurestinus*, variegated Snowberry, and variegated many other things, all pretty, effective, and useful even for cutting, for a vase of coloured and elegant foliages in the house is very charming if loosely and tastefully arranged. Even the innumerable variegated Ivies are formed into bushes. The arborescent kinds, of course, naturally adapt themselves to this mode of growth, and the others, by training to stakes and carefully cutting-in, may soon be got to make bushes too. At Grasmere there is also a good

COLLECTION OF HOLLIES,

And a great number of fine-flowering shrubs, among which we noticed *Cercis canadensis*, *Lespedeza bicolor*, *Diplopappus chrysophyllus*, many *Wiegelias*, of which *W. nivea* is the purest white, and a full collection of *Acacias* and white and scarlet double and single Thorns. Among other striking plants may be mentioned *Polygonum cuspidatum*, some 15 ft. in diameter, the points laden with white seeds which replaced the myriads of flowers; *Spirea Lindleyana*, almost as large, with its

long white plumes; and *S. ariæfolia*, which makes beautiful bushes with pendulous white flowers. *Pyrus Manlei* also is grown in great quantity. In summer it is lovely with its scarlet flowers, and now the bushes are covered with yellow fruits, which are here made into a delicious preserve, so that the handsome shrub, it will be seen, lends itself to do double duty. There is no doubt that the neighbourhood of Weybridge is favourable to outdoor gardening, and the favourable situation is made the most of by Mr. Stevens's plan of planting carefully and then letting alone.

OUR GARDEN.

I READ in your interesting columns from week to week of the lovely retreats and plant-growing establishments of what I call the *cognoscenti* of the gardening world, but have not noticed many allusions to those of the more humble fraternity. Now, with your kind indulgence, I will describe in as few words as possible "Our Garden." When I say "our," I allude to my father and self; and, in fairness, I must say that doubtless the success which has attended our unpretentious gardening operations is due in a great measure to his long association with Flora's domains. Now, that avaricious individual, the builder, after rearing our small villa, has left us "All that piece or parcel of ground containing by admeasurement some 30 by 20 ft." This is our garden; ycs, and there are thousands who are compelled to rest content with the same small mercies. To such an one I say, "Do not let even this small portion diverge into a veritable morass of weeds! Utilise every inch by cultivating a few simple plants and vegetables, which will please the eye and satisfy the taste." To the best of my humble ability I will give a few illustrations of the *modus operandi* connected with our efforts, which will no doubt assist and enlighten others.

Our principal invaders are the feline community (I wish Sir Charles Warren would turn his animose warfare in this direction); but we have successfully combated against their depredations with a double row of twine stretched from nail to nail a few inches from the top of the fence round the entire garden, and filling up the interstices between the palings with wire netting. True they can jump up easily from the adjacent gardens, but the difficulty is to alight on *terra firma* the other side—the string balks them, and nine times out of ten they turn tail; if they are rash enough to venture they describe a somersault not very satisfactory to themselves. A circular bed in the centre, ovals at either end, and a continuous border right round, intersected with an 18-in. path, is our simple design. I contend that nothing beats the pretty flint stones for keeping up the borders in small gardens; tiles are expensive, wood rots quickly, and Box requires a lot of attention to keep it nice. An edging throughout of the old-fashioned London Pride, next the flints, interspersed with *Dactylis glomerata variegata*, dibbled in singly, forms a substantial and effective bordering.

About a square yard at the end, on either side, is designated our kitchen garden, devoted to some half-dozen Rhubarb stools, Radishes, and Lettuces (when in season), and a couple of rows of Mint, Parsley, &c. (our neighbours are aware of the fact); while the bottom fence is covered with Tomatos, that on one side is enveloped with Chrysanthemums, and the other with Scarlet Runners (what more pleasing and profitable). Two equal lengths of stout wire, supported on wooden gibbets top and bottom of the fence, and strings attached to them, forms a good support for the beans. In the centre bed, Indian-corn towers some 6 ft. or 7 ft. above the Marguerites (four varieties) and *Helichrysums*. The same flower, *Phlox Drummondii* (in all their glorious hues), and Asters in the two oval beds; while *Gaillardias*, Cornflowers, Sweet Peas, Petunias, Pentstemons, Mignonette, Castor Oil, *Nicotiana*, a couple of Cactus Dahlias, and a gigantic Sunflower, not forgetting *Calceolarias* and *Pelargouiums*, all mingle together in harmonious contrast round the outskirting borders; and, although all through the summer we have cut heavily to furnish some half-dozen vases and *bric-a-brac*, and bouquets and button-holes for ourselves and friends, yet now we have plenty of bloom to last up till the Chrysanthemums come in. I must make allusion to *Nicotiana affinis*, it is certainly one of the most disreputable looking objects during the day; but, in the early morning and evening, opening

out in countless pure white star-like forms, and shedding the most delicious fragrance imaginable.—*Albert G. Hall, Forest Gate, Essex, October 5th, 1886.*

HACKWOOD PARK.

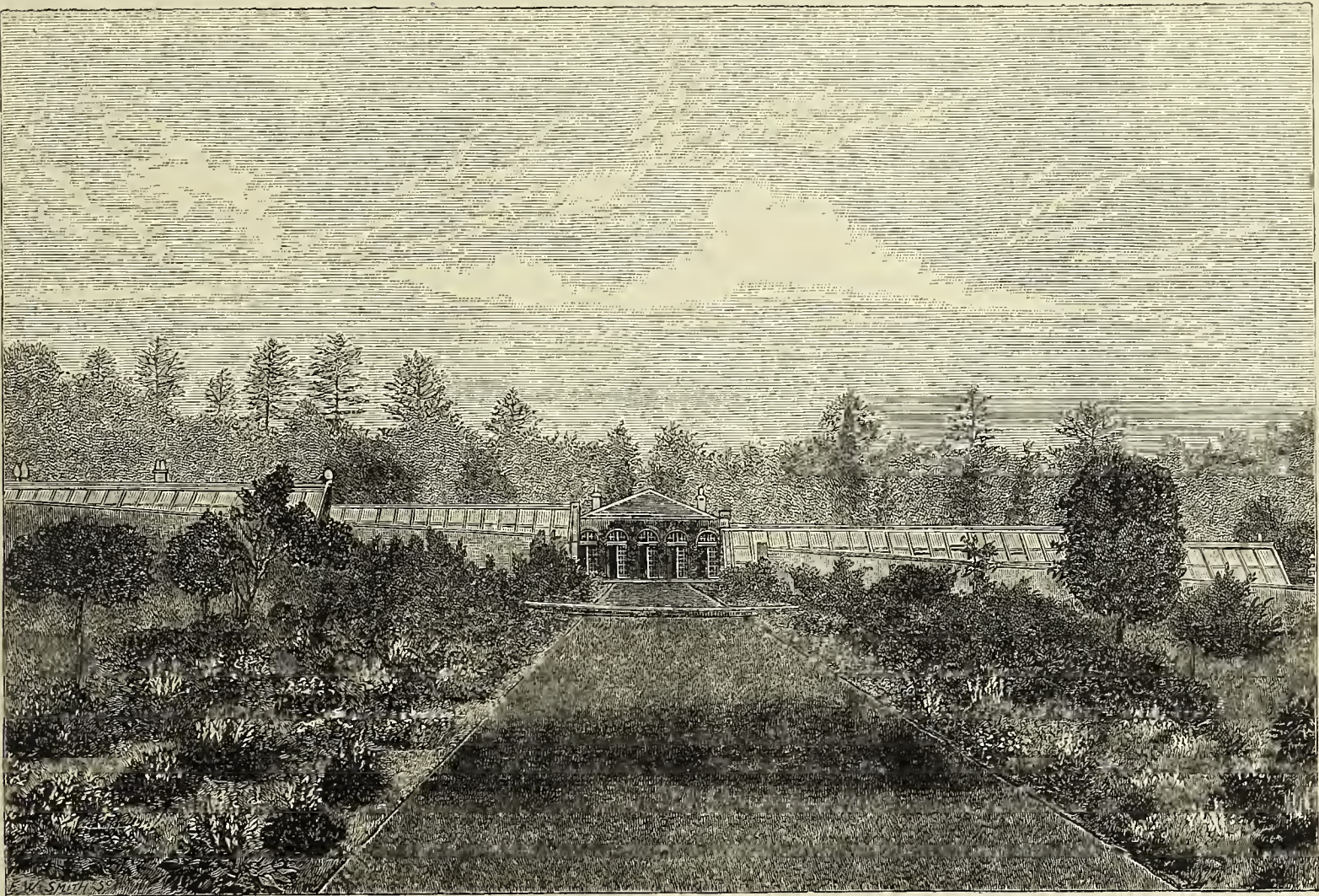
LYING some two miles from the railway station at Basingstoke, and in an easterly direction, is Hackwood Park—one of those fine places of which Hampshire has so many, although, perhaps, few finer or more noteworthy. It is the property of Lord Bolton, who, however, resides at his Yorkshire place, Bolton Hall; and it is now tenanted by one of our London bankers, Mr. Charles Hoare, who evidently purposes making many desirable and valuable improvements, as he is spending money with judgment and liberality on the garden and mansion. Enclosed, planted, and laid out by a Duke of Bolton, somewhere about Queen Anne's time, the extensive ornamental woods or really pleasure grounds, which border the mansion and are of great

flower-beds can offer. Everything, from the mansion, which seems to be of the Italian style of architecture, to the expanses of turf, and the trees, seems large; even the main walks through the enclosed woodlands are all broad, some as wide as a road, and all mown close, so that every foot seems to be traversed over short and deliciously soft mossy turf. From the western side of the mansion there runs for the third of a mile in length a broad, grassy glade, bordered on either side by a noble line of Yews, happily left untrimmed. Just in the centre of this drive or glade is a square or circus, from which radiate, in all, eight of these broad walks, some of which are bordered by the Rhododendrons, which thrive here luxuriantly; whilst in other directions other shrubs are found in rich profusion, and showing grand growth. Overhead rise gigantic silver Spruce, common Spruce, and Larch Firs; with Beech in great quantity, and exhibiting beautiful stems and noble over-hanging heads, resembling some primeval forest, so dense and luxuriant is the growth. In one

the temperament of the melancholy Jacques, whom Shakespeare has immortalised in "As You Like It." But Hackwood has other and more practical attractions than these, and we present our readers to-day with a view of the centre broad-walk of

THE FINE KITCHEN GARDEN,

Some six acres in extent, which will show that the useful as well as the enjoyable is kept in view. The garden is surrounded by a high wall, is of the usual oblong form, and runs north and south. The view presented now is taken from the pleasure-ground end of the garden, and gives in the distance the glasshouses, with an Orangery and the roof of Mr. Bowerman's house beyond. The walk, which is very broad, is of turf—as, indeed, is every path in the garden, for there is not an inch of gravel apparently within the enclosure. These walks are simply perfect, solid, smooth and clean, and are kept so by the mower with the most trifling amount of labour. We have never seen better in any garden, and by an admirable arrangement of doors in



THE KITCHEN GARDEN AT HACKWOOD PARK.

extent, show evidence of the Dutch taste of the day, in the formation of the vast shrubberies and intersecting roads, as well as in some other associations which present themselves here and there.

THE PARK AND GARDENS

comprise an area of some 11,000 acres, and may be said to be a place of vast expanses and illimitable solitudes; whilst, away in the grandly-wooded park, where Beech especially seems to thrive so admirably, the grass area, over which the herds of beautiful deer, as well as the more domesticated cattle browse, seems very extensive. Within the fence which encloses the woods and pleasure grounds, mile after mile of grassy walk or glade may be traversed without meeting any living thing more important than a white-tailed rodent, a fleeting squirrel, or perhaps a piping bird.

The mansion itself occupies an open and commanding site, with before it an extensive and open lawn without tree or other obstacle to the look-out across the park in a northerly direction; but on either hand there stretches away noble belts of trees, which alone present objects of beauty far more sublime than any mere ornamental specimen or even groups of shrubs or

direction a circuitous path leads to an enclosed area of turf literally walled in all round by shrubs—where stand some fine specimen Conifers.

At one end there formerly stood a large conservatory, but that has been removed; and also have the old flower beds been filled up. This is indeed

A RETIRED AND PEACEFUL SPOT,

which might have satisfied even the recluse poet Cowper, when he hankered after a lodge in some vast wilderness, some boundless contiguity of shade, which these noble woods indeed present. In another direction is found the remains of an imitation Greek temple; its pillars roofless, some standing, and others fallen upon the sward, offering material for cynical reflection upon the grandeur which has departed, and of the scene of gaiety and pastoral acting once witnessed there. In yet another direction a fine avenue of Beeches leads up to an elevated circular plateau, also bounded by trees which might, in former days, have been the scenes of festivity, or other pleasant occupations. Quaint and interesting objects of this kind crop up here and there, for to the stranger these woods, glades, and pleasure-grounds are a perfect maze, which might have admirably suited

the garden walls, manure can be wheeled on to the quarters with the aid of planks without injuring the turf in the least. For tidiness and pleasure of walking no paths of any kind can excel these, and being firm, a little rounded, and the grass kept short, they are always dry.

Returning to the illustration, we must mention that on either side of this broad centre walk is a border devoted to flowers of all kinds, giving a wondrously useful supply for cutting from throughout the greater portion of the year. At the Orangery, and beyond the houses, there is a capital piece of ribbon bordering on either side, and very noteworthy at either end of these borders are grand tree Peonies, such as are rarely seen.

THE VEGETABLE QUARTERS.

In these quarters all kinds of vegetables are admirably done; indeed, better crops and cleaner ground could hardly be found anywhere. Carrots of kinds, Onions, Parsnips, Peas, Broccoli, Brussel Sprouts, Autumn Giant Cauliflower, Potatoes; indeed, all are first-rate, and merit the warmest praise. The soil is stiff, and no doubt affects the form of the deep roots to some extent, but Onions are very fine and handsome also. Potatoes come out clean and good, and all things exhibit

luxuriance. As we saw the garden in August, it must be honestly said that it displays high-class cultivation, and reflects the highest credit upon Mr. Bowerman. On the walls Pears and Plums do well, Apricots and Peaches do unsatisfactorily, owing to the nature of the soil; whilst the best aspects are monopolised by the glass houses.

There is a fine collection of Plums, and grand crops of Greengage, Brahy's Greengage (a later ripener), Washington, Jefferson's, Golden Drop, Victoria, Magnum Bonum, and other good kinds. There are several trees of a seedling Plum raised some years since by one of the former Hackwood gardeners, and which fruits wonderfully; the fruits resemble the Diamond. Of Pears, Marie Louise is fruiting finely. The trees are chiefly horizontally trained, and in good seasons produce heavy crops.

That Mr. Bowerman grows good Grapes is self-evident, although his houses are terribly heavily timbered, and at the moment of our visit undergoing a thorough repair, which was sadly needed. His Black Hamburgs enabled him to take the first prize recently at Reading easily, and were far better than any shown the other day at South Kensington—firm, good-shaped bunches, with berries even in size and black as Sloes; these, too, from Vines planted in 1870. One Vine carrying two rods had sixteen bunches, in all some 30 lbs. of Grapes, and finely coloured—not a bad crop relatively. Gros Maroc, Alicante, Lady Downes, and Muscat of Alexandria are the chief kinds grown with Hamburgs, and are all good. Melons are largely grown in frames; Blenheim Orange, Hero of Lockinge, High Cross, and Read's Scarlet Flesh are the most favoured. A new range of pit-houses is being built, and others thoroughly repaired; and during the coming winter advantages long wanted, and not before supplied, will (thanks to Mr. Hoare's liberality) presently be forthcoming.

There is a large Peach-house filled with fine trees of good kinds; but more house-room for these fruits is much needed, especially as they thrive so indifferently outdoors. Several houses are devoted to the growth of decorative plants and the production of cut flowers, of which great quantities are needed. In one of these, growing in pots, Hackwood Park Tomato, the fine kind raised here, is fruiting wonderfully—the sample handsome and rich-coloured.

We had omitted in the proper place to mention that in the woods is one of the finest *Abies Douglasii* in the kingdom, and in another place is a brace of truly grand Hemlock Spruce.

AN EVENING WITH FERNS.*

IN coming before the members of this society and reading a paper on the subject of Ferns, I am not unmindful of the fact that there are present many who have had this class of plants under their charge for many years, and have attained to considerable perfection in their culture. The results of their labour and the excellent manner in which the plants have been displayed on our exhibition stages, have added much to the beauty and interest of our shows, whilst in private gardens where such plants are grown, increasing pleasure is experienced by those wealthy patrons, and others of more limited means, who are charmed by gazing upon these light feathery products of nature, at once elegant and graceful. That Ferns are favourites with most people, whether cultivators or otherwise, is a fact that must be patent to all; and that they are becoming more continually sought after and admired by increasing numbers will be as readily admitted. If we take a stroll in our markets, or more leisurely stand in the immediate neighbourhood of the flower stalls, we cannot but notice that many are particularly anxious that some fronds of Ferns may be mixed up with the flowers they purchase, special request being made that some sprays of Maidenhair may be included in the posy. Anon we observe others of a more venturesome disposition who will purchase plants of *Adiantum cuneatum* and *Pteris serrulata* and its varieties; whilst early in the season large quantities of hardy Ferns, such as *Lastrea* in variety, *Scolopendrium*, *Polypodium*, *Athyrium* and *Osmunda* are quickly purchased, and find a resting place either in the cottage garden of the artisan, the broad and expansive borders of our public

parks, or in the neat and well-kept gardens of the wealthy.

I am not unmindful either of those dwellers in our towns and cities where the atmosphere is inimical to the successful culture of many flowering plants that charm the eye and delight the heart, who, nevertheless, have an ardent desire to come into closer contact with the more lovely and retiring of the forms of the vegetable kingdom, and set their heart upon the adornment of a window with baskets of Ferns, or a single piece of rockery covered with moss and dwarf-growing plants, who, by a wise selection and careful treatment, succeed in rearing a beautiful case of Ferns, ever fresh, ever adding to their beauty and attractiveness. These are a source of pleasure to the careful cultivator, whose labour can only be given during spare moments, early in the morning, or on the return home after the toils and anxieties of a day's engagements. They are at the same time a monument of perseverance and attention, and withal, an admonition to those who, with more spare time and greater opportunities, permit their moments to pass away without having anything as a reward for their efforts, or the result of their attention and skill. I may hope, ere I close, to make a remark or two upon this branch of my subject; but in truth Ferns can be used in such a variety of ways, and may be grown under such a number of conditions, that the limits of one paper will only permit me to touch very lightly on some of the phases of this interesting subject. I might speak of stove Ferns, greenhouse Ferns, or hardy species; or I might dilate upon tree Ferns, basket Ferns, Ferns for blocks, Ferns for cutting, Ferns suitable for pot culture, or those that succeed best when planted out in a natural manner among rocks and moss.

I might speak of Ferns for exhibition, for the market, or for the dinner-table; of filmy Ferns, or give some directions for drying Ferns, for all these matters may be embraced under the subject of this paper; and when all had been mentioned or dilated upon, there would still be a large sphere spread out before us on which individually we might try our skill—namely, the putting into practice the suggestions we may have gathered, and endeavour to cause two fronds to grow where hitherto we have only secured one. We must tend, and watch, and cultivate our plants so that we get finer crowns, better fronds, and a greater number of them than we have ever succeeded in growing before. During the past ten or a dozen years the taste for cut flowers for the adornment of the dwelling-house or the embellishment of the dinner-table, for button-holes for gentlemen and sprays for ladies, has increased at a very great rate, and with the arrangement of the flowers, cut fronds of Ferns have been called into greater requisition than has hitherto been the case, and so when the former are expected to be supplied in considerable quantity, the latter must not, under any conditions, be presented with a slack or stinted hand. I do not propose to-night treating upon any class of flowering plants. I trust some members present during this coming winter will see their way to the introduction in an essay of such subjects as zonal and show *Pelargoniums*, *Fuchsias*, *Gloxinias*, *Camellias*, *Cinerarias*, *Calceolarias*, *Azaleas*, *Begonias*, &c. There are yet many subjects, and volunteers are assured of a hearty welcome.

It would be a matter of considerable difficulty to enumerate the many species that are now known to science; it would still be more onerous to attempt to mention and describe the large number of varieties into which many species may be divided; since species, varieties, and the endless sports that are continually appearing, would be distressingly wearisome to present to you on this occasion. So, too, I think, would be the attempt to describe the many conditions under which Ferns are found in a state of nature in our own land, in other temperate regions, and in the more luxuriant and glorious stretches of country that are to be met with in the tropics. In passing, however, I may say our own islands can boast of only from forty to fifty species. These are represented by a large number of varieties—as witness, *Scolopendrium vulgare*. This species, I doubt not, is known to all present. The common Hart's-tongue Fern is so much in request for outside planting, that most probably everyone present has had at one time or another the pleasure of building a rockery, and planting this and other forms, so that in a very short time a rustic piece of rock and Ferns has become established. This one species is described in a standard work as having no

less than sixty-three varieties, each sufficiently distinct to have a separate name. I question whether even this number would now be sufficient, as there is every reason to believe that many fresh forms have appeared; for if the seed spores of a distinctly created form are sown and well cared for, the result will be that not only will the tufted form appear exactly similar to the parent plant, but many others beautiful and distinct will also present themselves, each deserving of culture, and sure to give pleasure to the cultivator.

As it is with our better known British species, so, too, we find that many of the forms from the tropics will divide into beautiful varieties, some crested, others bifurcated, all having a beauty peculiar to themselves. The conditions under which Ferns are found in the tropics or in the British Isles are very various. They grow in rich profusion along the shady sides of old water courses, on the cliffs, the rocks and hills. The common brake Fern, *Pteris aquilina*, is met with in wild luxuriance in the open spaces in our woods and forests where the fronds attain a length of 4 ft. to 5 ft.; and just at the present season when the fronds are changing from their usual green colour to the many shades of red, brown, and yellow, there are few scenes in a country landscape more beautiful than trees and Ferns on hill and dale with a glorious sunset wrapping the whole in ever changing and continually bewitching scenes of beauty.

I may here just mention that the peat we are so particular in choosing and anxious to secure for the choice occupants of our stoves is just the roots and underground stems of this common species; and the more our samples of peat are ramified with roots and fibre, to the exclusion of those of heather, grass, gorse, or other extraneous matter, so much better will they be for such things as *Cattleyas*, *Dendrobiums*, *Anthuriums* and other stout rooting plants that prefer a loose, light, open soil. In the tropics many of the forms that have creeping, running rhizomes are found growing upon trees where the roots run and ramify in many directions. Associated with Ferns in these positions are many of the epiphytal forms of Orchids, such stove plants as *Bilbergias*, *Nidulariums*, many climbing stove plants, &c. In cases such as these, which are very numerous, the falling leaves are caught in the tangled roots of the Ferns and Orchids, which in their turn catch the falling rain, and retain the moisture so needful for the support of the vegetable life we have just alluded to. The Ferns supplying the peaty soil, upon which the Orchids thrive open and free, permit the vast quantities of water that fall in some districts to pass very quickly from the crowns and rhizomes of many tender subjects. Ferns having fixed crowns are more often met with growing upon the ground in shady places, where the soil is moist and the flickering shade of the leaves overhead break the intensity of the sun's rays, and cause the atmosphere to retain a considerable amount of humidity. Bearing in mind, then, the conditions under which Ferns grow in a state of nature, we should endeavour, as far as it lays in our power, to assimilate our methods of treatment, and the whole range of our practice in regard to these plants, to a natural state—to the habitats and environment of the plants we have to cultivate. I, however, am far from saying that such knowledge is an absolute essential to success, as many fine plants are grown without the cultivator having any acquaintance with the countries or districts whence they come. Still, the practice is pursued, and fair results follow simply because earlier acquaintance with the plants was thus formed, and had been followed ever since. I think it would be well if we all had a better acquaintance with the native habitats, conditions, temperatures, and degrees of humidity the plants are subject to ere we have them to cultivate in our stoves or Ferneries.

(To be continued.)

JUDGING CHRYSANTHEMUMS.

As I have several times thought of writing a few notes on the above subject, and each time neglected doing it, I will now follow the lead of "A Gardener" and do so. It may, in some respects, be desirable to make separate divisions for the kinds of Chrysanthemums classed as incurved, but I do not consider it an absolute necessity to do so, simply for the sake of obtaining justice in competition. It rarely happens that competent judges place large blooms before small ones on the ground of size alone, for if they were to do

*A paper read by Mr. W. Swan, Howick House Gardens, Preston, at a meeting of the Preston and Fulwood Horticultural Society on October 2nd.

so they would not be competent. It is human nature to err, and no human judge, or set of judges, is infallible.

The only general principle that can be admitted in making awards is, that the aggregate of the flowers in one stand shall be better of their kind than the aggregate of the flowers in the opposing stand are of their kind, and the fact that one stand contains all large varieties, and the other stand nothing but what "A Gardener" calls "fancy" varieties ought not to affect the issue. Admitting that as a general principle, there are rules that must be adhered to in carrying out that principle; for example, it is required that an incurved flower shall have broad and flat petals, each petal pointed inwards towards the centre, and the flower to be as near a sphere in form as possible, and the horizontal outline as exactly circular as possible. Now there are two varieties very commonly grown, and for that reason I mention them, which occasionally are placed one or the other in an otherwise excellent stand; and both of the varieties nearly always lack one or more of the foregoing requirements of a perfect incurved flower. The kinds I refer to are Lady Talfourd and Guernsey Nugget. Lady Talfourd, when well grown, is most symmetrical in form and outline, but its petals are always quilled. Guernsey Nugget is scarcely ever good in outline or form, is very rough, and very frequently comes quilled, with a few broad petals dispersed here and there. Amongst the thousands of first-class exhibition flowers I have seen in various parts of the country, I have seen only *one* fairly perfect incurved flower of Guernsey Nugget.

Besides symmetry, a good incurved flower should possess solidity of flower, substance of petal, brilliancy, colour and purity. It is quite true that Empress of India, Queen of England, John Salter, Golden Empress, Golden Queen of England, Prince Alfred, Princess of Wales, Jean d'Arc, &c., will produce larger flowers than will Lady Slade, George Glenny, Mrs. Dixon, Mrs. Rundle, Aurea multiflora, Barbara, Cherub, and Mrs. Halliburton under similar cultural conditions; but all the latter varieties, and similar kinds, are capable of being cultivated so that they are fit to be placed on a stand with all or any of the larger kinds that ever were exhibited, and no competent judge would think of giving the perfect flowers less than their full number of points. When it occurs that two competing stands "lie" in *every particular* but that of general regularity of stand, then, of course, the more regular must be placed before the less regular; but how often do stands of Chrysanthemums "lie" in every particular of symmetry, freshness, colour, arrangement of petals, breadth of petals, and general arrangement in stands? Rarely, indeed! I think there can be no doubt that fresh, symmetrical flowers of Mrs. Rundle, George Glenny, Mrs. Dixon, Eve, Mr. Gladstone, Aurea multiflora, Angeliua, Barbara, Abbe Passaglia, &c., measuring 8-9 ins. across, are equal in value, in exhibition stands, to Empress of India, Queen of England, Golden Empress, Lord Alcester, Alfred Salter, &c., that measure 10-12 ins. across; and medium-sized varieties, such as Refulgeus, Prince of Wales, Nil Desperandum, Mr. Bunu, Beverley, Venus, Hero of Stoke Newington, Novelty, and Prince Alfred, averaging 10 ins. across, are equal in value to either, all other qualities being equal. Certainly, there is no credit due to anyone for growing large *ugly* blooms, but it does not follow that because they are large they should also be ugly.

Chrysanthemums are grown only to please the eye, and if 100 large, symmetrical, and bright flowers produce a better effect—as they generally do—than 500 small and imperfect flowers, which look mere weeds in comparison, then it naturally follows that large flowers must be better than small flowers. Let me not be misunderstood. Essentially I do not value large flowers more than small ones, as I have shown before; size has its relative value, and I am willing only to give it that value. I yield to none in admiration of the symmetry, form, beauty, and general utility of the kinds which "A Gardener" would class as "fancy" varieties; but it would be unreasonable to expect a medium-sized Mrs. Rundle to be placed on equal terms, in a competitive stand, with a fully developed and equally symmetrical Empress of India. Mrs. Rundle, Mrs. Shipman, George Glenny, Mrs. Dixon, Nil Desperandum, Beverley, Golden Beverley, Mr. Buun, Eve, Mrs. Halliburton, Lady Harding, and one or two others of the smaller section, will form complete spheres in form under good cultivation. Let bright, fresh

flowers of that quality be exhibited with the larger kinds, and no judge fit for his work would even dream of under-rating them; indeed, it would be a difficult matter to find a first prize stand that does not contain several of the above-mentioned varieties, which is sufficient proof that they are not so much under-rated as "A Gardener" appears to think.

Now a word as to "dressing" Chrysanthemums. In some quarters a great outcry has been raised against this practice; but generally they are unsuccessful exhibitors who start the outcry. If the practice could be abolished to-morrow the best flowers would still win the prizes. The best flowers require, and obtain, the least "dressing," for with the exception of several petals in the centre of the flower requiring removal on account of insufficient space for development, or the arrangement of one or two petals that have become disarranged in removal, a really good flower requires no further dressing; and it would be as reasonable to attempt to stop the practice of removing stoneless berries from a bunch of Grapes, and no more absurd. It is absurd to make a law which cannot be carried into effect; and if a rule were made prohibiting dressing, who is to see that rule carried out? "Dressing" may commence from the time the flowers commence to expand, the extraction of a deformed petal at one time, the removal of a few pistils at another; and who has a right to interfere? and yet this is "dressing."

An expert "dresser" has an advantage over one less expert, and when the latter with superior blooms is beaten by the former with actually inferior blooms, the circumstance is to be deplored, but it rarely happens that "dressing" alone turns the scale; rough unfinished flowers are generally "set up" in a manner equally as rough, and judges have to award the prizes to flowers as they are presented to them, and not as they might be presented. If an exhibitor has learnt how to grow the best blooms, he should also learn how to present them to the eye to the best advantage; a premium ought not to be given to slovenliness, nor will a sensible painstaking man desire it. Occasionally an exhibitor spoils an otherwise excellent stand by putting in a variety decidedly bad in colour; this is a pity, and ought to be avoided where possible; for pure, decided and harmonious colours well arranged, are a most important factor when it comes to a close competition. This weakness is most conspicuous amongst the Japanese section, which is so bright as a whole; but there are several kinds that are not to be commended for "colour effect," and would be better left out of an exhibition stand.

Now a word as to judges, for on the judicious selection of these much depends. It is not enough for a man to know most of the varieties when he sees them, but he should also be acquainted with the cultural peculiarities of most of those varieties that are likely to come under his censorship, and have a good knowledge of the highest perfection to which the individual varieties can be made to attain. At exhibitions of Roses, Dahlias, Carnations, Picotees and Auriculas, committees and exhibitors take care to have as judges, none but whom they know to be first-class cultivators of such specialities; it is rarely that a non-cultivator officiates, and who can blame them?

A judge should possess, besides all other qualifications essential to all manner of judges, good eyesight. I suppose this will startle some of your readers when they first read my statement, but on reflection few will be anxious to dispute it. It is well known that a considerable percentage of people in this country are "colour-blind," that is, they are unable to distinguish certain shades and colours, and their inability to do this varies as the degrees of light. How many exhibitors are there, that have been disqualified through this defect of vision? Who will dare to say that none have? There are also people who are what are commonly called "short sighted," that is, they have to bring anything they wish to read, to within a very short distance of their eyes, or else they are unable to read it. Men suffering from such afflictions, if they know it, ought not to consent to adjudicate at flower shows. Some time ago, an acquaintance, a first-class grower and successful exhibitor, and one who is well acquainted with the varieties of Chrysanthemums, was disqualified at an important exhibition on the ground that he had duplicates in his stand; he contended that he had not, but all to no purpose. The explanation was, he had adopted the usual method for retarding a bloom of a pink variety, by keeping it in a

dark and cool place for a few days, and he supposed that it had slightly deteriorated in colour, because two out of three judges maintained that it was identical with another variety, which naturally is only slightly suffused with pink; but this varies according to the nature of the soil. I did not see the blooms, and give the facts as they were related to me; but he resolved to prove whether he had the true variety or not; and to place the matter beyond dispute, so far as his own satisfaction went, he obtained cuttings, at the proper season, of the true variety he represented on his stand, from me and various other reliable sources, and when the flowering season again came round, he informed me that his original stock of the variety in question was identical with that obtained from other sources, and he was satisfied the error was not on his side.

I have known a man to officiate as censor at a Chrysanthemum show whom I have seen at other shows to actually place his nose almost in contact with the flowers before he could distinguish them to his satisfaction, or read the names at the front of them, and either of which people of ordinary vision could see easily without straining from the usual attitude of casual inspection; and I have known the same man to dispute that two Chrysanthemums, one of which was white and the other pink, were not dissimilar and distinct!—the variation being permanent, and other distinguishing features. In the case previously quoted there was no necessity for mistake, even if the blooms were identical in colouring, for the two varieties are distinct in form of petals and differ somewhat in their general arrangement; therefore, I add one more qualification necessary in a judge of Chrysanthemums—viz., the faculty for distinguishing "form."—*J. Udale, Elford, Tamworth.*

CUCUMBER CULTURE.*

THE Cucumber requires for its successful cultivation a very rich light soil. I use myself one-half of good turfy loam, and the other half of leaf-soil well mixed and left in a heap for a week or more before I want to use it. I never use much soil at first, two or three garden-basketsful being quite sufficient to plant them in; subsequently, I add a little top-dressing occasionally as the roots come to the surface. In forming the bed, I use stable manure in nice working condition with just the longest straw taken out, filling up the bed so as to allow only room enough for the soil to plant in. The same rule applies to boxes or tubs which I use in one house, and find them to answer very well. The Myton Hall variety is a very shy seeder, and I find that I can seed it much better in a box or tub than when it is grown in a border.

The Myton Hall Cucumber was raised by Mr. Cameron at Myton Hall, in Yorkshire, some twenty-two years ago, and as I have grown it for twenty years myself, I think that says much in its favour. It has a very strong constitution, forces well, and continues bearing till late in the season. I do not grow mine in a very high temperature, from 65° to 70° I think the best, as it continues in a good bearing condition much longer and stronger than it does in a higher temperature. It delights in plenty of moisture at the roots, and a good moist atmosphere in the house or frame in which it is grown. The Myton Hall, being a strough grower, likes plenty of room. I very rarely stop it until it has got as far as space will allow, as I find it fruits much stronger than when stopped too often. I like to bring up new shoots from as near the collar as I can, and take the old ones out; by this means I keep them in bearing much longer.

I like to sow seeds in the first week of the new year, using small pots with three seeds in each. These are plunged in a large box filled with fresh horse-manure, and covered with soil. I put a large piece of glass over the box, and place it as near the light as possible. When the plants are up, remove the glass by degrees, and when large enough, pot the plants singly, change the manure in the box, and plunge them again. The plants will be ready to plant out by the end of February, when the house should be cleaned and made ready for them. When fairly started into growth, I take the first cuttings I can get, and use these for the second and third plantings, as they fruit much sooner than seedlings, and do not make so much wood. I like cuttings much better than seedlings for general use.—*J. Slack.*

*A paper read by Mr. J. Slack, gardener to T. R. Gainsford, Esq., Whitely Wood Hall, at a meeting of the Sheffield and Hallamshire Gardeners' Society.

GARDENING MISCELLANY.

Madresfield Court Grape Cracking.—I strongly object to the "gimlet" practice described by "Wales," at p. 75, going forth unchallenged, especially as his experiments are so incomplete. Had "Wales" bored all shoots with bunches on one Vine, and not bored any shoots on its neighbour with circumstances equal, the result should have been a definite one—viz., all cracking on the one Vine and none at all on the other. Moreover, till such results are reported I, for one, shall have little faith in the operation. An eminent gardener of my acquaintance is considerably baffled with this vexatious cracking, in spite of his most earnest and skilful attention, but whom, I am pleased to notice, intends continued perseverance. He, too, spoke favourably months ago of this boring business; but somehow his faith in the real success therefrom is not strong enough to warrant him publishing the results. I cannot agree that boring is the true panacea for prevention of cracking, neither that the remedy will be found at the roots (the cracking of Plums, to wit, corroborates this, and close observation when and what the meteorological circumstances are at the time). My conclusions, arrived at from experience, are that the cause is simply atmospheric, and that the worst cases are found in mixed houses. When the first berry shows signs of colour, do not again close the Vinery, but begin at once to gradually diminish the atmospheric moisture; extend the amount of air and fire-heat; always (excepting during sunshine) maintain warmth in the pipes according to the weather. Extra caution during moist, muggy, thundery weather will, if carried out thoroughly, make boring unnecessary, and the cracking of the berries of this grandest of all black Grapes will be obviated. I may add that it is advisable that the borders should be sufficiently watered previous to the colouring period to carry them safely over the critical time.—*W. Crump, Madresfield Court.*

Curing Tobacco.—I should be obliged if some of your readers would inform me how to prepare home-grown Tobacco in a small way. Some leaves taken off and dried in an open shed are not satisfactory. This week I intend to take up the plants and suspend them in an open shed. What more should I do?—*Inquisitor.*

Parsley.—Many, like myself, have a lively recollection of the difficulties they experienced last year, and, maybe, a few years previous, in maintaining a supply of this herb. Soils, aspects or climates did not assist some of us, and with all our laboured efforts, many gardens were soon after this date last year without a handful of Parsley. This season matters are different, and I have not witnessed any failure or heard a word of complaint. Here I have not seen such a healthy lot of Parsley for five years, and some of it on ground occupied by it last year, the plants having been allowed to seed, which remained in the soil all the winter, and germinated early this year. Seeds saved from the same, as well as bought ones, did well in different parts of the garden. Probably, your correspondent Mr. G. Tyler's success (see p. 75) is only in common with that of others this season.—*W. P. R.*

Carrots.—I have sown Carrots for the last four years, but as soon as the young plants were about half-an-inch thick they all "grubbed off." Last spring I was recommended by a gardener to sow a few Onion seeds along with the Carrots, and this autumn I have a nice lot to lift, and have not found one root touched by the grubs. I state my experience so that it may be useful to some other amateur.—*J. F.*

Ne Plus Ultra Dwarf Bean.—Your correspondent "A. D.," in his notes on Beans at p. 70, mentions Ne Plus Ultra as a very promising sort, and includes it amongst the runner Beans. I have grown, this season, a dwarf variety under the name of Ne Plus Ultra, but as the Beans somewhat resemble those described by "A. D.," I am desirous of knowing if it can be the same. The plant is of very robust habit, growing from 12 ins. to 18 ins. high; the leaves are of good substance, and it is a good bearer of pods, of fine size, fleshy, and of good flavour. Its free-setting qualities will gain for it a place in every garden where French Beans are a speciality. With me it has been in every point better than the Canadian Wonder, which I have grown for many years past. I do not know who the raiser is, but I can recommend it as something good and worthy of the name.—*B. L.*

Late Gooseberries.—"Con." asks for the names of a few of the latest Gooseberries, but there are not many later than the old Warrington or Ashton Red. If "Con." can get good fruit of these in the second week in September, he might rest and be thankful. Having at one time had charge of a three-acre plot of Gooseberries, I name those which we found the latest. Reds: Henson's Seedling, Rifleman, and Lord of the Manor. Green: Jolly Angler, Perfection, and Green Gage. Yellow: Mount Pleasant, Yellow Ball, and Drill. White: White Lion, Crystal, and Newlands. If "Con." is not already acquainted with any of these, he will find them about the best for late gathering.—*B. L.*

The Largest White Celery.—Will some reader who knows the different varieties well, be so good as to tell me which is the largest white sort in cultivation. One variety is described as "the largest grown"; another as "the largest in cultivation"; and yet a third as "the largest kind known." Which is the largest?—*J. R.*

Begonia Flowers Dropping.—Could you give me any information as to the cause of my Begonia flowers dropping as soon as they open, and sometimes in the bud state. I have them in good turfy loam with a little leaf-soil and sand, and in an airy part of the greenhouse. I have never given them a great deal of water.—*J. S.* [They have evidently not had water enough.—*Ed.*]

Pelargonium Volunte Nationale alba.—This is one of the very best decorative or regal Pelargoniums I have ever met with. It was sent out by Mr. Fred Perkins, of Leamington, who obtained it as a sport from the well-known Volunte Nationale. It has a good free habit, and is a most profuse bloomer, the trusses being large, with as many as fourteen pips in a truss, which are pure white with a very slight dash of rose on the upper petals. To the bouquetist it is invaluable, and is, undoubtedly, the very best white decorative Pelargonium I have seen. It is now flowering in his nurseries in great profusion, and I can strongly recommend it to all in search of a good plant for the purpose named.—*A. Outram.*

Berberis vulgaris.—This is now one of the most beautiful shrubs we have, the large bushes of it being literally covered with graceful sprays of coral-like fruits. The common Pyrethrum uliginosum, which is now in flower everywhere, is another great beauty, and sprays of the large white flowers placed in a suitable vase, with a few of the above-mentioned scarlet-berried Berberis round it, forms one of the most attractive of flower ornaments for indoors I know of.—*M. A., Camb.*

Lilium auratum.—Fasciated stems are of common occurrence in gardens, and are never regarded as particularly beautiful, indeed, quite the contrary as a rule. Like your correspondent "J." I would much rather see clean round stems with a quarter of the number of flowers fully developed on them. Some beautiful examples of this fine Lily have been seen in this district during the past summer. One that came under my notice was shown last August at a local show at Elland, and was pronounced by the judges to be the finest single specimen that they had ever seen. It stood about 9 ft. high, and on a fine round natural stem bore forty-two beautifully developed flowers of grand size and substance. I doubt not but that it had carried more, as there were a few thin places, giving one the idea that some of its older flowers had been cut out. This, however, has been completely eclipsed by one grown in the neighbourhood of Bradford, but I am unable to give the exact number of flowers at present.—*B. L., Huddersfield.*

As your Welsh correspondent, Mr. Tyler, wishes to know if any of your readers have seen or grown more than seventy-two blooms of Lilium Auratum on one single stem, he may be interested to hear of a remarkable specimen which I flowered last year, and which was exhibited at Keighley show, and greatly admired by all who saw it. The bulb threw out four perfect stems, 5 ft. in height. Two of the stems bore twenty-two flowers each, and the other two nineteen each; making a total of eighty-two noble blossoms, which measured 10 ins. and 10½ ins. across, and were beautifully rayed. It was a shilling bulb, purchased from Mr. Charles Kershaw, Slead Syke Nurseries, Brighouse, in the autumn of 1880. My mode of cultivation was as follows:—The compost used was made up of two parts of fibrous loam, one part of leaf soil, one part of peat,

and a good sprinkling of sand, with a dash of charcoal. The pot was then plunged in ashes and left to remain until the shoots showed through the ashes, giving no water whatever. It was then stood out in the open in a suitable position during the summer, and carefully attended to in the matter of watering. The four stems were tied out fan shape, and when it commenced to show its flowers occasional doses of weak liquid manure were given it, and continued up to the expansion of the blooms. I always pot Lilies, as soon as the stems have died down after flowering, once every two years.—*Thomas Sanderson, Keighley.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

It will now be advisable to place all the Chrysanthemums under cover, placing them, if possible, in the position in which they are to flower; before doing so, the finishing touch should be given in the way of tying, staking, &c.; let all the pots as they are lifted from the plunging bed be washed, so that everything about the plants is clean, there will then be little excuse for mildew. The early Vineries and Peach-houses, where the inside border is of any extent, make excellent places for staging in masses, and if all the varieties are known as to colour, the arrangement can be carried out equally the same as though they were in flower; keep all well supplied with water at the roots; but the damping overhead, unless the weather is very dry, had better be discontinued. It will probably be found necessary to turn the plants round once or twice a week to prevent them drawing towards the light.

Arrangements had better now be made for the housing of all kinds of plants which have been growing out of doors, care being taken that they are thoroughly clean before storing. Camellias should have the flower buds thinned down if thickly set, as if all are left it will probably be found that the greater part will fall off; ventilate as freely as possible, and keep a rather dry atmosphere, avoiding afternoon syringings at this season. If by any means the stock of bedding Pelargoniums is not satisfactory, more cuttings should be at once put in, remembering that they must be placed in some favourable position to strike; it will be useless to expect them to do so unless well taken care of, but with a little extra care they will make far better plants than spring-struck cuttings. A good open airy position should now be found for storing the stock; a temporary stage erected in one of the succession Vineries will suit them admirably, and if nicely arranged they are not at all unsightly. We have lifted and potted our stock of Callas and Solanums, placing them in a heated pit, and shading closely until they become established, after which they will be removed to cool quarters, and the Callas be placed in a forcing house as required for early flowering.

We have also placed the frame and lights over the bed of Helleborus niger, and by ventilating rather sparingly, we gather blooms much earlier than from out-of-doors, added to which they are kept quite clean; an occasional dose of liquid manure greatly adds to the size of the flowers, and when liberally treated it is astonishing what a quantity of flowers a single stool will give. Ours are planted in a thoroughly open exposed situation, and during the summer months occasionally receive a good soaking of water, this, in addition to keeping free from weeds, being all the attention they require. Let the store pots of Lobelia be placed on some airy shelf near the glass, and be kept moderately dry.

THE FRUIT HOUSES.

We are now cutting some very useful fruit from our late batch of Melons. It will hardly be necessary to say that the bottom heat must not be renewed when the fruits are near ripening, or they will be sure to crack and be spoiled. After this, Melons are seldom worth the trouble taken in their culture. We have thoroughly cleansed and painted the house ready for winter Cucumbers, which we hope to plant forthwith; the bottom heat being sweet the plants will start quickly. At this season we always find training the centre or main growth on the serpentine system preferable to stopping, and also tending to a more equal growth. Be very careful that no more fruit than is

actually required for use is allowed to grow. The batch for succession are now ready for potting off into 60's, and to start them they will be plunged in the bed with the others, and so receive the same treatment. The house we are painting, so as to have in readiness, as a check of any kind should be carefully guarded against.

Where pot Vines are used for the earliest supply of Grapes attention must now be given. The house where they are to fruit must be carefully prepared and cleansed, so as to ensure a good start, which means success as a rule. If fermenting material is used to supply the bottom heat a store must be kept in reserve. This, in our opinion, is far preferable to bottom-heating by pipes. In any case, take every precaution to secure a thorough drainage, as without an abundant water supply good Grapes cannot be looked for.

THE KITCHEN GARDEN.

We took advantage of the storms to plant out our new plantation of Strawberries, and to ensure their starting quickly, gave all a good soaking of water. Cabbage plants, too, were similarly treated, so that we hope few will go blind. * The August sowing is making a good growth, and will shortly need pricking out; also Cauliflower and Lettuce. We are busy now with the gathering in of Apples and the lifting of late Potatos; I regret to say the disease has destroyed a great part of the crop, which would otherwise have been very heavy. We have gathered and stored Ribston's and Margil, and also the greater part of the Blenheim's; the fine weather we have lately experienced has greatly assisted in colouring up the fruit, and although a quantity are grub-eaten, our crop is above the average.

In Pears, Maréchal de la Cour, Fondante d'Automne, Marie Louise, and Hacon's Incomparable are ready for storing; great care is necessary in the handling, that is if anything like a clean dessert is expected, and nothing looks worse than bruised fruit. The stems of the Jerusalem Artichoke may now be headed down half way; this will tend to the swelling of the tubers, added to which they are not so liable to be broken off by storms. Keep the hoe well at work amongst crops, and keep all as neat as possible, more particularly in the shrubberies and woodland walks. Clipping should be completed, and all odd work cleared up, so as to prepare for turfing, levelling, &c, which may shortly be commenced.—*Walter Child, Croome Court.*

FLORICULTURE.

Carnations and Picotees.—Now is the time to see about potting up the layers of Carnations and Picotees for the winter. I observe that Mr. E. S. Dodwell states in a circular, offering certain of his new varieties of Carnations and Picotees, that the untoward season has so diminished the usual growth, that his surplus stock of plants is not quite half the average. I do not know whether this is a general experience; but when I was at the Royal Nurseries, Slough, a few days ago, I thought the layers looked remarkably well and the average good; but one cannot always draw a correct conclusion from a temporary glance. Said Mr. Dodwell, in a recent communication to a friend who had applied to him for information as to the best time for potting for the winter:—"If I could have 4,000 plants potted up in *one day*, I should choose Oct. 20th for the operation; but that not being possible, we work from the beginning to the end of the month, or even into the first ten days of November." Here there is an authoritative declaration as to the best time for potting off layers. It is in October that, as Mr. Dodwell states:—"We have come now to foundation work, and on its well or ill-doing will mainly rest success or failure for another year. Every plant of every variety proposed to be grown for next season's bloom should be obtained, if required to be obtained, and firmly established in its winter quarters during this month; one plant properly established now, will give results worth ten got in in mid-winter or spring.

But before potting can be proceeded with, a suitable compost must be prepared. The one used by Mr. Dodwell is of a very simple character, for he observed in his book on *The Carnation and Picotee*:—"The soil required is a good sweet sandy loam, with the addition of a fifth or sixth part of sweet leaf-mould, and such well-washed sand or pounded crocks as may be needed to ensure a free percolation of air and water. This may

be prepared at once" (he is advising this to be done in September), "and should be kept dry." Mr. Dodwell is opposed to what he terms "premature potting," and necessary as it is to have the plants established for the winter, yet, in his experience, "grievous evil" has always followed the practice. Not earlier than from the 20th to the 30th of the month of October should this be done. "All that is required is that the plants shall freely feel the sides of the pots with their roots, so as to ensure perfect drainage and sweetened soil before going off for their winter sleep; but on no account should they become pot-bound, or the very worst evils may be expected to result. Various-sized pots should be used, according to the strength of the plants. Overpotting is a great evil. When potted, place in a cold frame and keep close for some days, shading from the bright sun. Water sparingly. Badly rooting varieties will be greatly aided with a gentle bottom heat when this can be given and properly watched. Pot every rare variety singly in 3-inch pots; all will be the better for such a practice." I add one line of advice to that of Mr. Dodwell's: pot firmly, for I have known the plants suffer from this necessary work being too loosely done.

When the layers are taken from the pots for potting, "carefully clean them from dead or decaying foliage, dust, dirt, or insects. There is nothing like a weak solution of soft soap; plunge the plant overhead in it, and remove the fly with a brush dipped in it, and keep the frames close for a week after potting. Water sparingly, and only if needed to prevent the plants from flagging. Should water be required, air must be given until the foliage is dry, keeping the plants effectually sheltered from strong winds; when fairly started, give air abundantly day and night, guarding carefully from the saturating rains usual at this period.—*R. D.*

ORCHID NOTES AND GLEANINGS.

The Orchid-Growers' Calendar.—It will be as well now to mention that the growing season of Phalenopsis generally is drawing to a close; indeed, an inspection of the plants will show that in most cases the leaves are fully made up and none others appearing in the heart. There is no doubt that these plants are not generally well done in collections, some of our largest growers getting but indifferent success with them. The cause, in the majority of cases, is to be found in their being kept too hot and too close from October to March, when they require to be kept as inactive as possible (the same may also be said of the greater part of the East India Aerides, Saccolabiums, and Vandas). I would, therefore, wish to call the attention of amateurs to the fact that the coolest and shadiest part of the East Indian house when kept strictly down to the temperatures we prescribe for October, viz., 70° to 75° by day and 65° at night, is ample for Phalenopsis, and if the situation selected ranges 5° less than that given so much the better; or they may be put on the shady side of the intermediate house, care being taken to specially protect them from the sun. It is, however, a common thing to find these plants kept at over 85° in winter, and in a close atmosphere where the temperature ranges as high at night as it does in the day. This last circumstance is the most destructive of all, and, therefore, strict attention should be paid to regulate the temperatures by a reliable thermometer, and not depend on guess work. If kept too hot and ill ventilated in winter the Phalenopsis are enfeebled, and in place of pushing strong leaves and roots in spring, prematurely dwindle into a weak and sappy growth, which becomes spotted, even if it does not decay in the heart of the plant before coming to maturity. Full cultural notes, with list of species and illustration, were given in THE GARDENING WORLD, vol. I, p. 245.—*James O'Brien.*

Trepho for Orchids.—Oncidium Jonesianum has done remarkably well with me on this material. The first I had were on pieces of tree Fern stem, but we could not keep them moist enough, so I tried others on "Trepho," from Mr. B. Field, Swan Place, Old Kent Road. They have rooted well into and through it, as they are on rafts with a slice of "Trepho" under them. Oncidium varicosum has also done very well on it, and several other things, but I shall not venture to use it for Cattleyas, &c., without further experience.—*C. B. P., Tunbridge Wells.*

Seedling Orchids.—On the underside of one of the stages in our Cattleya house may be seen a curious sight. Some Orchids have grown from seed; they appear to be Galeandras, and if so, they must be from some seed pods of plants imported last March. The growths are 9 ins. long, and in the most luxuriant health, and seem to like the heat from the pipes which are immediately under them. Some more seedlings are springing up among other plants in the house, and appear to be the same species. The plants are growing downward and outward towards the light, and rooting along the wood-work above them; they appear strong enough to flower. I have never seen or heard of any Orchid from seed growing with such rapidity, and the place is one in which growers would naturally suppose the Orchids would inevitably die in a few weeks. The parent plants I collected on the dry stems of a Morichia Palm, which is always found growing in swampy places, but I suppose the foliage of the Palm would prevent much moisture reaching the Orchid. But how they can grow under a stage and over pipes is a mystery to me.—*Edward A. Wallace, Colchester.*

Orchids in Flower at the Woodlands.—The following Orchids are now in flower in this collection:—

Aerides Lawrenceæ	Masdevallia chimæra
„ Rohanianum	(several varieties)
„ suavisimum	„ Harryana
Cattleya Acklandiæ	„ Lindenii
„ Eldorado splendens	„ maculata
„ Gaskelliana	„ Peristoria
„ Loddigesii	„ trochilus
„ speciosissima Ernestii	Miltonia Clowesii
Cælogyne speciosa	„ Regnellii purpurea
Cynoches Egertonianum	Odontoglossum Bictonense
Cymbidium giganteum	„ alba
Cypripedium Ashburtoniæ	„ blandum
„ barbatum	„ crispum (in variety)
„ „ nigrum	„ graude
„ Harrisianum	„ Insleayi splendens
„ Lawrenceanum	„ mirandum
„ ænanthum	„ mulus
„ „ superbum	„ odoratum
„ Regnerii concolor	„ Pescatorei
„ Roezlii	„ Roezlii
„ Schlimii	„ „ album
„ Sedenii	„ Rossii majus
„ selligerum	„ Ruckerianum
„ Spicerianum, (several	Oncidium Gardnerianum
with two flowers	„ Jonesianum (flower-
on spike)	ing since June)
„ „ magnificum	„ Kramerii
„ Stoneii	„ O'Briani
Dendrobium bigibbum	„ ornithorrhynchum
„ Dearei	„ papilio
„ formosum giganteum	„ tigrinum
„ Goldiei	„ varicosum
Lælia amanda	Pescatorea cerina
„ Dayana	Phalenopsis amabilis
„ elegans	Sophranitis cernua
„ Pilcherii	„ coccinea
Lycaste Deppei	„ grandiflora
„ plana	Trichopilia marginata
„ „ alba	Vanda cœrulea
„ Skinneri	„ lamellata Boxallii
„ „ alba	„ suavis
„ „ miniata	„ tricolor insignis
Masdevallia amabilis	Zygopetalum intermedium
„ bella	„ maxillare.

—*R. C. Fraser, Gardener to R. H. Measures, Esq.*

HORTICULTURAL SOCIETIES.

CRYSTAL PALACE SHOW.

In some districts the complaints have been numerous that the Apple and Pear crops were as poor as the Plum crop was heavy, but in other places, though rather below the average, these fruits have been satisfactory. Those who have visited the Crystal Palace show of hardy fruits, which was opened on Wednesday and closes this Saturday evening, would scarcely think there was any falling off this season, either in the number or quality of the Apples, although the Pears are not nearly so good; in fact, there are specimens of Apples in the show that could seldom be surpassed. Such large fruiting varieties as Warner's King, Peasgood's Nonsuch, Emperor Alexander, Gloria Mundi, Ecklinville and Lord Suffield are in capital form; fruits of the first named in some instances, notably in Messrs. Bunyard's collection, weighing from 14 ozs. to 17 ozs. each. The brightly coloured varieties, like Worcester Pearmain, Duchess's Favourite and Colonel Vaughan are in their best form; the majority of the fruits staged throughout the classes being notable for their clean appearance free from the specks that sometimes disfigure them.

As usual, the Kentish Apples are pre-eminent for their size and beauty, the Maidstone collection, which wins the most important prize, containing a grand array of fruit, charming for their diversity and high colour. The Hereford collection, which had the first place in the amateurs' division, is also remarkable for the great size of the fruits; indeed, in all the winning collections of twenty-four dishes, the Apples are of exceptional size, and in the third prize lot, from Mr. A. Waterman, were several varieties represented by quite as large fruits as the first.

Pears are not nearly so even in quality as the Apples, for though some of the exhibitors have large and handsome fruits of Pitmaston Duchess, Catillac, Duchesse d'Angoulême, General Todtleben, Doyenné Boussoch, and Doyenné du Comice, the majority are small. Louise Bonne of Jersey is shown well by several growers, also Colmar d'Été and Marie Louise. Again the Kentish fruit is to the fore, Mr. Butler's Pears from Sittingbourne being very handsome, far ahead of the other competing collections.

The Apples and Pears, which constitute the greatest portion of the show, comprising several thousand dishes, are arranged on fourteen tables; the vegetables and some non-competing exhibits occupying side tables. With 130 dishes of Apples, Messrs. Bunyard & Sons, Maidstone, are first in the class for the best collection of dessert and kitchen varieties, showing splendid samples of all the best and most useful sorts in cultivation. Following this firm, rather closely is Mr. J. Watkins, Pomona Farm, Hereford, who has over 100 dishes of large, well-developed fruit, but perhaps not so effective as the first, owing to the less colour. Mr. C. G. Slater, Heavitree, Exeter, and Mr. D. C. Powell, Powderham Castle Gardens, Exeter, are third and fourth with collections that, in many shows this season, would take a high place.

The most successful amateur exhibitors in the Apple classes were Messrs. W. Edwards, Shinghill, Hereford; S. Ford, Leonardslee, Horsham; and A. Waterman, Preston Hall Gardens, Aylesford. In the twenty-four varieties the following were shown:—Annie Elizabeth, Dumelow's Seedling, Lady Henniker, Warner's King, Gloria Mundi, Waltham Abbey, Pott's Seedling, Bedfordshire Foundling, Peasgood's Nonsuch, Blenheim Pippin, Mère de Menage, Round Winter Nonsuch, Worcester Pearmain, Cox's Pomona, Cox's Orange Pippin, Duchess of Oldenburg, King of the Pippins, Red Costard, Ecklenville Seedling, Emperor Alexander, Costard, Alfriston, Yorkshire Beauty, and Tower of Glamis.

In the chief Pear class Mr. James Butler, gardener to A. J. Thomas, Esq., Orchard Lane Gardens, Sittingbourne, leads with ninety-eight dishes of capital Pears, fine in all respects, and, as previously remarked, surpassing for general excellence all the others in the show. Messrs. T. Rivers & Son, Sawbridgeworth, Mr. A. Waterman, and Messrs. G. Bunyard & Co. followed in that order with smaller collections, and smaller fruits in the second prize collection. There were, however, some good samples of the best varieties.

Mr. S. Ford has the best twelve dishes of Pears, comprising praiseworthy specimens of Beurré Bosc, Louise Bonne of Jersey, Vicar of Winkfield, Duchesse d'Angoulême, King Edward, Marie Louise d'Uccle, Uvedale's St. Germain, General Todtleben, Beurré Clairgeau, Marie Louise, and Doyenné du Comice; Messrs. A. Waterman and J. Neighbour, of Bickley, were second and third, three of the eight other collections being disqualified for containing duplicates; in one case a dish was made up of three varieties.

Vegetables are of excellent quality, particularly those from Mr. C. J. Waite, gardener to Col. the Hon. W. P. Talbot, Gleuhurst, Esher, who was first for a collection of twelve dishes, and from Mr. A. Waterman, who gained similar honours for a collection of vegetables, the number of sorts not stipulated. Both of these competitors had well-grown samples, but the last-named were, in addition, arranged very effectively. Other prize-winners in these classes were Mr. J. Neighbour and Mr. W. Mist, Ightham, Kent.

Gourds are shown by several exhibitors, the best being those from Mr. J. Rodbourn, Coombe House, Croydon; Mr. G. Sheppard, Pulborough; Mr. W. Dance, gardener to Col. A. S. H. Lowe, Gosfield Hall, Halstead; and Mr. C. Osman, Sutton, Surrey, who had some very ornamental fruits. Miscellaneous non-competing exhibits, including Apples, Pears, Plums, Dahlias, and tuberous Begonias, are shown by Messrs. J. Veitch & Sons, T. Rivers & Son, Cheal & Sons, and Laing & Co.

CRYPTOGAMIC SOCIETY OF SCOTLAND.

THIS society opened its twelfth annual conference in Aberdeen, on Wednesday, 29th ult. The conference was continued until Friday, 1st inst., the time being occupied by excursions into the country in the earlier part of the day, with discussions on specimens in the Marischal College in the evenings. On Wednesday, 29th inst. (forenoon), the members of the society visited Monymusk, with the object of searching for specimens of cryptogamic plants; but, owing to the disagreeable nature of the weather, the excursion was not over successful. In the evening, council and business meetings were held in Marischal College, and afterwards a public meeting was held, at which Professor J. W. H. Trail, M.D., F.L.S. (Aberdeen University), the president for the year, occupied the chair, and delivered his annual address, the subject of which was the "Uses and Practical Application of Cryptogamic Plants." On the motion of Rev. John Stevenson, Glamis, a vote of thanks was accorded to Professor Trail for his admirable address. Mr. A. Stephen Wilson, Aberdeen, then read a paper on "The Reproduction of Smut." The paper, which was written for the most part from practical observation, was highly interesting. A short discussion followed the reading of the paper, in the course of which Mr. Plowright, King's Lynn, complimented Mr. Wilson on the individuality with which he had infused his paper; and, on the motion of Dr. Calder, Greenock, a vote of thanks was given to Mr. Wilson.

The president then read a paper which was written by Mrs. Farquharson, of Haughton, on several varieties of British Ferns; after which he explained two papers which he would have read, had time permitted. They related to the additions to the lists of Scottish Fungi. The conference then adjourned. The members of the Society left the Joint Station, Aberdeen, on Thursday, 30th ult., by the 10.10 a.m. train, for Drum. The woods in the neighbourhood of Park and Drum were visited, and a number of interesting specimens of Fungi (including those that cause disease in Larch trees, and a few edible varieties) were obtained. Although the day was spent very pleasantly, the excursion was not, on the whole, very productive, owing to the dry weather which has prevailed for some time. The members returned to the city (Aberdeen) in the evening, when they sat down to an excellent dinner in the Douglas Hotel, under the presidency of Professor Trail. On Friday, 1st inst., the Society visited Kincausie grounds, where some interesting specimens, and much valuable information were obtained. On the whole the conference was looked upon as one of the most successful yet held under the auspices of the society.

MAIDSTONE.

THE annual general meeting of the Maidstone Gardeners' Society was held on September 30th, under the presidency of Messrs. Cossom and Town. The subjects exhibited included Beurré Superfine Pears, and Pansies, by Mr. Godden; *Cypripedium venustum* and cut Scabions, by Mr. Leonard; a shoot of *Ficus repens*, bearing fruit, by Mr. Cossom; Cape Gooseberries, by Mr. Trowell; and a very fine pot of *Eucharis amazonica*, by Mr. Cuckow. Discussions ensued on the exhibits, the most interest centring on the *Ficus repens*, which is seldom seen bearing fruit, and in the *Eucharis*, which had one spike with nine flowers and buds upon it, and one flower with nine petals. The annual balance sheet was read and adopted. It showed an excess of expenditure over income, owing to the many and heavy calls upon the charity of the society that have been made during the past twelve months. The following were elected officers for the next twelve months:—President, Mr. Carr; vice-president, Mr. Town; trustees, Messrs. Robison and Godden; hon. treasurer, Mr. Harrisou; secretary, Mr. Frost; collector, Mr. Henwood; auditors, Messrs. Ashdown and Pettit; committee, Messrs. Cossom, Elbourn, Stuart, Archer, Cuckow, Thompsett, Bridgland, T. Morris, Leonard, Loveland, Hepwork, Woolley, and Pettit. The thanks of the meeting were accorded to the retiring officers for their past services, and especially to the auditors and treasurer. Aster-growing will be discussed at the next meeting.

TRADE CATALOGUE RECEIVED.

E. S. DODWELL, Stanley Road, Oxford. New Carnations and Picotees, for season 1886-7.

QUESTIONS AND ANSWERS.

LAWN.—J. Watson: The best thing you can do is to leave the grass till spring; then scratch the surface well with an iron rake, make it level, and sow a little good lawn grass seed. In a few weeks you will have a nice fresh green surface, and at a very slight cost.

NAMES OF PLANTS.—*Cosmopolitan*: 1, *Aralia Veitchii gracillima*; 2, *Asplenium marinum*; 3, *Adiantum Cunninghamii*; 4, *Doodia caudata*; 5, *Adiantum hispidulum*; 6, *Adiantum Capillus-veneris*.

NAMES OF FRUITS.—M. C.: Pear, Williams' Bon Chrétien. Apples: 2, *Blanche d'Espagne*; 3, *White Calville*.

BOUGAINVILLEAS.—*Constant Reader*: *B. speciosa* being a stronger grower than *B. glabra* should, if convenient, be planted out rather than grown in a pot. The healthy growths which it has made should flower next spring, after which it should be freely pruned and grown on again. It must not be pruned before flowering as you would treat *B. glabra*, but in other respects the treatment may be the same. We should give the preference to the latter as a free bloomer.

LAWN TENNIS COURT.—W. D.: Would some of your readers kindly advise me how to asphalt a lawn tennis court with engine ashes?

COMMUNICATIONS RECEIVED.—W. G. H.—B. L. (many thanks)—T. S. W.—B. S. W.—C. A. G.—C. H. S.—J. I.—W. G. S.—R. S.—J. D.—W. C.—J. N.—C. F. H.—A. O.—J. L.—J. B.—Haarlem.

LONDON SEED TRADE.

October 6th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance at to-day's market. Winter Tares offer freely at low prices; Rye unchanged. There is no change to report in value of Clovers and Rye Grasses. Bird Seeds more slowly at rates current last week. Blue Peas and Haricot Beans are cheaper.

COVENT GARDEN MARKET.

October 7th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1	6	3	6	
Cherries, $\frac{1}{2}$ sieve					
Currents, $\frac{1}{2}$ sieve					
Grapes	0	6	2	0	
Keit Cobbs	100	lbs.	55	0	
Melons, ...	1	0	2	0	
Peaches, per doz.	3	0	9	0	
Pine-apples, St.					
Michaels, each	2	6	8	0	
Pine-apples, Eng., lb.	2	6	3	0	
Plums, $\frac{1}{2}$ sieve	0	9	2	0	
Strawberries .. per lb.					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	3	0	
Beans, French, per lb.	0	4			
Beet, per dozen	2	0	3	0	
Cabbages .. per doz.	2	0	2	6	
Carrots, per bunch ..	0	6			
Cauliflowers, English, per dozen	3	0	5	0	
Celery, per bundle ..	1	6	2	6	
Cucumbers, each	0	6	0	6	
Endive, French, doz.	2	6	3	6	
Herbs, per bunch	0	2	0	4	
Horse Radish, bundle	3	0	5	0	
Lettuces .. per dozen	1	6			
Mushrooms, p. basket	1	0	2	0	
Onions, per bushel ..	4	0	6	0	
Parsley, per bunch ..	0	6			
Radishes, per dozen ..	1	6			
Smallsalading, punnet	0	4			
Spinach, per strike ..	2	0			
Tomatoes, per lb.	0	9			
Turnips .. per bun.	0	6			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	2	0	4	0	
Arum Lilies, 12 blms.	4	0	6	0	
Bouvardias, per bun.	0	6	1	0	
Camellias .. 12 blooms	3	0	6	0	
Carnations, 12 blooms	1	0	3	0	
Carnations .. 12 bun.					
Chrysanthemums, 12 blooms	1	0	6	0	
Chrysanthemums, 12 bunches	4	0	8	0	
Cornflower .. 12 bun.					
Delphinium .. 12 bun.					
Dahlias .. 12 bunches	3	0	6	0	
Daisies, common, 12 bunches	2	0	4	0	
Eucharis, per dozen ..	4	0	6	0	
Forget-me-not Myotis, 12 bunches ..	2	0	4	0	
Gardenias, 12 blooms.	2	6	4	0	
Gladioli .. 12 sprays	1	0	2	0	
Heliotropes, 12 sprays	0	6			
Lapageria, red, 12 blooms	1	0	2	0	
Lapageria, white, 12 blooms	2	0	3	0	
Lilium longiflorum, 12 blooms	4	0	6	0	
Liliums in variety, 12 blooms	2	0	0		
Marguerites, 12 bun...	3	0	6	0	
Mignonette, 12 bun...	1	0	3	0	
Pelargoniums, per 12 sprays	0	9	1	0	
—scarlet, 12 sprays ..	0	3	0	6	
Primula, double, bun.	0	6	1	0	
Pyræthrum, 12 bunches	2	0	4	0	
Roses .. 12 bunches	2	0	6	0	
Roses (coloured)	0	9	1	0	
Roses, Tea per dozen	0	9	3	0	
Stephanotis, 12 sprays	4	0	6	0	
Sweet Peas, doz. beh.	1	6	3	0	
Sweet Sultan, 12 bun.					
Tropeolums	1	0	2	0	
Tuberose, per dozen.	0	4	0	9	
Violets .. 12 bunches	0	9	1	0	
White Jasmine, bun.	0	6	0	9	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	0	
Asters, per dozen	3	0	6	0	
Balsams .. per doz.					
Begonias, per dozen ..	6	0	12	0	
Chrysanthemums, doz.	4	0	12	0	
Cockscombs, per doz.					
Cyperus, per dozen ..	4	0	12	0	
Dracena term., doz.	30	0	60	0	
—viridis, per dozen	12	0	24	0	
Erica gracilis, per doz.	12	0	18	0	
—hyemalis, per doz.	18	0	24	0	
—Regemians .. doz.	9	0	12	0	
Evergreens, in var., per dozen	6	0	24	0	
Ferns, in var., doz.	4	0	18	0	
Ficus elastica, each ..	1	6	7	6	
Foliage Plants, various, each	0	10	2	0	
Fuchsia, per doz.	3	0	6	0	
Gladioli, 12 pots					
Hydrangea .. per doz.					
Liliums .. per doz.	12	0	30	0	
Marguerites, per doz.	6	0	9	0	
Mignonette, per doz.	4	0	6	0	
Palms in variety, each	2	6	21	0	
Pelargoniums, doz. ..					
Pelargoniums, scarlet, per dozen	3	0	6	0	
Petunias, per doz.					

POTATO MARKET.

October 4th. Ninety trucks arrived at King's Cross this morning, and there were 326 trucks on hand. Prices in the station-yard were as under:—

	Lincolns.	Yorks.	Bedfords.	Kents.
Magnums, good samples.	55/- to 65/-	60/- to 70/-	55/- to 65/-	60/- to 70/-
Regents do. do.	50/-, 52/6	60/-, 65/-	55/-, 60/-	65/-, 70/-
Beauty of Hebron do.	60/-, 65/-	65/-, 70/-	60/-, 65/-	65/-, 70/-
Champions do. do.	40/-, 50/-	50/-, 55/-	45/-, 50/-	50/-, 55/-

Early Rose and Reading Hero were not quoted in the market. There is a slight upward tendency to-day, but the demand is not good enough to create any improvement of import. We anticipate a better trade during the week.

SPECIAL CULTURE OF FRUIT TREES and ROSES.

A large and Select Stock is now offered for Sale.
The Illustrated and Descriptive Catalogue of Fruits
post free.
The Descriptive Catalogue of Roses post free.

THOMAS RIVERS & SON,
THE NURSERIES, SAWBRIDGEWORTH, HERTS.

FLORISTS' FLOWERS

Quality, not quantity, grown.

JOHN DOWNIE (of the late firm of Downie
& Laird) begs to intimate that his fine collection of Florists'
Flowers is now in full bloom, comprising Pansies, Violas, Dahlias,
Pentstemons, Antirrhinums, Phloxes, &c., &c., at his Beechill
Nurseries, Edinburgh. Inspection invited.

Telegraphic Address:—"DOWNIE," Edinburgh.

ROSES IN POTS.

HER MAJESTY, THE BENNETT ROSE,
and all the best new English and Foreign varieties.

All the choicest well-tried sorts in pots, 15s. to 36s. per dozen.

Descriptive List free on application.

RICHARD SMITH & Co.,
NURSERYMEN AND SEED MERCHANTS,
WORCESTER.

CHEAP BULBS.

NARCISSUS	per 1000	s. d.
WINTER ACONITES	"	25 0
GRAPE HYACINTHS	"	21 0
	"	21 0

Priced descriptive Catalogue, No. 317, post free on application.

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'NEWTON' NURSERIES } CHESTER.

DUTCH, CAPE, CALIFORNIAN, AND OTHER BULBS

WILL be found very fully described, and most
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perfectly accurate, and are the result of personal ex-
perience. The Catalogue must be considered one of
the most USEFUL and PRACTICAL ever published.
PART 2, consisting of 26 PAGES, consists exclusively
of LILIES and DAFFODILS, the varieties consti-
tuting both families are fully described, many of the
Daffodils being illustrated.

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who take any interest in Bulbs, may be had gratui-
tously upon application to

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Late Farm Nurseries,
TOTTENHAM, LONDON

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Too well known to require descrip-
tion. Price 6s. per bushel; 1s. extra
per bushel for package; or 6d. per cake,
free by Parcel Post, 1s. None genuine
unless in sealed packages, and printed
cultural directions enclosed, with our
signature attached.

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NURSERYMEN & SEED MERCHANTS,
HIGHGATE NURSERIES.
LONDON, N.

THE GARDENING WORLD, Vol. III.,
commenced with number 105. Order through all Book-
sellers and Newsagents. Cases for binding Vol. II. post free
for 2s. 4½d.

CHRYSANTHEMUM SHOW. YORK,
1886. Held in the FINE ART EXHIBITION BUILDING,
on NOVEMBER 17th, 18th, and 19th.
Liberal Prizes for PLANTS, FLOWERS, FRUITS, and
VEGETABLES. Schedules, &c., to be obtained of
J. LAZENBY, SPURRIERGATE, YORK.

National Chrysanthemum Society, Royal
Aquarium, Westminster.

GRAND CHRYSANTHEMUM, FRUIT
and VEGETABLE EXHIBITION, Wednesday and
Thursday, November 10th and 11th.
Schedules free on application to
Mr. WILLIAM HOLMES, Hon. Sec.,
Frampton Park Nurseries, Hackney.

The Floral Committee will meet on Wednesdays, October 27th,
November 10th and 24th, and December 8th at 1.30 p.m.

Next Week's Engagements.

MONDAY, Oct. 18th.—Sales of Dutch Bulbs at
Protheroe and Morris's, and Stevens' Rooms.

TUESDAY, Oct. 19th.—Sales of Nursery Stock at
Kilburn; and at the Ainger Nurseries, Cambridge, by
Protheroe and Morris.

WEDNESDAY, Oct. 20th.—Sale of Greenhouse Plants and
Dutch Bulbs at Stevens', and Protheroe and Morris's
Rooms.—Sale of Nursery Stock at the Loughborough
Nurseries, Brixton, by Protheroe and Morris (two
days).

THURSDAY, Oct. 21st.—Sale of choice established
Orchids at Stevens' Rooms.—Great Sale of Dutch
Bulbs at Protheroe and Morris's Rooms.

FRIDAY, Oct. 22nd.—Sale of Imported Orchids at
Protheroe and Morris's Rooms.—Clearance Sale of
Nursery Stock at the Nurseries, Lewisham, by
Protheroe and Morris.

SATURDAY, Oct. 23rd.—Sale of Plants from Ghent and
Dutch Bulbs at Stevens' Rooms.—Sale of Dutch
Bulbs at Protheroe and Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, OCTOBER 16, 1886.

THE FOREIGN SEED HARVEST.—Of little less
importance to English cultivators than the state
of their home harvest is that of the harvest in
foreign countries from which we draw large sup-
plies of Clover and Grass seeds, and especially
those of Germany and the United States of
America. We buy largely abroad seeds of
many kinds. Canada especially sends us Peas
in abundance, while we are purchasers in many
other parts of the world. We are especially
beholden to Germany for Grass seeds, and the
fertile districts about Darmstadt in particular.
So far, the harvest generally is encouraging; the
crops of Grass seeds are more satisfactory than
they have been for some seasons past, and
lower prices for most of the leading sorts will
be general.

Furthermore, the quality of the seeds is above
the usual average. This can especially be said
of Dactylis glomerata (Cock's-foot), Festuca
pratensis (Meadow Fescue), and most of the
Poas; of these the samples are very heavy, and
the growth will, therefore, be satisfactory. Poa
trivialis (the rough-stalked Meadow Grass), and

especially Poa nemoralis (Wood Meadow Grass),
are scarce; the yield is not so good as was ex-
pected—indeed, they have been harvested in
small quantities only. Festuca duriuscula (Hard
Fescue Grass), and F. ovina (Sheep's Fescue),
have yielded a fair crop and of satisfactory
quality, and prices are expected to be lower than
last season. F. ovina tenuifolia (Narrow-leaved
Sheep's Fescue) has been harvested in very
small quantities, and the prices, it is expected,
will be very high in consequence.

The crop of Cynosurus cristatus (Crested
Dog's-tail Grass) has been harvested in fair
quantities; but the samples lack the high colour
which characterised those of last year, which is
mainly owing to the continual rains which fell
during the time of harvesting; but the growth
of the seeds is said to be quite satisfactory.
The crop of Anthoxanthum odoratum (the sweet
Vernal Grass) is but a quarter of the average
one; late spring frosts affected the growth at a
critical time. Phleum pratense, or Timothy
Grass, is a better crop in Germany than that of
last year. In the United States of America,
from which large supplies are usually drawn,
this Grass has been harvested in smaller quan-
tities than usual, and prices there have risen
considerably since the close of last season.

The German crops of Clover are by no means
favourable, according to the trustworthy advices
which have come to hand. Alsike, White
Clover, Yellow Clover (Trefoil), and Sainfoin
show but a very moderate yield. Red Clover
is not yet harvested, and it does not promise
beyond a medium crop; and the same may be
said of Lucerne.

We shall look somewhat anxiously for later
reports. Some of the statements just made
may bear modification, though we think the in-
formation given will be found mainly reliable;
but we wish we could report favourably in
reference to our home trade. It is wretchedly
dull, and there is little demand for seeds.
Travellers go out and return with but few
orders; the present attitude of buyers is to wait.
Let us hope there will soon come a brisker
state of things—it is badly needed all round.
Meanwhile, we are favoured with glorious
weather. Outdoor operations can be prosecuted
with avidity, and farmers especially have much
reason to rejoice in consequence. If only trade
would improve—that is an universal aspiration.
Let us hope that with the advent of 1887 there
will come the commencement of a reaction that
shall surely lead on to that time of prosperity
it is devoutly to be hoped is not far distant.

AMONG the successful exhibitors at South Kensington
on Tuesday, was Mr. Thomas Baily, of Shardeloes,
who, on the following day, celebrated his eightieth
birthday. Mr. Baily, hale and hearty, was at the
exhibition, and received the congratulations of his
friends.

MESSRS. WILLIAM FELL & Co., nurserymen, Hex-
ham, have just sold to the Commissioners of Woods
and Forests over 300,000 forest trees for planting on
the Crown lands in the Isle of Man.

MR. J. FERGUSON, late landscape gardener to Messrs.
Little & Ballantine, Carlisle, has been appointed
superintendent of the public park, Sunderland. There
were 175 applicants.

MR. CHARLES ROUPE has been appointed superin-
tendent of St. Nicholas' cemetery, Newcastle-on-Tyne,
for which vacancy, we understand, there were seventy
applicants.

MR. T. TEBBY, for the last four years foreman at
Aberaman House, Aberdare, has been engaged as
gardener to E. D. Thomas, Esq., Welfield, Builth,
Radnorshire.

SOME beautifully fresh LABURNUM FLOWERS come
to us from Onslow Hall, Shrewsbury, and the daily
papers record similar cases of flowering out of season in
various other parts of the country. In the garden of
298, Essex Road, Islington, a fine Horse Chestnut tree
has seven spikes of flowers open: and in the drive

opposite the barracks in Hyde Park, another Chestnut tree is partly in bloom, with tender green leaves showing on the boughs.

THE body of William Wardale, aged about 33, and who was employed as gardener at The Lodge, Harrow Weald, Harrow, was discovered late on Sunday night, in a secluded part of the grounds, with a gunshot wound in his left breast.

THE business which has been carried on at the Victoria Nursery, Reading, by Mr. G. PHIPPEN and the executor of his late father's will, will, in future, be carried on by himself solely.

THE FIRST ANNUAL SHOW of CHRYSANTHEMUMS and other autumnal flowers and fruit will be held in the Agricultural Hall, Watford, on Tuesday and Wednesday, November 16th and 17th, 1886.

Messrs. FOLLOWS & BATE, manufacturers of lawn mowers, garden engines, &c., have removed from the premises they have long occupied to their new works at Gorton, Manchester.

Mr. L. BLACK, second gardener at Darwen Bank, Preston, has been appointed head gardener to J. W. Radcliffe, Esq., Swarthdale, near Carnforth, Lancashire.

THE *American Florist* states that a FLORAL DESIGN representing a thousand-mile ticket, with all the coupons removed, and lettered "Mileage Gone and Journey Ended," used at the funeral of a commercial traveller at Burlington, Iowa, is the latest from beyond the Mississippi.

THE same journal also notes that Mr. SMITH, of the botanical gardens, Washington, D. C., is re-naming certain plants. The *Dieffenbachia seguina* that poisoned Humboldt has been re-christened the "Mother-in-law plant," because it is a tongue paralyser.

It is probable that a commercial botany class will shortly be commenced at the Liverpool University, with Mr. Harvey Gibson as its teacher. The aim of the class is stated to be—to impart a sound knowledge of the nature and the methods of preparation of the principal commercial products of the world, which owe their origin directly or indirectly to the vegetable kingdom.

MR. EDWIN ELLIOTT, Seedsman, Huddersfield, read a paper on Saturday evening last, on "Paxton or Gardeners' Societies," at a meeting of the Huddersfield Paxton Society. Dr. Rhodes, the President, took the chair, and there was a good attendance of members. Mr. Elliott dealt mainly with the work of such societies, and the advantages to be derived from them by gardeners; and a lively discussion followed, in which the President, Messrs. Chambers, Millan, and others took part.

AN *Illustrated Handbook of Victoria, Australia*, has just been issued by the Government of the colony named, "for the use of intending emigrants, and to disseminate generally a better knowledge of the resources of the colony, its trades and products." The various chapters are ably written, and the pages devoted to horticulture will be found specially interesting and instructive to gardeners thinking of emigrating. We may add that the work has been sent to all the public libraries.

WE learn from America that a Chrysanthemum show is to be held this season in New York, and that it promises, for extent, to eclipse anything seen in this country. The exhibition is to remain open six days, including a Sunday, and no less than £1,000 are offered in prizes. It is also intended to issue a thirty-two page catalogue, and a large sum is to be expended on its production. Some of our leading growers, who have ample surplus blooms in November, will regret that such liberal prizes are not to be competed for a little nearer London.

A Nursery Rating Case.—For some time past the Penge Vestry and Mr. E. B. Haynes, have been in dispute as to the proper valuation of the Penge Nursery, Mr. Haynes claiming that the residence only should be rated fully to all rates, and that the land and forcing houses should be rated as to only one-fourth. The Parish recognise that that is the proper basis, but they say that applies only to sewers and consolidated rates, and not to the others, whereas Mr. Haynes maintains they apply to all. On Saturday last the matter came before the Croydon magistrates, Mr. Haynes being summoned to show cause why a distress warrant should

not be issued against him, for the non-payment of £39 15s. 6½d. due for rates. Mr. Besley, in opening the case for the overseers, told the magistrates (Mr. Edridge and a full Bench), that they had no power in the matter, except to grant the warrant applied for—they could not, if they wished, alter the amount; he quoted authorities, which seemed to be conclusive, for the magistrates said they were powerless in the matter, not even being able to grant a case or refer the matter to a higher court, but that Mr. Haynes had his remedy should the Parish unfairly distrain. Mr. Besley confined himself to the assertion that the warrant must be granted, as the magistrate had no jurisdiction. The defendant contended that he had been over-charged, the Act of Parliament clearly stating that nurserymen, florists, farmers and occupiers of arable land should only be called upon to pay one-fourth of the rateable value. In this case the overseers had charged him one-fourth in respect of his land, but they had demanded the full amount of the poor, lighting and police rate for his glasshouses. He held that a nurseryman's houses were quite as necessary for him to keep his stock in as a cellar was to a publican. At Tottenham a case was fought, and the justices decided in favour of the florist, who used his houses for the purposes of his trade. He (the defendant) would be glad if the Bench would state a case, as he was determined to have the opinion of the Court of Queen's Bench on the subject. The chairman said they could not do that. They must grant the warrant asked for by Mr. Besley. Defendant: As the matter is to be fought out, will you kindly allow the warrant to stand over? Mr. Besley: You can take the matter to the House of Lords. The warrant asked for was then granted. Mr. Besley applied for costs, but the magistrates declined to make any order, except for 3s., the cost of the summons.

AUTUMN FASHIONS IN FLOWERS.

Arrangements with wild flowers are done so elegantly that many persons wish they could retain these blossoms. Golden Rod, purple Thistles, baby Daisies, and the yellow Ox-eyes, combined with pink Clover and the wild Phlox, are elegant in room decorations, where a profusion of these blossoms appear. In using wild flowers, there must be a quantity to produce rich effects.

The handsomest room arrangement of the week, was made at Tarrytown-on-the-Hudson for a wedding. The majority of the effects were worked out with coloured foliage—the light boughs of trees that had turned from green to brilliant hues. A large framework was made at one end of the drawing room—a sort of cornice with three arches. This was covered with the boughs, which were suspended so as to form lambrequins of nature's tapestry. The centre lambrequin was permitted to droop the lowest. About 3 ft. at back of these were screens of Smilax, over which were running branches of La France Roses. The effect from the room was a green background, with the Roses climbing it, and then the bright drapery of leaves surmounting these. On one side of the leaf-cornice, a spray of pale Roses extended to the edge of the centre lambrequin, and here was a large cluster of these flowers.

Noble effects are to be made with foliage this season. Although quantities of large flowers will combine with it, very beautiful and artistic ideas will be worked out with Ferns, Vines and mosses. Besides these greens stronger ones will be employed. Evergreens, Ivies, Laurel, etc., have been ordered by the ton for certain decorations in saloons, where there is ample space for grand effects. Smilax is decidedly unfashionable for garlanding, and, for that matter, garlanding is quite antiquated. Smilax is useful for filling in, but in the choice decorations it is subordinate. The foliage of *Gardenia Fortunei grandiflora* will be used extensively with Orchids, especially in table decorations. It is firm and polished, and will not easily wilt. It is handsome in combination with Orchids; much more so than Ferns or Asparagus.

Fashion points to the use of butterflies and insects in connection with flowers. These are placed on wires and are made to look as if fluttering about the blossoms. Care must be observed to select suitable butterflies for the flowers chosen. In a Daisy decoration made for a children's birthday party, banks of these flowers were placed on mantles, cabinets and mirror bases, and be-
 ves

of these insects hovered over the blossoms, making a most fantastic spectacle. When this style of decoration is made, butterflies of flowers are usually the designs placed on the piano, sides of easels, or wherever an ornamental piece is required. These butterflies produce rich and unique effects if made up in variety—some light, others of brilliant flowers, and naturally placed as if just alighting. They are exceedingly pretty for wall designs if worked out in a shapely and finished fashion.

Probably the most elegant arrangements of the winter will be those made with blue and pink Hydrangeas, which are to be forced for a leading florist. Blue and pink dinners will be ornamented with these blossoms, and the plants will be used frequently on the table. Water Lilies of different colours are also to be forced, principally for table designs. Low silver dishes are much in vogue for table centre-pieces; these are filled with Lilies as a rule, and are very chaste designs. There is nothing so stylish at present as Orchids, and particularly on the table. Effects are made with Cattleyas and Phalenopsis, chiefly, and usually on table covers of satin. Very odd was a luncheon ornamentation made this week. The table-cloth was of cream-coloured satin. The centre was covered with a large cushion of *Asparagus tenuissimus*, which had trailing pieces of the Vine that crept out nearly to the ends of the board. In the centre foliage were laid Phalenopsis, and a few flowers dotted the Vines through the table. The ladies' favours were a small cluster of Orchid and *Asparagus* with a bouquet pin of filigree gold for fastening.

Wild Violets, Mignonette, *Narcissus poeticus* and Lily of the Valley will take the lead in spring flower decorations, which are ordered extensively for entertainments for young people. All these blossoms are in process of being forced for early winter use, and they will be the choicest filling for the boxes of cut flowers now so popular for gifts. The Orchid boxes sent out by a fashionable florist are marvels of elegance. The prevailing colours of the flowers are shown on the outside and lining of the boxes, which are satin, plush or velvet, and sometimes a combination of all these fabrics. There are small cords of gilt fastened in the box to tie in the bunch of loose flowers. There are Violet boxes of new patterns, Lily boxes and Rose boxes; these are silk as a rule, but some of them are of satin cardboard.

The Campanello Marguerite bell is the leading novelty of the season, and bids fair to have a swifter run in flowers than it has had in gold. This charm, talisman or amulet is made up in all sizes and for a souvenir, ornamental table design or wedding bell. Klunder makes it up in gold flowers to-day, and as it reposes on a blue velvet cushion in his window, surrounded by lacy Ferns, it attracts a crowd of admirers. The Campanello bell was described in the floral fashions of a month since; made up in *Oncidiums* it is a delightful object. Its square shape, convex sides, and slender straight tongue should be nicely defined.

Wedding bouquets of the most fashionable description are composed of Dendrobiums, Orange flowers and fruit. The Orchids are placed on one side, and the blossoms, buds and fruit of the Orange tree on the other. The sash that ties the bunch is composed of satin ribbon the exact colour of the fruit. Another stylish wedding bunch is made of *Stephanotis* and Orchids, from fifty to seventy-five Orchid flowers being placed in the bunch. The sash is of ivory-coloured satin ribbon. A number of the brides are carrying Lily of the Valley bunches or those composed of Bride Roses, but neither of these are the highest style.

Corsage bouquets are charming, and are well adapted to the bodices made with the vests of linen or lace, now so popular. For full dress bunches, three large Roses are placed in a line to proceed from the point where the bodice comes together under the vest. Each Rose is set around with light foliage, the *Asparagus* being favourite; under these Roses is a large cluster of foliage—Ferns usually—which extends to the waist. It is evident that foliage is to occupy larger space in every design. An arrangement like the one just described is made for street wear of purple Asters, or the dark crimson single Dahlias.

Some very elaborate funeral pieces have been sent out from the florists' stores this week. Gordon made a wreath and sheaf of wheat with high finish. The wreath was a broad circle of full-blown Roses, festooned with

light Grasses. This surrounded the sheaf at its base. The centre of the sheaf was held by a baud of Niphotos Roses fastened with a cluster of the same.

The richest pall I have ever seen was made for the casket of a young lady. It was made entirely of Lilies—longiflorum, and fringed with Lily of the Valley. It was very large, entirely shrouding the coffin excepting where it was lifted at one side, where a large cluster of Hydrangea paniculata grandiflora, that was showing superb colouring—pink, green and chocolate, seemed to hold up the cloth of flowers.

A cradle of flowers was a lovely piece made for the receptacle of an infant who had died. The mother would not allow it to be placed in a coffin until after the funeral services, and until just before it was to be taken to the cemetery. So a cradle of blossoms was made. The outside of this was formed of Daisies, the head-covering of the cradle being composed of Lily of the Valley. The inside of the head-covering was made of pale pink Rose buds, and the pillow was of Polyanthe Roses, the pink Mignonette. The rockers of the cradle were worked out in white Carnations. There was no foliage about the design. A mound of Roses was made for the cradle to stand on in the centre of the parlour. All coloured Roses were used. It is quite the fashion now to have a frame of flowers for caskets to stand upon instead of the ordinary undertaker's apparatus. For the most fashionable funerals coloured flowers are used to the exclusion of white ones. Several decorations have been made for elderly persons with purple flowers and foliage, purple Asters, Heliotrope and Cattleys, with a mound of green for the casket to be placed upon. The effect is very fine, particularly where there is a pall of Heliotrope—the "Noir" variety. This has to be made with rapidity on account of its frailty.

Dress garniture of natural flowers is all the rage. Gardenias on velvet robes are very stylish for dinners. These are laid down the sides of the open vest. Foliage sashes with tulle dresses are among the daintiest devices. Wedding gowns are trimmed elaborately with natural flowers—but these are always white; white Orchids stand well for this purpose.—*American Florist*.

CLOSE WARDIAN CASES FOR FERNS.

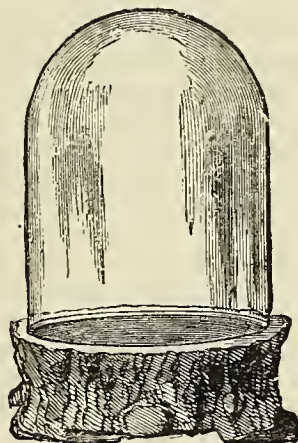
It is surprising the beauty which some of the Ferns assume when grown in perfectly air-tight cases. Recently we saw a magnificent specimen of Killarney Fern growing in a case which had not been opened for any purpose, not even to give water, for a considerable period; in fact, after planting the case was sealed up. In another instance we saw in a friend's house a plant of Asplenium bulbiferum planted in a case similar to that in our illustration, fig. 1., which had not had the glass removed for more than a year. The Fern had entirely filled the glass shade with elegant foliage, bearing large numbers of young plants throwing out their leaves and roots in all directions. The different varieties of Selaginella also grow well in air-tight cases, and some of the larger forms of our pretty Asplenium marinum assume such amplitude and elegance of growth as to be almost beyond recognition, as will be seen by reference to our illustration, fig. 2, which represents a plant of this fine British Spleenwort grown on the above-mentioned plan.

AN ASPHALTE LAWN TENNIS COURT.

THREE years ago we made a court here from the following instructions, which were supplied to us by my employer's brother, a gentleman who is now M.P. for a division of a Midland town. I prefer not to particularise either people or place further. I superintended the carrying out of the instructions, and can bear witness that the court is now played upon almost daily, and that the most expert players select it many times in preference to the grass one which is side by side with it, in consequence of the truencess of its level, the slight convexity given to it by the fall from centre to sides and the liveliness with which the balls play on it. Except one top-dressing of tar brushed into it a year ago, nothing has been done to it since it was first made.

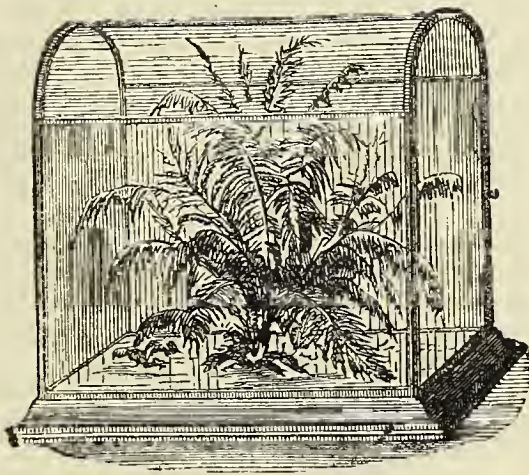
When the site of the proposed court has been decided upon, measure it out (32 yds. by 14), and put

a peg at each corner, run a garden line from one peg to another, and remove the turf from the whole area, afterwards taking up the corner pegs. Then, the ground, doubtless, not being an exact level, find out a spot somewhere at the sides or ends of the court, which is about the average between the highest and lowest part of the site, drive a stout flat-topped peg in here till its top is flush with the turf alongside. The top of this peg is the basis of the levelling operations, which must be done with a spirit level, somewhat after the following manner. First, get the level of the side or end where the basis is, and start from thence. As the levelling proceeds, dig out the soil 7 ins. deep, and work away as seems best and easiest till the whole site is lowered or raised, as the case may be, to 7 ins. below the tops of the pegs. This is best carried out by having a line fastened along the tops of the pegs,



1.—GLASS FERN SHADE

and using a 7-in. measuring stick for correction as the work proceeds. The floor of the court must be then made as solid as possible by rolling or ramming. Next lay on the drainage pipes (3-in.) all round the edge of the floor, and with a few inches fall, so as to converge at the corner where there is the best fall to carry off the water. At each corner small square pits, 6 ins. or



2.—AIR-TIGHT FERN CASE.

8 ins. square, should be made, to have grates put upon them when the court is finished, to carry off the water into the drainage pipes.

Next proceed to fill in, all over the clay floor, about 4 ins. deep, with rubble or coarse gravel (we used clinkers and rubbish from the gas works), and get the surface of this as even as possible, by passing over it the heaviest roller available, that can be worked by men. Then there will only remain the top stratum of 3 ins., to be composed of fine river gravel, free from dust or dirt, to be laid on, first mixed with tar, cold. We used half of small cinders and sand, and burnt it to clear it of dirt, and then riddled it and mixed it with tar. It must be put on at one end the whole width of the piece, and as each yard or two is put on it must be rolled with a light garden roller; fine ashes and sand being sprinkled on to prevent sticking. The workman who puts the stuff on must calculate what it will sink by rolling, and put it on fuller accordingly. The work must go on yard by yard until the other end is reached, and as the level pegs are passed they must be either driven in or drawn out. Nothing more will

be required but to give it time to set, and the more it is rolled the better, with the heaviest roller that can be worked by men. A good time of the year for beginning is about now, and taking advantage of the frosts for carting the rubble, gravel, sand, &c.

As to the quantity of stuff required, let us assume each cartload of gravel or rubble to contain 1 cubic yd., then there would be 9 square yds., 4 ins. thick, out of each load, and thus some fifty loads (at a rough estimate) of rough stuff for lower stratum of 4 ins., and about the same quantity, or thereabouts for the higher. Total, say, 100 cartloads. We used 1½ gals. of tar to each square yard.

If this should be useful to "W. D." I shall be glad, and if anything is deficient as to explanation, I will write again more fully and in detail on the subject if he will let me know his specific wants.—*F. of G. W.*, October 11th, 1886.

NOTES ON LILIUMS—VIII.

L. TIGRINUM (sinensis), the typical species of the Tiger Lily section, was introduced from China early in the present century. In its native home it is said to reach the height of 6 ft.; but I have not seen it nearly so high under cultivation. It may, however, in the more genial climate of its native home, attain that height, and at such is certainly the fullest endorsement possible of my previous observations. In English gardens, 4 ft. high is more usual for it when established; indeed, the whole of them are of one uniform height. Tigrinum produces heads of fiery scarlet with crimson spots; the variety Fortunei is quite distinct from the above in its densely-woolly stems, and later flowering, and also in the orange-scarlet of its flowers, which are also spotted with crimson; then comes the double form, Tigrinum fl. pl., certainly a perfectly double Lily, though, in my humble opinion, far less effective than either of the single forms.

Those among your many readers who are growers of Lilies, and who admire the stately grandeur of the auratum, and the bold massive flowers of the grand trumpeters (as I will call the longiflorums), or who prefer the vivid colouring to be found in the scarlet Turk's Cap, or the beautiful and chaste shades only met with in Krameri, will not, I feel sure, find the height of their ambition in the mere duplication of the petals of this Tiger Lily, which, when fully expanded, bears a strong likeness to a star fish; viewing it among the rest it has the effect of being unhappy, and not calculated to leave a good impression on the mind. The searcher after novelty will here meet something curious, for by no stretch of imagination dare I call it beautiful. I have not found any more durable than the single forms, for my experience is the reverse, as the single forms of the Tigers will invariably expand the half of their buds in water; but the double refuses to do this, in short, this double Tiger Lily is rarely admired, especially when grown side by side, and where the singles show themselves to a great advantage. In colour it is very similar to Fortunei.

The last of the Tigers, and certainly the grandest of them all, is the variety called Splendens, a well-named form which eclipses all the rest; it is a bold and effective plant, having a pyramidal head of fiery scarlet-crimson spotted flowers; it grows fully 6 ft. high when established, and has blackish somewhat shining stems, by which it may be distinguished from all the rest; it is a noble Lily, and should be possessed by all who prefer to have really good and noble, as well as useful flowers to adorn their gardens. The only other variety of the Tiger Lily is that known as præcox erecta, said to be earlier in bloom, and having erect flowers; this I only know by name. The whole of the Tiger section may be recognised by their bulbiferous, and, in most cases, woolly stems; the flowers are either scarlet or orange, or a mixture of both, and spotted with crimson; they are also reflexed, with the exception of the double variety.

The whole of this group are now in the finest possible condition for removal, and anyone intending to make new plantations should do so without further delay. The growths are decaying, and the majority of this season's roots likewise, and at no stage in their existence do they remove without feeling it less than at the present. It is therefore that I urge their being planted at the right time, and thus adopt the first grand step to ultimate success. They should be placed

six or eight in a clump, so as to produce a good effect, first well digging and manuring the ground, and finally place some sharp grit, such as road-sweepings, about the bulbs, allowing the latter to be some 5 ins. or 6 ins. below the surface. I may remark, ere closing, that deep digging is very essential to this Lily, and if it be expected to allow them to remain for years, they will be better at 8 ins. deep; and after covering in the bulbs, place a light dressing of well-rotted manure 3 ins. above the bulbs, so that the multitude of stem-roots which are annually formed may be benefited, and which may with advantage be renewed every second year.—J.

ROSES OF THE SEASON.

SOME time since we promised a few notes respecting the Roses which had been most conspicuous at exhibitions this season, or that had succeeded best in gardens, and as the time for planting has now arrived, it will be a fitting opportunity to bring the matter before our readers; not that any excuse is necessary for a little gossip about Roses, for that is always agreeable to many persons, but just now attention will be specially turned to the selection of varieties, and this will render a few jottings doubly acceptable to amateurs, who may not, perhaps, have had the chance of visiting many shows or inspecting many collections.

The late spring, the cold and wet weather experienced in most districts when the Roses should have been far advanced towards their flowering period, retarded them greatly, and at one time the prospect was particularly gloomy. Happily, a change came before it was too late, and though the earliest exhibitions were not so successful as might have been desired, ample amends were made for all the deficiencies before the season closed. A period of hot weather brought the Teas out in strong force and excellent condition, and though, perhaps, amongst the hybrid perpetuals there were not so many giant blooms, yet in colour and freshness the average quality was highly satisfactory. Much compensation for early defects has also been derived from the long continuance of the supply, for very seldom do we have Rose blooms so abundant late in the season as has been the case this year. Even now, in the middle of October, we are still cutting buds and blooms in plenty out of doors, not, of course, so fine as we had a month ago, but they seem all the more welcome because other flowers are getting scarce, and because we know that they cannot last much longer.

Referring to the exhibition Roses first, we will take a dozen of the leading hybrid perpetuals in alphabetical order, and this brings A. K. Williams to the front, a position to which it is well entitled on its own merits. It has been well shown this year, and it is quite evident that those who found it shy and unsatisfactory at first are overcoming the difficulties of its culture; while its superbly-coloured blooms, when in their best condition, are as near perfection as can be imagined. It is now nearly ten years old, and it is quite time that it should be understood; but the variety still displays some curious freaks occasionally. For example, we have two plants on the same stocks, and in the same bed, with no visible difference between them, except that one grows strongly and flowers well, while the other makes a weakly growth, and only produces poor blooms. Of course, it is quite probable that some constitutional difference in the stock has caused this, and that is the only way in which we can account for the comparative failure in the one case. Several other plants have been excellent this season, and we have had the best blooms of A. K. Williams that we have yet obtained.

In Camille Beruardin, Captain Christy, and Charles Lefebvre, we have a trio of capital exhibition Roses that have figured prominently in the winning stands this year. They are all well-tried varieties that have taken their places in many collections, the first-named being especially valued for its fragrance, and the other two, when in their proper condition, add considerable weight to any box of H.P.'s.

François Michelon keeps its place in the favour of exhibitors, and has been represented in good character at the 1886 shows. Substantial blooms are obtained without much difficulty, and, as one of the darkest of the light Roses, it is a capital variety. The next on our list is a capital variety, one of those that Mr. Bennett, of Shepperton, has given to the Rose-growing world, namely, Lady Mary Fitzwilliam, which is now ranked amongst the H.P.'s, although still

catalogued as a Tea. Few who saw the box of magnificent blooms, shown by Mr. Bennett at the National Rose Society's Exhibition, at South Kensington, this year, could fail to be struck with its beauty. Its merits have, however, been discovered for several seasons, or we should not find it in so many stands as is now the case, and it is surprising to find a Rose in four years taking its place amongst the best of exhibition varieties. Following this, comes our old favourite, La France, which combines qualities possessed by few varieties; it is of vigorous habit, a most free and continuous flowerer, a delicate colour and exquisitely fragrant. For exhibition it is useful, and in the garden it is invaluable, whether in pots or out of doors, and it amply deserves to be, as it is, the most numerously represented in collections. Another light-coloured Rose of first-rate quality, is Madame Gabriel Luizet, which has come out well this season; its charming fragrance not being the least of its attractions. Marie Baumann as a richly coloured variety, has been in capital form; Le Havre, a fine dark vermilion variety; Duke of Edinburgh, dark scarlet; and Xavier Olibo, extremely dark, have been represented in good condition, and complete the dozen of the best H.P.'s. Another dozen of fine varieties are the following: Horace Vernet, Marie Rady, Mons. Noman, Merveille de Lyon, which, although only sent out in 1882, is gradually gaining favour, and as a white Rose has a good effect in a stand of blooms; Beauty of Waltham, Marguerite de St. Amand, Violette Bouyer, which, though not so numerously shown as some of the others named, has yet been seen in excellent condition, and is destined to take a high place amongst exhibition Roses; Marie Finger, Abel Carrière, Alfred Colomb, Etienne Levet and Heinrich Schultheis, may be added to complete the second dozen, and the last named, although a recent introduction, possesses qualities that will commend it to Rose growers.

As already remarked, the Teas have been exhibited in strong force this year, and they have formed very powerful additions to the beauties of the shows. A warm, not too damp, season suits these varieties to perfection, and very rarely have they been seen in better form. Of the true Tea varieties, the following dozen have proved very satisfactory, and can be recommended:—Anna Olivier, Catherine Mermet, Comtesse de Nadaillac, Etoile de Lyon, Innocente Pirola, Jean Ducher, La Boule d'Or, Madame Cnsin, Niphotos, Marie Van Houtte, Souvenir d'un Ami and Souvenir de Paul Néron. Beyond these might be named Rubens, Madame Willermoz, Madame H. Jamain, Madame Bravy and Perle des Jardins, which have been well shown; while the invaluable Noisette, Maréchal Niel, it need scarcely be said, has again amply proved its merits.

A review of the new varieties that have made their mark during the year will be found in another column; but the list is not a long one, for novelties of sterling merit among Roses do not come in overwhelming numbers.

AN EVENING WITH FERNS.

(Continued from p. 90).

OUR houses, devoted to stove Ferns should be such, that though a good share of light is at command, it is an easy task to shade the plants with roller blinds. I consider shading thus applied much better than permanently covering the glass with paint, whitewash, summer-cloud, or a mixture of one's own choosing. Under such continuous shade many forms will grow rapidly, and push up fronds in clusters or singly in rapid succession; but the growth thus formed is not at all enduring. The absence of clear light prevents the fronds from becoming as sound and mature as is desired, and fronds taken from such plants for using with cut flowers will rapidly shrivel, to the annoyance of the cultivator and spoiling of the effect in the otherwise interesting display. The form of house it is desirable we should set apart for the culture of Ferns is, perhaps, of less importance than for any other class of plants. All flowering plants need at certain seasons some clear sunlight, as much for the maturing of growth already formed as for the perfection of the buds and blooms as they gradually develop. In fact, so accommodating are the great majority of the species of Ferns, that a house where almost all kinds of plants have hitherto failed to give satisfaction, is often just the place where the plants we have under our consideration will luxuriate the

most readily. Moisture, too, must be always present; and that this may be continuous and plentiful, the side and centre stages should be covered with a moisture-retaining material, so that thorough drainage may be given to the plants, and also the humidity so essential to their well-being. The temperature needed for a house set apart for stove Ferns should be about as follows:—Commencing with the month of March—during which season the majority of Ferns needing it may be potted—the day reading should be about 60°, rising just a little if the sun shines brightly; the night temperature 50° to 55°, according to the state of the outside atmosphere—mild or frosty. During the spring months, when growth will be rapid, 56° to 60° should be given at night, and from 65° to 70° in the day. By this time the shading will be often called into requisition, and if this is used ere the temperature has risen very much, but little air will be required.

Ventilation must be resorted to as the temperature increases; but it should be equally spread over the whole of the house, so that in no part is there a rapid rush of cool air upon the tender-growing fronds; for if the fronds are thus acted upon by rapid changes of temperature the outer edges of the pinnae will quickly turn brown and shrivel, to the complete disfigurement of the fronds, and, of course, a corresponding loss of beauty to the plant. During the summer, efforts must be made to prevent the Fernery getting too hot through sun-heat. At this period the fire may be entirely dispensed with. The months of June, July and August are almost always hot enough to permit this change to take place. In the autumn, the temperatures may be gradually lowered, so that by December the day reading will be about 60°, and the night temperature 50°. If intensely cold weather should prevail during the winter, lower readings would be better, and a continuous run of days and nights when much fire-heat is given, is almost certain to cause black fungus to appear among the plants; perhaps attacking such as Blechnums, Lomarias, and several of the Pteris. The soil required for potting Ferns is, as a rule, very simple—peat, loam, and silver sand, and some potsherds broken small, or some small charcoal, or even a dash of cinders scattered in with the mixture is suitable for most species. Still there are not a few that will succeed admirably in a mixture of loam, leaf-soil, with sand and one or other of the loose materials just mentioned, worked in with the compost. Clean pots must always be used in potting, which should be liberally crocked to ensure good drainage. When the potting is done carefully, water the plants with a rose can. When the first watering has passed away water again, to give the whole a thorough soaking, and do not water for a day or two, until the soil plainly indicates a healthy state of dryness. Syriuging may be given morning and evening, taking care, however, that the Adiantums do not get an unduly heavy share of water on their fronds. If the Adiantums can be grown in one part of the house they are better under command in this matter, and it is found that these lovely maidenhair forms will succeed admirably without any moisture overhead. It is very probable that some of the small plants will require potting a second time during the season. When that is the case do not delay the operation beyond August; they will then have ample time to fill the pots before the dull days of winter come upon us.

It is scarcely in my province to enumerate the forms and species that should be cultivated in our houses; but this much I would say, if you have room, and your patrons are particularly fond of this class of plants endeavour to get as many sorts as possible. If, however, cut flowers are much in demand, and a correspondingly plentiful supply of Fern fronds, then by all means grow a larger quantity of those varieties that are most useful for this purpose. Here I mention *Adiantum cuneatum*, *tenerum pubescens* and *Capillus-veneris magnificum*; *Pteris gracillimum*, *seriulata*, *Davallia dissecta*, *Nephrolepis* in variety, *Blechnum orientale*, *Onychium japonicum*, and others whose fronds are of a lasting character when severed from the plant. In speaking of greenhouse Ferns, there are large numbers that are now found to succeed much better without fire-heat, except during the winter months. Among this class I would place almost all the *Dicksonias*, *Cyatheas*, *Alsophilas*, *Cibotiums*, and other tree Ferns of a like nature; also the beautiful *Thyrsopteris elegans*, with a creeping rhizome, and fronds in many respects similar to a *Davallia*, which

will attain a length of 3 ft. to 5 ft. The greater part of the *Gleichenias* would also come under this section, the principal exception being *G. dichotoma*, which should have just the warmer temperature during the winter months. The *Gleichenias* may truly be called the aristocracy among Ferns; they are the most handsome when placed upon the exhibition stages, and are, withal, excellent travellers. Such forms as *flabellata*, *dichotoma*, *speluncæ*, *rupestris*, *Mendeli* and *heciophylla* may be grown into large specimens, often measuring 5 ft. to 6 ft. high, and 10 ft. to 12 ft. in circumference. Greenhouse temperature, as stated above, is most suitable for these; for being natives chiefly of Tasmania, New Zealand and Australia, and growing in cool, shady positions, it will be readily admitted that not much heat is required. They are, for the most part, very shallow-rooting plants. The wiry, thread-like rhizomes run quickly over the surface of the soil, emitting a quantity of small roots which do not strike very deeply into the compost; for this reason these are better grown in pans, using plenty of potsherds and charcoal or clinkers in crocking. The soil these prefer is loose open peat, with sand, &c. Plenty of water must be given, for in such a mixture it will pass rapidly through, and the soil will not become sour. The *Dicksonias* and other tree Ferns must have greenhouse temperatures; of course, shading will be given to this section, as to the stove. The syringe must be used on the stems of these plants as the roots push out all along the length, and moisture thus applied assists very much in the development and perfect growth of these grand specimens from the islands of the Southern Seas.—*W. Swan.*

(To be continued).

GARDENING NOTES FROM SCOTLAND.

Quality of Grapes, &c.—We have often read—and very lately, too—about the worthlessness of certain kinds of fruits, remarks of so sweeping a character that very pliable minds are apt to be misled, and often fall into the error of condemning what they have not been able to prove, and never pursue a proper course which would give the knowledge sought after, but accept the verdicts of some distinguished cultivators, whose experience with certain things, when committed to print, show that they never have given an impartial trial to the fruits they so strongly condemn. We know those who years ago have denounced certain Grapes as being worthless, but are now growing them extensively, and such are also the delight of proprietors who have had them served from January onwards, after being ripened with a high temperature, instead of having the same fruits supplied during September or October. We would give as examples the hostile criticisms of Lady Downes, Gros Colmar, Barbarossa, Raisin de Calibre, Black Morocco and some others of the most valuable of late Grapes, which had unfavourable comments passed on their quality when seen on exhibition tables during the autumn months.

The same might have been done with some of the finest kinds of Pears and Apples, which are not fit for use till long after they have had their requirements supplied by the trees on which they grew. We read in a contemporary, that certain kinds of fruits, such as kitchen Plums and large showy late Grapes are realising double the prices which are paid for good Hamburgh Grapes and Greengage Plums. It is wisely asserted, that such facts are by no means a guarantee of quality. It is well known that the multitude of casual buyers have no idea of quality beyond appearance, and, therefore, buy what is of finest exterior. Utter nonsense is sometimes carried to exhibition tables, and while many exhibitors would be cautious how they avoided large coarse Cabbages and Potatos, of suspicious size, to make up their collections, they would not hesitate at placing unripe Gros Colmar, Gros Maroc, Trebbiano, and other kinds (in condition quite dangerous to eat), and then clamour for the prizes, and denounce the judges for awarding them to excellent but smaller examples of finely-matured Black Hamburghs, Black Muscats, and others in season, as superior to the winter and spring kinds then, as gold is to silver. Did space permit, we could give a larger catalogue of cases bearing on these points—extending over a period of twenty years—which would show that

tuition, in the merits of fruits generally, has not emerged from its infancy since our earliest recollections.

We note that reference as to the quality of Pines is made, and would say that a Queen Pine of prime quality weighing 5 lbs. to 6 lbs. is of greater merit than a Providence at 10 lbs. to 12 lbs., or even Smooth Cayennes at 8 lbs. to 10 lbs.; and yet we saw much dissatisfaction by an exhibitor who tabled a Queen Pine, 1½ lbs. weight, and another kind—green as grass, also small—which was quite worthless, while his opponent had a pair of excellent fruits, which were of more value than all that was in the unsuccessful exhibitor's collection. The Grapes, too, in the successful lot were made up with such grand kinds as fine Dukes, Hamburghs, and Marocs—all excellent. A fourth lot, perfectly sound in berry, but stale, were cancelled, all balancing at 6 to 4 against the fair samples, which had to give way. Some exhibitors forget that big Plums, Morello Cherries, and such common fruits, however excellent, cannot "floor" the higher class of fruits—Pines and Grapes of best kinds—which require skill and expense to produce them. Often the finest common fruits can be picked off trees growing wild, which never had skill expended on them, except at planting time, half a century ago; and it would be unreasonable for censors at exhibition tables to put them on the same level with those of ten times their value, and produced by great skill, patience and anxiety. We have had placed before us, by a friend, examples of Duke of Buccleuch, Mrs. Pearson and Golden Queen Grapes; all three are excellent in appearance and flavour, Mrs. Pearson coming next to the Duke in quality, because of its wholesome, digestible and luscious substance.

The Queen is firmer in substance, finer in appearance; but were we asked which we would prefer for dessert, Mrs. Pearson would be chosen. Palates which are able to discern the finest qualities are all loud in praise of the Duke, and would eat it almost in preference to any other Grape. The fact that there are very wholesome Grapes, and others which can be digested but by few, will always prompt proprietors to choose certain kinds, and have them in their season; therefore, late unripe Grapes, only suitable for use in winter and spring, will never compete, except in market, against first-rate examples of high-class kinds, thoroughly ripe and in their season.

Just one other shot and I have done. I observe with pleasure the remarks of Mr. Crump, Madresfield Court. The judgment of one whose experience warrants such opinion as given by Mr. C. on the cracking of Madresfield Grape, p. 92, will be received with weight; and judging from the experience of others hundreds of miles apart, I would be strongly inclined to endorse the causes of "cracking" as adduced by your able correspondent. The first examples which I saw of this Grape was at the great provincial exhibition held by the Royal Horticultural Society at Leicester; it was then being sent out. I bought a two guinea cane, but my success with its cultivation was not great. Others to whom I recommended it did it well, experiencing no difficulty with cracking or anything else; and no care being taken to avoid any evil proclivity natural to the kind, rendered the facts all the more extraordinary.

Once, when visiting the Royal Horticultural Society's gardens at Chiswick, I saw a Vine of this kind well loaded with finely coloured fruit free from cracking, and I think there was no heat applied to the structure—a house put up on the "Fountain" principle, but then fallen into disfavour—but abundance of air was kept at front and back, showing how much it liked dry airy treatment at colouring time. In addition to a dry atmosphere, we would also keep the roots free from excessive moisture at ripening time, and also prevent root action from extending beyond the artificially made borders. In some low-lying parts much mischief is done to other Grapes by causing cracking and premature decay as well as Madresfield Court. Mr. Ramsay, at Fordel, whose gardening we briefly referred to lately, does this kind well. He told me that he cropped heavier than usual, and, certainly, he has stuck to his practice this year, as his crop was enormous, and we did not see a cracked berry on any of his fine bunches. We have acted on the free ventilation and dry border system this year, and I think we have not cut out more than half-a-dozen cracked berries. Extra thinning has been practised, the berries having grown to enormous size last year, and so they have done this season, with colour very nearly perfect.—*M. T.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

Where Vines are grown in the greenhouse, conservatory, or even in an unheated house as we have before noted, the Grapes should now be ripe, and there will, probably, be some hesitation, if the crop is a good one, as to what would be the best mode of keeping them. Grapes last in condition much better upon the Vines than in any other way if they can be properly attended to, but this sometimes is a considerable difficulty in a house that is devoted to plants of a miscellaneous character. The Grapes require a cool temperature, a rather dry atmosphere, and avoidance of evaporation from the floor, paths or stages. When plants are grown in the same house these conditions can scarcely be provided against, and, in consequence, the berries either shrivel quickly from the heat being too great, or they become subject to mould and mildew from the excessive atmospheric moisture. It will, therefore, be well to keep the plants out as long as possible, and frames can be utilised for the purpose, so as to give the Grapes a chance of colouring thoroughly and perfecting their flavour. The finishing is much more difficult than the growing, as the plants do not interfere with the success of the Vines in the early stages. The bunches must be looked over carefully, removing any decaying or mouldy berries; and ventilate the house freely whenever the weather is favourable, as this assists greatly in the ripening and colouring of the Grapes.

When it is absolutely necessary to cut the bunches, sever them from the Vine with a portion of the wood attached, 6 ins. or 8 ins. long, then if bottles be suspended, slightly tilted on one side, and half filled with water, the stem can be inserted, and the bunches will hang clear. Place the bottle in a room where a cool dry temperature can be preserved, not falling below 45°. All the late Grapes will keep for months in this way. It will be necessary to empty the bottles occasionally, and refill with fresh water; also examine the bunches frequently, removing mouldy berries.

THE FLOWER GARDEN.

Continue giving attention to general clearing up, rolling lawns and walks when not too wet, and prepare the beds that are to be devoted to bulbs for spring flowering. It is a good plan to get these bulbs planted before excessive wet has saturated the soil, or frost comes, and the sites should therefore be selected, and the soil dug at once. Choose as warm and dry a position as possible; for if bulbs be placed in beds imperfectly drained, or too heavy soil, success cannot be expected. The beds should be well raised, and consist of rather light vegetable compost; planting the larger bulbs about 2 ins. beneath the surface, the others nearer the surface, and cover with a thick layer of cocoa-nut fibre refuse; this is better than planting the bulbs deeply to render them safe from frost; but the soil must be well pressed around them, or they may be forced out of their places during growth. Hyacinths, Tulips and Crocuses are the best for formal beds, but by all means have some clumps of Crocuses scattered about on slopes or under trees on the lawn, together with plenty of the bright yellow Winter Aconite, which is so charming in early spring, together with Anemones of the nemorosa type.—*Scolytus.*

TOBACCO CURING.

MANY years ago it was customary for gardeners to have their annual tobacco patch, and oftentimes it might be seen growing as an ornamental plant in the flower or shrubbery border. I used to grow for years a sufficient quantity to serve me for fumigating purposes, and with tolerable success. Of course, the seed was sown in heat, when large enough pricked out into pots and pans, and when larger grown, potted into small pots, and treated in precisely the same way as were similar half-hardy plants that were raised from seed, and destined for turning out after all danger of frost was past. In planting out, the plants require plenty of room to enable the operator to conveniently get amongst them to water, as occasion may require him to do so in very dry weather, more especially during the early stages of growth, and before the plants are thoroughly established.

The gathering of the crop used to be done periodically—i.e., a first gathering of leaves took place when the lower ones had fully matured their growth; these were carefully taken from the plants, generally about three leaves—the lower ones—leaving the others to grow larger, which they soon do, and are gathered in succession until the whole crop is secured.

My experience regarding the whole process of curing Tobacco, is that the leaves must be judiciously and properly harvested to ensure high quality, thus rendering it, when ready for use, a first-class article. The drying in the first instance is of great importance, and must not be too much hurried or delayed; the temperature must neither be too high nor too low, neither too arid nor too humid; and should the cultivation of Tobacco become a commercial speculation, means and appliances must be brought fully and fairly into play to ensure a successful issue. My first Vinery used to be at liberty by the time that the Tobacco was in a fit state for gathering, and this was my drying house, the whole available space being used for that purpose. I considered that the partial shading of the foliage of the Vines to be advantageous, preventing the leaves from being exposed to the scorching influence of the sun; in dull damp weather the drying process being greatly accelerated by the application of heat, at the same time giving abundance of ventilation. Having the leaves sufficiently harvested, my practice was to carefully collect and arrange them in parcels, book-like, and about 2 ins. thick; these were placed transversely in a large box or boxes, something like 2 ft. by 4 ft., according to circumstances and requirements, the whole being pressed by a board with bricks or stones on the top; in the course of a very short time, if the leaves are in a good condition, a gentle fermentation takes place, and continues for a short time, after which it is stored away for use. I may here remark, that an old acquaintance of mine, nearly fifty years ago, used to make some very good cigars, from leaves cured for his own use; at that time I was very much opposed to the now prevailing habit, but my views have since become slightly changed.—*George Fry, Lewisham.*

THE NEW ROSES OF 1885-86.

A RELIABLE list of the best varieties of the new Roses of the last two years will be found in the following:—H. P., American Beauty, deep rose, large globular flowers, beautifully scented, and very free; reported to be very good. H.P., Auguste André, light silvery pink with rosy centre, distinct in colour, and decidedly promising. H.P., Clara Cochet, clear bright pink, good in shape, and very promising. H.P., Brilliant, bright scarlet-crimson, a good button-hole and garden variety. H.P., Charles Dickens, a very free rose-coloured variety, will make a good garden Rose. H.P., Climbing Hippolyte Jamain, bright rosy carmine, of vigorous climbing habit; an excellent crimson climbing Rose. H.P., Climbing Pride of Waltham, light salmon-pink, cheerful in colour, vigorous and free. H.P., Climbing Mons. Boncenne, deep velvety crimson, good climber. H.P., Comtesse F. de Bellauger, rosy flesh, shaded with deep rose. H.P., Florence Paul, scarlet-crimson, very bright and free; a good garden Rose. H.P., Her Majesty, bright flesh, a Rose of great beauty, but said to be spare of bloom though a very free grower. H.P., Iulgo Jones, dark rose shaded with purple; said to be an excellent free exhibition Rose, and a good autumn bloomer. H.P., Longfellow, rich violet-crimson, having the form of Charles Lefebvre, very promising. H.P., Madame Baulot, dark crimson-carmine, large, full, and of fine shape. H.P., Madame Mussett, bright clear red, large, and of fine form; said to be a more vigorous Marie Baumann. H.P., Madame Norman Neruda, light cherry-carmine, sweetly scented, one of the best late flowering Roses. H.P., Madame Villey, bright red, vigorous and free. H.P., Madame Rebatel, deep rose, shaded with lighter rose. H.P., Pride of Reigate, a white striped Comtesse d'Oxford, very pretty when in good form; said to be fairly constant for a sport. H.P., Princess Amélie de Broglie, bright clear rose, good globular form. H.P., Raoul Guillard, very bright red with a deeper shading, large and fine. H.P., Souvenir de Eugene Karr, scarlet and crimson, good shape. H.P., Souvenir de Victor Hugo, bright rose.

Tea-scented:—The Bride, an American sport from Catherine Mermet, and promising to be a very useful variety; and Sunset, a rich tawny saffron-coloured sport from Perle des Jardins, also of American origin, and a thoroughly good variety. Claude Levat, rosy carmine, striped with purple, large and full. Comtesse de Frignenses, bright canary-yellow, in the way of, but more double than Isabella Sprunt. Comtesse Horace de Choiseuil, light rose, large and good.

Edmonde Biauzat, light rosy pink, globular; distinct and good. Marguerite Ramet, China-rose, veined with deep carmine, free. Marquise de Vivens, light pink. Souvenir de Victor Hugo, rose centre, with the outer petals suffused off into yellowish blush; and Souvenir d'Admiral Courbet, bright red, small flowers, very freely produced.

In the usual Rose catalogue just issued by Messrs. Paul & Son, of Cheshunt, Mr. Geo. Paul supplies some welcome comments on a few of the foregoing Roses. He states that "Her Majesty, in the case of many plants, showed late autumn flowers, proving it to be a perpetual, as we think; but any wishing to see flowers of it in their gardens next year we should advise to plant strong ripened plants of it this year." American Beauty has struck us by its fragrance, wonderful freedom, and continuous habit of flowering. Grown in pots it is a fine Rose. Madame Norman Neruda has certainly gained in reputation this season as an exhibition Rose; a little late, but fine in autumn and sweetly scented. Longfellow and the striped Pride of Reigate will be good Roses in the garden; distinct, perfectly hardy, and new in colour. The best of the French Roses are Clara Cochet, sent out by Lacharme, an improved Catherine Soupert. Auguste André will be an addition, distinct in colour to the light Roses; Madame Baulot, a good new red (and we want good new reds); Raoul Guillard promises also to add to these, whilst the rose colours are reinforced by two promising kinds—Princesse Amélie de Broglie and Souvenir de Victor Hugo. Amongst the new Teas, Comtesse de Frignenses, yellow, and The Bride, white, have been remarkably fine at Cheshunt; Souvenir de Victor Hugo and Comtesse Horace de Choiseuil also are promising. Others are Claudius, Edward de Bianzat, Marquise de Vivens, Marguerite Ramet, Souvenir d'Helene Lambert, and Souvenir d'Admiral Courbet, completing the list of the new Roses of the year. In other classes are the new wonderfully free-flowering hybrid Tea, W. F. Bennett; Veitch's double miniature Lucida, Rose Button; the new pink Polyantha type, Max Singer, a vigorous climber; and the free pink kind, Floribunda."

The beginning of the Rose growers' year is signalled by the reception of the nurseryman's catalogue of Roses, and he should at once carefully his examine stock to see if any plants need replacing, or if any novelties of the past two years are, in his opinion, worth adding to his collection; if any, order these at once to secure good plants. By the end of the month any fresh ground that it is intended to plant should be cleared, and all necessary manures or compost be placed in readiness for use in trenching. Manure may be prepared by turning it over several times to half rot it, and if the chance occurs for purchasing turfy loam from any neighbouring building land it should be seized.—*R. D.*

NOVELTIES AT CLYFFE HALL.

WE never pay a visit to Clyffe Hall, Market Lavington, without having the pleasure of meeting with something good and meritorious; indeed, we expect to do so as a matter of course, and this year, certainly, our friend Mr. Lye has a few good things, of which he may feel justly proud. First and foremost to attract our attention are the Fuchsias, in regard to which it may very truly be said that Clyffe Hall gardens stands unrivalled, a proud position it has nobly held for a good many years, as many of your readers can testify who have been in the habit of visiting the leading shows of the West of England. The under-mentioned varieties are already in commerce, having been sent out during the current year:—

James Welsh.—A really fine exhibition variety; tube and sepals bright rosy red, of good form and handsomely reflexed; corolla pale maroon shaded with bright purple. It has also the additional recommendation of being a strong vigorous grower, as one fine pyramidal plant we saw fully proved, being nearly 6 ft. high, and of the current year's growing. Taken altogether, we regard this variety as one that will hold its own in the front rank for some few years to come.

Mr. F. Glass is also an acquisition to the list of dark sorts; colour, bright deep crimson tube and sepals, purple-maroon corolla, the two colours in juxtaposition forming a beautiful contrast; medium size, a very fine and distinct variety.

Emperor.—This is eminently adapted for growing against pillars in the greenhouse or conservatory on

account of its long pendulous shoots, at the points of which are produced in profusion handsome flowers with bright red tube and sepals, the latter long and broad, maroon corolla, shaded with purple. Amongst the light varieties we have the following:—

Lye's Perfection.—Creamy white tube and sepals, which are delicately suffused with pink and handsomely reflexed, bright carmine corolla, good form and very showy.

Mrs. F. Glass is a decided acquisition, and should find a place in all collections; colour, creamy white tube and sepals, deep pink corolla, tinted with violet, good form and substance.

In this class we may also mention the following as possessing sterling merit—Diadem, Beauty of Lavington, Emily Bright, Lye's Excelsior and Nellie.

Amongst vegetable products a new round Potato named Clipper is worthy of notice as one that is probably destined, in the future to occupy a prominent place on the exhibition stands. Of its table qualities we cannot speak in too high terms, having enjoyed thoroughly at dinner some of Mrs. Lye's cooking. It need hardly be said, however, that Mrs. Lye is quite "M.A." at putting a good Potato on the table.—*J. H.*

COOKERY FOR INVALIDS.*

THAT we may have too much of a good thing is proverbial. And yet there are some good things of which it is not possible to have too much, among them that tender solicitude for the sick of which we hear so much more in our day than an elder generation ever heard. Both in public institutions and private houses "sick-nursing" has now risen to the level of an Art, and like other Arts in this age of energy, it has found many exponents of its alphabet and its rudiments. So that anyone who aspires to cultivate it can choose among many initiatory manuals, which will instruct the reader in language unmistakeable, not only what to do in the sick-room and how to do it, but also what not to do and why to do it not.

The sick-room itself, however, is not the only sphere in which those who would cherish the sick must be prepared to act; every department of the household is laid under contribution where illness is a visitant, and notably the kitchen. Whether the patient is getting better or getting worse, the question of nourishment is a crucial one, and in many cases its difficulty balances its importance. Invalids are not generally hungry people; they are apt to take food only because it is prescribed, not because the appetite suggests it, and moreover to disobey the prescription whenever they can. Monotony wearies them, quantity repels them, a very pronounced flavour disgusts them. Yet the skill of the doctor and the appropriateness of the medicine will avail but little if suitable nourishment is not regularly administered, and there is much truth in the saying that what sick people *fancy* is what does them good. Hence to secure the relish of the patient for the delicacy proffered is a cardinal point, and as sameness palls on a fastidious palate, a variety of tit-bits is as essential as the seductiveness of the tit-bits themselves. Practical experience alone can provide such a variety, since it is worthless unless it can be vouched for in detail, and Miss Barbara Thomson, a daughter of Mr. William Thomson, of Clovenfords, has compiled, and Messrs. Blackwood & Sons have published a little book embodying precisely this kind of experience, to which it is to be hoped and expected that the public will grant a reception in accordance with its deserts. Buyers of the book will find a copious bill-of-fare, catering for every stage of invalidism, from the prostration that sighs over even a spoonful or two of Peptonised Milk Gruel or the morsel of cool jelly, up to convalescence within sight of health, when the eager patient could eat much more than he may eat, and the delicately broiled chop seems to him cut from absurdly undersized mutton!

In her brief preface Miss Thomson expresses a hope that her collection of "recipes which have been proved and found successful may be helpful to those whose duty it is to provide for the sick and suffering." One thing only is necessary to realise this hope, and that is that the admirable little book shall be introduced to those for whose benefit it was written, and no one who has noted the care that marks its compilation can fail to wish it and to predict for it a large and always increasing circulation.

*COOKERY FOR THE SICK AND CONVALESCENT. By Barbara Thomson, Tweed Vineyard, Clovenfords. Edinburgh and London: W. Blackwood & Sons.

A CONFERENCE ON TOADSTOOLS.

THE sketch published herewith has been drawn as an illustration of Spencer's lines in the *Faerie Queen*—

"The grisly toadstool grown there mought I see,
And loathed paddocks lording on the same."

It is a very old-established belief in many districts that toads commonly sit upon fungi in the manner illustrated; this idea has arisen from a misunderstanding

that of *Lycoperdon* for puff-balls—shows that there was once a belief that these fungi, too, arose from the dung or "stool" of the wolf; and *Elaphomyces*, a truffle, from the dung or "stool" of a stag. Spencer, as is shown by his use of the word "lording," imagines his toads enthroned on fungi. It is curious that "the toad, ugly and venomous" was yet said to "wear a precious jewel in its head." This was the toadstone, or stelon, which was said to have the power of curing the bite of a "rat, wasp, spider, or other venomous

meaning that the fungi naturally absorbed poisonous matter from the positions given. Pliny says, if serpents even breathe upon toadstools the latter imbibe the "poison." Toads being much commoner than "serpents" in northern Europe, the baneful qualities of bad fungi were credited to the poor inoffensive toads, or, to use Spencer's words, the "loathed paddocks."

Conferences on Toadstools are every year, in the month of October, frequent, enjoyable and very instructive. Fungi are as well known in England as in



A CONFERENCE ON TOADSTOOLS.

of the meaning of the word "toadstool" or "paddock stool." One meaning of the word "paddock" is "toad," and in old times, when the toad was looked upon as ugly and venomous, poisonous fungi were supposed to spontaneously arise from its dung; the second syllable, "stool," being really the old word which is synonymous with dung, or the place where dung is laid down. Poisonous fungi were, in short, supposed to grow in places where the poisonous trail or dung of some venomous animal had been deposited.

In some districts, toadstools were known as "toad's-caps," as if toads sometimes took refuge under poisonous Mushrooms. The botanical names of some fungi—as

beast"; the toad itself, however, not being included. The toadstone also gave warning of the presence of poison by changing colour, and, strange to say, by "sweating"; toadstools make some people "sweat" badly. Suppositious toadstones may be seen in collections; but they are too uncommon for every fungus-eater to acquire one as a talisman. A suggestion was once made that "toadstool" should properly be printed "todstool," the word tod signifying death; toadstool, however, is correct.

Nicander, who wrote B.C. 185, says that toadstools grow on "the viper's deep hollow track"; Dioscorides that they grow "near serpents' holes"; both authors

any part of Europe; indeed, British mycologists are probably ahead of their continental brethren. There are in Britain nearly 800 species belonging to one genus of fungi alone, viz., the genus *Agaricus*. Owing to the vast and ever increasing number of species, an immense amount of time has been spent on classification alone, to the neglect of anatomy, physiology and other branches of study; the number of species is so enormous that if any student wishes to learn the names only of British fungi, he will, probably, never be able to properly learn anything else.

The fungi shown in the illustration are *Agrius fastibilis*, a toadstool of the worst class. It is highly

poisonous, and sufficiently like a Mushroom to be often mistaken for it. As if for pure and unmitigated devilry, this fungus sometimes grows side by side with true Mushrooms, on Mushroom beds, a pretty case of "mimicry"—a Satanic organism mimicking one of nature's best gifts.—*Worthington G. Smith, Dunstable.*

CHOICE DECIDUOUS TREES FOR SUBURBAN GARDENS.

DURING half-an-hour's walk in any suburban district much may be seen of the way in which many villa gardens are planted to arrest attention. Here and there instances of judicious planting are met with which will please the most fastidious, but in too many instances the incongruity displayed by the ill-assorted assemblage of Elms, Limes, Poplars, Sycamores, Chestnuts, &c., planted by the "jerry" builder with a view to immediate effect, and to hide the tenants from their neighbours is dreadfully conspicuous. These soon smother up the place, and have to be cleared out in a few years, unless the tenants are content with such a mixture of ugliness and wretchedness. No dwelling can be dry and healthy under the shade of large trees. There is a mine of wealth opened to the planter, including foliage and flowering trees, which, from the moderate dimensions they attain when fully developed, are admirably adapted for places of small extent. We will instance a few which, from their distinctness of growth and foliage, will, if judiciously distributed about a place, give it a very superior appearance to those planted with common-place forest trees, and will well repay the little extra cost incurred. Confining these notes to deciduous trees, I will commence with the

JAPANESE MAPLES.—*Acer polymorphum* and *A. japonicum*, with their varieties, are well worthy of more attention than they have hitherto received. Where the soil is good, and the situation sheltered, they should have a place, being among the most distinct and handsome plants we have, both in the formation and colouration of their foliage. They are of slow growth, and should be planted near the margin of the shrubbery. *A. polymorphum dissectum*, *A. p. roseum marginatum*, and *A. p. sanguineum* are three very distinct varieties.

ACER NEGUNDO VARIEGATA is too well known to need any description or commendation. Where soil and situation suits it, there is no other variegated tree that can compare with it. If dotted about it lights up the dark masses of evergreen, and other foliage when flowers are scarce or altogether absent. The misfortune is, that in some descriptions of dry soils exposed to cutting winds it becomes unsightly, and unless it is known to do well in the locality, sparing use should be made of it, selecting spots for it which seem likely to suit it best.

AILANTHUS GLANDULOSA.—This, if left to itself, will grow into a tree of considerable dimensions and is one of the most beautiful subjects we have, and by cutting it down annually, as in the sub-tropical gardens in the London parks, it is available for the ornamentation of the smallest places. A plant here and there in the foreground of the borders or single on the grass, is more effective than many plants used in a similar way which require housing during the winter months.

ARALIA JAPONICA.—A well-grown plant of this, with its much-divided foliage from 2 ft. to 3 ft. in length, by 1½ ft. in breadth, when in flower, is one of the most pleasing sights to a lover of hardy trees.

CARPINUS QUERCIFOLIA AND INCISA, two varieties of our common Hornbeam, not often met with, are particularly well adapted to places of moderate extent to give variety and form a pleasing contrast to other things of more ample and larger foliage.

CATALPA SYRINGEFOLIA and the golden variety *C. s. aurea* cannot be passed over, though it may be urged against them that, from the large size they will ultimately attain they ought to be excluded from a list professed to be made out for limited domains. But the temptation to include them is too great, for after the Horse Chestnut, if second to that, it is far and away the most beautiful flowering tree we have, and its fine heart-shaped leaves give it, when in a small state, an unique appearance; the golden variety is of slower growth and well adapted for sub-tropical gardening.

CORNUS MAS VARIEGATA.—This, as a standard, is one of the best plants for small places; it can easily

be kept about the size of a moderate standard Rose, and is one of the best variegated hardy trees.

CYTISUS LABURNUM AUREUM stands the sun well, and is a fine addition to our coloured-leaved trees.

FAGUS ASPLENIFOLIA, a fine subject interspersed among other trees or standing out singly. These variations of foliage from the normal type among our Oaks, Hornbeams, and Beech are all very interesting to tree lovers; this is, perhaps, the best among them.

FAGUS PENDULA is excellent to form a natural arbour with, its bright glossy foliage being more agreeable to the eye than the lighter and duller green of the Ash.

FAGUS PURPUREA, still the very best coloured foliaged tree we have. A word of caution to intending purchasers may not be out of place, as it is often reared from seed, and the plants thus obtained cannot be depended on to become a good colour; to insure this refuse any but grafted plants.

LIQUIDAMBER STYRACIFLUA.—This is of moderate growth, and very distinct in foliage. Towards autumn it assumes a rich crimson tint, vieing with the popular Virginiian Creeper; this ought to find a place in the most limited collections.

LIRIODENDRON TULIPIFERA.—The Tulip tree, though attaining in time to large dimensions, is so distinct in foliage that, on this account, it well merits a place in domains of comparatively small extent, and when in flower will always, from the striking resemblance they have to the Tulip, be objects of great interest.

PAULOWNIA IMPERIALIS.—Large specimens of this are rarely met with; being rather tender in a small state they often get cut back by the frost. Its immense heart-shaped leaves renders it unique among hardy trees. It is, perhaps, scarcely the plant for small places, unless treated as suggested for the Ailanthus.

POPULUS FASTIGIATA.—Where the space is large enough, room should be found for a few of these. Towering above their neighbours, they form admirable landmarks, and give a feature to the landscape peculiarly their own.

RHUS GLABRA LACINIATA has elegantly-divided foliage, dying off in the autumn a rich crimson. *R. typhina* is like the preceding, giving when judiciously planted a fine sub-tropical appearance, and dying off in the richest crimson hues imaginable. Being of very moderate dimensions, it is well adapted for small places, and cannot be too highly recommended.

ROBINIA INERMIS UMBRACULIFERA, the Mop Acacia, is deservedly popular, and often made good use of in the front gardens of villa residences; no plant is better adapted for these positions. Keeping within moderate dimensions for a lengthened period, it is a pity that it is not more generally planted than it is.

SALISBURIA ADIANTIFOLIA (The Maidenhair Tree).—A well-grown specimen of this is a beautiful object, and the formation of the leaves is so distinct, that there is nothing among trees to compare it with. As its name implies, it bears a striking resemblance to the Maidenhair Fern.

SALIX AMERICANA PENDULA.—This has been pretty freely planted in some localities, and is a very useful and distinct plant, well suited for small places.

SALIX BABYLONICA is the most beautiful of all weeping trees. To show this off to advantage, it should be planted near water where its long pendulous shoots can fall down and dip into it, standing thus, it is positively unrivalled as a weeping tree—no other can compare with it.

ULMUS MONTANA PENDULA.—This is often passed over in favour of the Weeping Ash; while for small villa gardens it is much the best plant. With a little attention to training and pruning, to keep it trim and neat, it has a dressy appearance which the Ash never can have.

PYRUS ARIA (the white Bean tree), *Pyrus aucuparia* (the mountain Ash), *Pyrus sorbus* (True Service), are all distinct and well merit attention from landscape gardeners.

QUERCUS COCCINEA and *Q. AUREA* claim, at least, a passing notice, and where the space admits should be introduced.

Some of the subjects named in this paper are common enough yet—how many places are there where but few of them are found? The object of this paper is to direct the attention of planters to the diversity of form and foliage among trees, which is not taken the advantage of in planting villa gardens, it should be.—*W. B. G.*

CELERY FOR EXHIBITION.

THE large, well-grown, and equally well-blanching samples of this favourite winter esculent, which are shown by the cottage gardeners in the towns of the northern counties, often call forth high praise from the general public, as well as from the professional gardeners who are called in to adjudicate the prizes.

Gooseberries, Celery and Red Cabbages are especially cultivated for exhibition by cottagers, who bestow much time, care and attention upon their favourites, and in return secure remarkable results. I have already, in your last volume, described the method of growing Gooseberries, and will now deal with the Celery.

I may remark, at the outset, that the shows are mostly held in the large rooms of the principal public houses in the towns and villages; and though certain objections might be urged against the exhibitions being held in such places, it must be said that, as a rule, they are well managed, and conducted in an orderly manner. The prizes are good, and will range from 10s. up to £3, in some cases £5; consequently the competition is generally strong.

Sowing the seeds is entrusted, as a rule, to the more fortunate of the artisans, who have little greenhouses in the corner of their allotments; but many have to resort to the market-gardener, who makes the rearing of show sorts a speciality. Sowing is commenced in the third or last week in January, and is continued at intervals into March. Some like good plants early, but others prefer those from the February sowings. All are sown in boxes on fine soil and in moderate heat, and when the young plants have made their third rough leaf, they are planted singly into 4-in. pots; a practice which entails a little more labour, and takes up much room, but an advantage is gained at the time of transplanting, when they receive no check; others, again, are transplanted thinly into boxes, with a slight layer of manure at the bottom of the box, and over this a fine layer of soil. They are then placed on shelves and stages near the glass, and carefully attended to—in the matter of watering and giving air—so as to ensure a robust stocky growth, so essential to their future well-being. They are subsequently put into frames and gradually hardened off, previous to being transplanted in their permanent quarters.

The trenches vary in width, from 10 ins. to 15 ins., and about the same in depth; and run due north and south, so as to expose both sides of the rows to the sun's influence. The distance from trench to trench is about 5 ft. These are filled up with manure to within 4 ins. of the ground level, which is covered over with good fine soil; the manure is such as the cottager can get—well-rotted horse or cow's dung mixed, or the manure from the pig sty, which is what many of them use, but it is apt to breed, and fill the ground with worms; a couple of stones of salt, mixed in winter, to the half load will settle these, and add materially to the value of the manure.

Transplanting is performed in May, during showery weather, and the plants are set from 9 ins. to 15 ins. apart, in single rows. If the weather should be dry, planting is done in the evening, after sundown, and a good soaking of water is given immediately; and if the soil on the ridges and around the sides is damped over, it helps materially to prevent flagging. During the summer, plenty of water and weak liquid manure is given, the soil frequently stirred, all off-shoots and useless stems cut off, and a sharp look-out kept for slugs and the Celery-fly.

Blanching, or earthing-up, is carried out in various ways; but all lead to one essential point—the exclusion of light from the stems. Brown paper wrapped round each individual plant is the plan most followed; and as the plants advance in growth, additional pieces of paper are put above the others. This "collaring" process usually commences when the plants are of fair size in July and August; but no hard-and-fast rule can be laid down, as an eye must be kept to the date of show, or for the month in which they are most likely to be wanted. The collars are unloosed at intervals, and the stems and heart examined minutely for slugs, &c., and well washed, syringed and cleaned from all dirt or grit which may have accumulated inside the stems, after which they are again wrapped up. The trenches, during the summer, are kept open, so that the roots can be well supplied with liquid manure, as before stated; guano and nitrate of soda are the chief substances used for the making of this.

At the end of August or beginning of September is generally when they receive their earthing up, the soil being banked up nearly to the top; the collars are left around the plants, and the soil, well pressed around these, is prevented from falling into the heart of the plants; a dry day should be selected for this work. For early work and showing in August, the earthing up is done at the end of July, and hollow tiles are placed perpendicularly between the plants and moulded up the same as the Celery; into these water and liquid manure are poured, and so conducted through to the roots; it also helps to keep the ridges dry.

The sorts chiefly grown are Manchester Giant Red, Newsome Prize Red, Cragg's Champion, Lancashire Prize White, Manchester Giant White, Excelsior Pink, and Sulham Prize. There are others which bear only local names and which lose their original characters, by many growing and seeding their own special favourites.—*B. L., Huddersfield, October 11th, 1886.*

GARDENING MISCELLANY.

The Madresfield Court Grape.—Mr. Crump, in criticising my remarks on the "gimlet" practice described by me at p. 75, complains of the experiment as being incomplete. I agree that the experiments would have been more interesting had the one Vine been subjected to the boring process, and the other left to take its natural course. To more firmly establish my case, I may say that previous to this year the Vines have failed to bring their crop to maturity, cracking rendering the bunches almost useless. This induced me to try the "gimlet" process, and the results were as described at p. 75. Perhaps Mr. Crump would give us his opinions as to what caused such a favourable change in the character of the Vines, if it was not the boring. Your correspondent does not say that his friend altogether condemned the process of boring, but that the experiment was not successful enough to warrant him publishing the results; neither does he cite an instance where it altogether failed. It would be interesting to know the experience of other readers who have tried this boring practice, as I am sure a remedy would be gladly welcomed by all who know and grow this grand Grape. As such good results were obtained this season on Vines that had hitherto failed, I put forth my plea for a trial of the process described at p. 75 by those who have hitherto failed in preventing this vexatious cracking.—*Wales.*

I HAVE much pleasure in giving my experience with the above in corroboration of Mr. Crump's statement, at p. 92, that the cracking of this Grape is owing to "atmospheric conditions." We have the variety here in two houses—one with three rods, the other a single cane. I shall give my experience with the former first. The season previous to my conversion to the atmospheric theory, I noticed that the berries cracked most from the middle of the rods upward, the bunches nearest the pipes being almost void of it. The idea struck me that a drier atmosphere was what was wanted to prevent the mischief; for it is no joke, after bestowing so much care on them up to colouring time, to have to cut out berries from fine-formed bunches, and so often completely spoiling their appearance, especially for exhibition purposes. Well, when next season's colouring time came round, acting on the previous lesson, we always kept the pipes warm day and night, except when the sun shone brightly, with air on top and bottom, which consequently caused a nice warm circulation of air through the house; and practising this for the past two seasons, we have not had above a dozen cracked berries, and I attribute the cracking of those to having to close the house on wet, stormy nights. Now for the single rod, which is planted in a house with six other varieties, and which gave me clear proof that the cause of the berries cracking could not be attributed to the roots. The rod in question was carrying nine bunches, averaging $1\frac{3}{4}$ lbs. in weight, and had been showing colour for five days previous to having a thorough drenching of water at the roots. The watering being done during the forenoon of a bright sunny day, with a good bit of air on, and having warmth in the pipes by two o'clock, the house was fairly dry before the air was reduced to a minimum, and the consequences were that we had only two

cracked berries, which might have been caused by the moisture retained in the house. I think I may say, with some degree of certainty, that had the roots anything to do with it, instead of having "two berries cracked" we should have had dozens of them. I may just add that if the outside atmospheric conditions are such as to cause the house to be closed at night, I would advise whoever may be in charge to attend to putting on air as early as the weather will permit in the morning.—*J. E. Miln.*

A VINE of this, growing with four other kinds, has fruited here for the fifth time without producing a cracked berry, and it had no different treatment to its companions, beyond, on more than one occasion, being supplied with an extra dose of water at a stage when some writers advise it to be withheld. Laterals on some shoots carrying bunches have been closely pinched, and some left, as on other Vines, but with the same result. To this, however, I attach but little importance, as the few shoots left may have been sufficient to appropriate the supply of sap that would otherwise tax the distending powers of the skin of the berries, assuming the theory of cracking to be correct. A more conclusive experiment would be to have two Vines side by side—as Mr. Crump at p. 92 suggests for the boring test—and closely pinch all growths on one, and allow those on the other to extend, as advised by some growers. It would, perhaps, be as well to state that our Vinery is very light and dry, and requires frequent damping to maintain anything like a humid atmosphere. Excepting on two or three occasions from the time the Vines were planted they have not received any liquid stimulants, which may have something to do with the cracking.—*W. P. R.*

I HAVE read with much interest the letter of "Wales," and also Mr. Wm. Crump's reply, respecting the cracking of this fine Grape. I have it planted out in two mixed Vineries with inside borders, and as I have to make all the houses as attractive as possible with plants—the two Vineries named chiefly with Ferns—I am sorry to say the borders receive rather more water than I like; but notwithstanding this, the Madresfields have never yet shown any signs of cracking, and with all, the other Vines are in excellent health. I may add that the borders are made of loam and "Thomson's Vine and Plant Manure," of which I have a very high opinion.—*J. M.*

Mr. William Forsyth, formerly gardener at Gunnersbury, committed suicide on Ealing Common on the evening of the 5th inst. He was seventy-three years of age, had been gardener at Gunnersbury for twenty years, and during the last sixteen years had been living on a pension received from the Rothschild family.

Judging Chrysanthemum Flowers.—Mr. Udale, in his admirable paper on this subject, omits reference to the weight which should be given to absolute variety in a stand of flowers. No doubt he will say, "But variety is absolutely essential where required." That is correct, but the sort of variety I mean is when, for instance, in a stand of twelve blooms not more than one of the "Empress" family, or of the "Rundle" family, or, indeed, of any of the sportive kinds, is seen. Of course, the "Rundles" being rather small—though, as a rule, very perfect—flowers, are not so often seen in stands as are the members of the "Empress" family, which are, on the other hand, if big, usually coarse, but shown because big, too much weight being given to size. Whilst in a box of twelve only one "Empress," for instance, should be admitted, only two should be allowed in a twenty-four stand; and the same rule should hold good at all shows. Sported kinds are not *bond fide* distinct because they are able at times to revert to their original forms. I do not think there is much force in the suggestion as to colour-blindness; it is not nearly so widespread an affliction as is commonly believed. That a judge should have fairly good eyesight is important, and when a man's sight fails him he should withdraw from the discharge of the functions of a judge. What exhibitors, however, should aim at, and judges should encourage, is the presenting of absolute distinctness or variety in the colours of their flowers, for in too many cases it is very hard indeed to distinguish one flower from another; and blooms of the same kind, but one having deeper colour than the other, perhaps from age, have before now been found in the same stand. For that reason,

where growers have a big lot of plants to select from, they have little excuse for thus cutting the matter so fine; whilst those who grow small collections should take note of really good distinct sorts at the shows, and weeding out dubiously distinct kinds, substitute sorts that show without question they are really distinct.—*A. D.*

Harbinger Primrose.—We have among our winter-flowering plants some of Gilbert's Harbinger Primroses, and I may say, that to overrate its value as a winter-flowering subject is, indeed, difficult. It is a variety which produces its blossoms in great profusion throughout the dark days of winter, and, for purity, eclipses all other whites of my knowledge. These beautiful flowers form delightful objects in all kinds of floral decorations, &c., and receive a great amount of admiration by all who see them. I can confidently recommend it to all who may have a great demand for white flowers during the winter, and are obliged to fall back upon hardy plants to meet their requirements. We take up ours from their summer quarters, and pot them at the end of September or the beginning of October, as circumstances permit, and place them in a cold frame until they have taken to the pots sufficiently to withstand the sun; we then transfer them to a shelf near the glass in the greenhouse, and with this simple treatment it is wonderful the quantity of flowers they produce.—*H. Markham, Mereworth Castle, Maidstone.*

What will he do with them?—An amateur friend writes respecting his Carnations (he is a member of the Oxford Carnation and Picotee Union, and, therefore, an enthusiast):—"Carnations have bloomed well, but owing to the late dry season they made but little grass—i.e., shoots for layering—and I shall, I fear, lose several varieties. I have a heavy batch of seedlings of a continental strain, from which I hope to pick out a few worthy of keeping, particularly yellows and fancies. I shall sow about 3,000 choice seeds for next year. I have about 400 varieties for testing next year. I shall have a heavy lot of layers from Mr. Dodwell's seedlings, besides from named varieties; it took my man six days to layer them, but where they are to be put I cannot tell, unless I clear out everything else. But this is only a new phase of the floral mania." Well, we are glad of the mania; let it thrive and spread. There are thousands of people of easy means who want some pleasant occupation. Let it spread to them; there will be less dyspepsia, and a more thorough enjoyment of life if they are attacked by it and succumb to it.

Daffodil General Gordon versus Henry Irving (see THE GARDENING WORLD, Oct. 2).—The voice is certainly Jacob's, but the hand is that of Esau. There is still a mystery "locked up" with poor General Gordon. One reason: during the spring of 1885 I bloomed the bulbs in fair quantity for test. While in flower, I asked for blooms from some of the best houses in England, and received some from three sources, what is now known as *Henry Irving* in all cases. One party, indeed, who it is presumed held the greatest quantity, refused to send even a bloom, though he was said to have had it for years. I have been reading up what was written so hotly on the subject, Mr. Wolly Dod being more than explicit after his twelve hours trip up the Nile looking for the general, but failed to find him. It is hard to blame the Royal Botanic Society for the errors; but, certainly, for special purposes, when I am selling Daffodils for twenty years, I intend to have the telephone at work between here and all the gardening paper offices near Covent Garden. It will be of the greatest advantage to an isolated trader.—*W. B. Hartland, Temple Hill, Cork.* [Not much! Ed.]

Dwarf French Marigolds.—A box of blooms of beautiful Marigolds has just come to hand, sent by Mr. A. Dean, of the Seed Grounds, Bedford. They represent a very fine strain of this popular garden flower; there are three distinct types of flower: one, the true gold-striped, with regular bands of shining maroon on a golden ground; another has a pale sulphur ground colour, banded with gold in the same way; the third is of a rich chestnut-self colour. For exhibition purposes it would be difficult to imagine a better strain, the flowers are of good show size, highly symmetrical, very double, without any of the confusion about the centre, that disfigures so many of the French Marigolds, termed "buzzle-eyed" flowers. It is really pleasant to see the old French Marigold in such perfect form.

The Grievances of an Amateur.—How much can sometimes be learned of the troubles and vexations to which amateurs are subjected. An old friend had a bed of very fine laced Alpine Auriculas, and he promised to mark a few of the best of them so as to send us plants in the fall of the year, and this is what happened, "I labelled the best, intending to take them up, divide them, and send you a plant of each, but my dolt of a gardener set to work to weed the beds and pulled up all the labels." Ah! those jobbing gardeners, they rob many a good man of his peace of mind by their stupid blunders. Our correspondent is an enthusiastic amateur, but, at times, unable through impaired health to do the whole of his gardening operations, so has to engage a gardener, and this is how he suffers. Hundreds of amateurs up and down the country are, unfortunately, able to proclaim the same tale of woe. Many of the ne'er-do-well of the community take to gardening as a last resort, as if, having failed in everything else, they will be able to succeed in that; and what a role of blunders they commit.

Pyracantha Lalandii.—I saw the other day a plant of this new *Pyracantha* growing as a bush 5 ft. high, and covered with bright scarlet berries from top to bottom. I have no doubt it will become a very useful and popular plant, being suitable either for walls, or as single specimens on lawns.—*F. P. L.*

Bad Stocks for Peaches.—In a Peach-house, 60 ft. long, that I have had charge of for nine summers, there is a tree of the Barrington Peach worked upon a Cherry stock, and the result every year is an unsatisfactory crop. It makes a rampant growth, notwithstanding the severe root pruning that we have subjected it to. Indeed, it seems to me that the Cherry will bear a large amount of cutting at the root, when the Peach is the scion. As the growing season advances, the growth of this particular tree makes great strides also, and though I summer prune, and thin the shoots to allow the sun and air full play, we never properly ripen the wood, though it may look brown and solid; and, as a result, it never sets a crop, and some seasons not a quarter of a crop. The trees are planted in an outside border, and have clear stems, about 3 ft. high before being worked. The stem of this Cherry is very much larger than the Plum stems the others are worked upon.—*T. W., Norwich.*

Tuberous Begonias.—Some few years ago I tried these as bedding plants, but my experience was not of a promising character. They were a motley lot that came from seed; they were of all colours, heights and habits, and I did not think then that they would ever be of much use as bedding plants. We have only to go to Mr. Laing's Stanstead Park Nursery, however, to be convinced of the contrary. There they can be seen by the thousand (seedlings), sown in January, 1886, flowering abundantly, of fine colour, stiff and uniform in habit. They are sure to make way as bedding plants.—*M.*

Tropæolum speciosum.—A very simple and easy way of growing this beautiful autumn-flowering subject, is to plant small pieces in *Rhododendron* clumps or among similar-growing shrubs. It is very effective amongst the large foliage, and appears to grow more vigorous than when planted against hot walls and in dry borders.—*F. P. L.*

Carter's Leviathan Broad Bean—Second Crop.—Though this is admittedly one of the largest and longest Beans in cultivation, it is by no means coarse or of inferior flavour. There is, however, a peculiarity about it I only noticed yesterday when walking casually through my experimental vegetables. I had the stems cut away after the first crop, half their height. For two months they were unnoticed, chiefly through absence from home. New branches were formed, and judge my surprise to find a new second crop with pods well filled, smaller, but of more delicious flavour than the first, without either trouble or expense.—*W. J. Murphy, Clonmel.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

If not already done, lose no time in housing all plants which may have been placed out of doors, as there is great risk after this date. We are now placing our stock of *Cinerarias* in a house where, in case of frost, heat may be turned on, and as these are such

particularly tender subjects, it is most advisable due provision should be made for their safety. We have also stored our stock of *Azaleas*, giving, where necessary, a good syringing. As *Roses* are trained on the roofs of the house in which these are wintered, we gave a good fumigating, to ensure as much cleanliness as possible. The shingle on the stages, having become somewhat soured, has also been renewed; in fact, the greatest care should be observed in the storing of all plants, or sad havoc will be made ere long through damping off and mildew.

Our *Cinerarias* are a good stout lot, some of the earliest well advanced towards flowering, and most useful will they be found for decorative purposes; unfortunately they are of but little use for cutting, the flowers so soon fading, and for travelling they are quite worthless. We saved our surplus stock of single *Dahlias*, allowing them to remain in small pots until the beginning of August, when they were shifted into 7-in. pots; they have made a good growth and will be staged in the greenhouse, where we hope they will give us a good supply of blooms for cutting, as most useful we find them.

Of course there will be an abundance of *Chrysanthemums* just now, still, these form in a cut state a pleasant relief, more particularly if placed somewhat carelessly in the vases. The stock of show and fancy *Pelargoniums* must be carefully attended to, an abundance of air admitted upon all possible occasions, and in case of foggy, damp weather, the pipes in the house in which they are staged may be warmed in the morning to dry up excessive moisture; remove all dead and decaying foliage as it may appear, and keep all about them scrupulously clean, especially the fancies. Those for early flowering or forcing should at once receive their final shift, using a good sound compost and not over-large pots, remembering that for successful forcing or early flowering of all plants an abundance of roots is essential—in fact, pot-bound plants force much the best.

Some of our earliest *Azaleas* are now opening their flowers; the semi-double whites are extremely useful for bouquet work, and always appreciated. Placing one or two in the intermediate house they come on gently, and so give the general stock a longer rest. We have planted out the pit of *Neapolitan Violets* as advised; the remainder of the stock will be potted for the greenhouse. We are also making up a bed under the Morello wall for putting in a good stock of *Pansies*, *Roses*, and *Pentstemons*. Cuttings put in in this way give little or no trouble, and as a rule, strike very readily, making good stuff ready for spring planting. *Alpine Auriculas* should now be divided and replanted without delay.

THE FRUIT HOUSES.

Great care must now be taken with the ventilating and heating of the *Vineries* in which *Grapes* are expected to hang for any length of time. Carefully warm the pipes in the morning before the ventilators are opened, and be cautious that the front lights are closed early in the afternoon before the air becomes at all damp; much greater care is necessary now than later on, when the Vines are quite at rest. As the fruit is cleared from the succession houses, let the Vines be partly pruned in to, say, three or four eyes; and should the border be at all dry, let it be watered, or next season's crop will suffer. Throw the house completely open, to harden as much as possible preparatory to final pruning. If possible, let the interior of all the *Vineries* be painted; if this were done annually it would be better for all concerned.

We have found it necessary to re-plant a part of our early Peach house; the trees were very old and quite exhausted. The border having been re-made a few years since, we found it was only necessary to turn it over preparatory to the young trees being planted. The nights having become longer and much colder, we have found it necessary to warm the Fig house, to hasten the ripening of the remainder of the crop, which, in some cases, showed signs of damping. This will, we hope, soon have the desired effect; added to which, it will harden the wood. Where the sashes were removed from the early Peach trees, replace them before heavy rains come, and let the house be put in order ready for starting by the middle of November.

THE KITCHEN GARDEN.

Asparagus beds may now be cut down near to the surface of the ground, weeds, if any, removed, and

those not required for forcing receive a good mulching of rich manure, which will greatly benefit next season's growth. Continue to plant out Cabbage plants, those sown in August being now ready; they will have time to get established before hard weather sets in. Cauliflower, too, must now be pricked out or potted singly into 60's—the mode we prefer, as the plants do not suffer so much when planted out in the spring. Continue the planting out of the different sorts of Lettuce; if frame room can be spared, a good batch of All the Year Round should be pricked out, which will furnish good salad all through the winter. As a Cabbage Lettuce, none succeeds with us or comes in so early as the Hardy Winter White, particularly if in some sheltered spot.

When there is danger of frost, take care that the Cauliflowers which are fit, or nearly so, for use, are lifted, and stored in some open shed or other suitable place until required. The late batch of Celery should receive the final earthing as soon as weather permits; the stormy weather which now prevails will not admit of this being done. All vacant squares should be dug at convenience, bearing in mind that where necessary, double digging should be done, and for all crops that require a rich soil, a liberal dressing of manure should be given; in gravelly and light soils manuring had better be deferred for a time at least. Prepare for the planting of fruit trees of all kinds, giving, if possible, a barrow-load of fresh turfy loam to each.—*Walter Child, Croom Court.*

FLORICULTURE.

PELARGONIUMS, LARGE-FLOWERING OR SHOW.—Calling at the Royal Nursery, Slough, a few days ago, I saw they were very busy potting up the cuttings of large-flowered *Pelargoniums* struck this summer. The amateur growers should do the same without delay. The soil used was made up of some good yellow loam, leaf-mould, sand, and a little well decomposed manure. It is best to mix this well together, and let it have the benefit of the air for a few days before using, as this serves to sweeten it. All the strongest cuttings were being put into 48-sized pots, and the smallest into large 60's. The young plants are then carried to a frame and kept close for a few days, and then taken to a lean-to house. A *Pelargonium* cutting is pretty certain to put forth a leading shoot; this should be pinched back to three eyes or so, and then it breaks forth into growth, and makes by the spring a nice young "bottom" as it is termed. The stopping of young plants very much depends upon the manner of their growth; the great thing is to so manage it as to secure a symmetrical and well-formed bottom to start with. As most of the leading varieties are of vigorous growth, stopping may be done freely; in the case of a variety of weakly growth it must be done more sparingly.

Any early-struck cuttings that have been stopped, broken into growth, and are progressing vigorously, should be repotted, giving them a slight but sufficient shift. Such plants, if grown on with care, will make nice exhibition specimens in July and August, if carefully attended to in the matter of stopping. Those plants can be potted into their flowering pots early in March next.

"Bottoms" of *Pelargoniums* as they are termed—that is, specimen plants that were cut down in August, and repotted as they had broken into growth—will need another shift if they are required for flowering in May. They should now be placed in their flowering pots, kept a little close for a few days, and then have an airy part of the greenhouse. As a matter of course, they must be kept from frost; all that is required is that they be kept cool consistent with their well-being, have plenty of room, and to be as near the glass as possible so that they are not drawn, and be encouraged to grow as hardy and as wiry as possible. Water should be given sparingly during the autumn and winter. When fire-heat is put on, it should be only sufficient to keep the plants comfortable. As far as possible, *Pelargoniums* should be grown during the dead season of the year with plants not requiring more heat than themselves.

That the fine and showy large-flowering *Pelargoniums* are not grown so much as they used to be cannot be denied. One rarely sees good plants at country shows nowadays, although classes are provided for them. It is a pity it is so, but such is the fact, amateurs some-

times say to me—we have given up growing large-flowering Pelargoniums, because they are so *subject* to green-fly, and they soon contaminate other plants near them. But there is no great difficulty in keeping them clean, a little timely fumigation works wonders; and it can be depended upon as an universal experience, that where there is a *penchant* for any particular flower and a desire to grow it, there will be no great difficulty with the cultural process.

Let me close this portion by giving a short selection of a few good show Pelargoniums:—Amethyst, Claribel, Confessor, Despot, Fortitude, Maid of Honour, Mag-nate, Royal Review, Illuminator, Sunbeam, Venus and Virgin Queen. A few of the best of the decorative Pelargoniums will be found in Captain Raikes, Comtesse de Choiseuil, Duchess of Edinburgh, Gold Mine, Marie Lemoine, Queen Victoria, Rosetta, Triomphe de St. Mande, and Volonte Nationale alba.—*R. D.*

MANURE FOR AURICULAS.—I was, on one occasion, talking to John Ball, the Auricula grower, at the Royal Nurseries, Slough, about potting Auriculas, and what kind of manure he used. He said very little; in fact, besides good yellow fibry loam, leaf-mould, and some sand, he simply used some bone-meal, which he mixed in with the soil, and he said he believed this greatly helped the flowers when they expanded in the spring. I once asked the Rev. F. D. Horner his opinion as to the use of patent manures or bone-dust in the culture of the Auricula, and he replied that of the two he would rather use the latter, but neither on any extended scale till the experiment was proved upon a few plants that could be spared if sacrificed by its use; and he went on to say that he did not use either of the two ingredients in the case of his own plants, nor, indeed, any manure or top-dressing at all, only loam, leaf-mould and sand. If they (his own plants) like any of these ingredients, they are “fat enough” without any stimulant, and if they do not like the solids of their compost, I do not think any condiment or stimulants will make them take to it. What a change this is from the composts recommended by some of the florists of a generation or two ago. Sweet invigorating soil, without any artificial stimulant, is now the order of the day, and happy is that Auricula grower who can obtain all he wants in the way of a soft, silken, rich yellow loam. All I can say is that it is very difficult to get this kind of thing in some localities.—*R. D.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar: Re-arranging the Plants for Winter.—It is now time to see that all the plants are in their proper places for the winter season, and that those plants which have during their flowering time or from any other cause got into houses in which it would not be desirable to leave them for the winter, are now put in their proper quarters; also those which are generally grown in the cool house in summer and autumn, but which are known to be a trifle more susceptible to damage from cold, should now be placed where they are not likely to go below 50°, and at the same time will not be subjected to a much higher temperature than given in the cold house.

Foremost among these should be mentioned *Odontoglossum vexillarium*, *O. Roezlii*, *O. phalenopsis*, *O. Krameri*, *O. cirrhosum*, *O. Warscewiczii*, *Masdevallia bella*, *M. chimæra*, and all that section; *M. tovarensis*, *Ada aurantiaca*; all the *Promenæas*, *Restrepias*, and *Zygopetalum rostratum* and *Z. Burkei*; all the *Paphinias*, *Houlletias*, and *Trichocentrus*; and all the *Miltonias*. These are known to be more tender than *O. crispum*, the many varieties of *Masdevallia Harryana*, and other things which are strictly cold-house plants, and which can bear as low a temperature as 40° Fahr., and, therefore, a safe and slightly warmer place should be selected for them. With these plants and others which will not thrive in the cold house at its lowest limit, there is more in selecting a humid situation where there is but little variation of temperature than anything else.

If kept in the cold house, all the *Lycastes*, *Anguloas*, *Zygopetalum*, *Odontoglossum nebulosum*, *O. pulchellum*, *O. Uro-Skinneri*, *O. grande*, *O. Insleayi*, &c., should be placed in the warmer and drier end of the house, and with them may be associated (suspended where possible) all the *Oncidiums* of the *O. crispum*, *O. Marshallianum*, *O. prætextum*, *O. Forbesii*, and *O.*

varicosum section, which are strictly cold-house plants where the prescribed temperature is kept. Also perfectly cold-house plants, but which are often injured by being kept in warm houses, especially in winter, are *Nanodes Medusæ*, *Trichosma suavis*, *Sophronites grandiflora*, *Odontoglossum Rossii majus*, *O. Cervantesii*, *O. ramosissimum*, *O. Edwardii*, and all the others of those sections; *Oncidium ornithorhynchum*, *O. macranthum* and all its allies. *Lælia pumila* and its varieties, *L. p. Dayana*, &c., are quite cold-house plants, where they are so treated from the time of their importation, and not nursed into bad health in a warm house before trying them in the cold. This is often the reason why plants appear to resent strictly cool treatment.

Of the *Aërides* and *Vandas*—which, generally speaking, are kept far too hot in winter—the grower must discriminate between those coming from elevated situations in India proper and those from the Philippine and other islands and low levels, giving the latter—such as *A. Lawrenciæ*, *A. Sanderiana*, *A. quinquevulnerum*, and *Vanda Sauderiana*—the warmest and most humid situations. *Bolleas*, *Pescatoreas*, *Batemannias*, and *Warscewiczellas* dislike extremes of heat or cold, or a suddenly varying temperature. They usually succeed in a moist, still situation, where *Odontoglossum Roezlii* thrives, or suspended near the warm house *Cypripediums*; here, also, *Oncidium ampliatus*, *O. Papilio*, and *O. Krameri* will do best. The *Bolleas*, &c., like to be near the glass in a light situation, where direct sunlight does not fall on them, and require to be kept moist always rain-water being used on them and all other Orchids where possible. If not convenient to suspend them, and the stage is a low one, a temporary one should be raised to receive the plants.

Odontoglossum citrosimum is best grown in baskets, and should be kept in the coolest part of the Cattleya-house; and *Mormodes*, *Catasetums*, and *Cycnoches* which have finished their growth should be placed on a shelf in a cool intermediate house, where they may be kept dry to shed their leaves and harden their growths. Deciduous *Calanthes*, such as *C. Veitchii* and *C. vestita*, which are ripening their growths before sending up flower, should now have less water and more light; even a fair amount of sunlight assists in hardening the bulbs.—*James O'Brien*.

Masdevallia Tovarensis.—This charming white Orchid is now flowering, and it may be as well to remind those of your readers who are in the habit of cutting it for use, that to cut the flowers, spike and all, is a wasteful practice, as if the flowers themselves only are cut, the flower spikes continue to flower for years, and thus, in the course of time, plants literally covered with bloom can be secured, whereas, if the old spikes are removed the plants have to depend only on the annual supply of new ones. *M. Tovarensis* is by no means a tender plant, but it is not safe in the cold house in winter, but should be put with the *Chimæras* where it gets 5° or so more heat.—*J. B.*

Masdevallia velifera.—Mr. F. W. Moore, the curator of The Royal Botanic Gardens, Glasnevin, Dublin, is an enthusiast with *Masdevallias*, and the collection at Glasnevin is rich in them. Among a number of others, either showy or curious, the singular *M. velifera* is flowering there. Its bold fleshy flowers are flatly expended, the lower portion being 1 in. across, and bearing two tails, each over 1 in. in length; the horn-like continuation of the upper portion of the flower is 3 ins. in length, the whole flower being nearly 6 ins. In colour it is orange slightly stained with brown, and the labellum is maroon—a striking and distinct species.

Angræcum caudatum.—A well-flowered example of this extraordinary plant was exhibited by Baron Ferdinand de Rothschild, M.P., Waddesdon Manor, Aylesbury, at the meeting of the Floral Committee on Tuesday. It bore a spike 2 ft. long, on which were ten flowers, each measuring from 2 ins. to 3 ins. across. The sepals, petals, and curiously twisted tails, 9 ins. long, are brownish green, and the large showy lip which points upwards is snow-white, the whole contrasting charmingly with the thin light green leaves. *A. caudatum* was imported from Sierra Leone by the Messrs. Loddiges, of Hackney, just fifty years ago, but it has always been very rare. Recently, Messrs. F. Sander & Co. succeeded in getting over an importation, one of which was the plant exhibited. It by no means requires a hot temperature, but thrives well in the Cattleya house.

HORTICULTURAL SOCIETIES.

ROYAL HORTICULTURAL.

THE autumn show of hardy fruits, held in the great Conservatory on Tuesday and Wednesday, was decidedly one of the successes of the season, the display of Apples and Pears being in every respect one of the finest seen here. In all the classes there was a keen competition, and samples of the highest quality were the order of the day. Besides the competing collections and single dishes, the leading trade-growers also contributed largely, splendid collections of Apples especially being staged not for competition by Messrs. James Veitch & Sons; Messrs. C. Lee & Son; Messrs. Cheal & Sons; Messrs. Paul & Son, Cheshunt; Messrs. W. Paul & Son, Waltham Cross; and the Canadian Commission. In addition to the long tables of fruits, there was also such a display of Dahlias—show, fancy, Pompon, and single varieties—as we never remember to have seen before so late in October. The show and fancy varieties were especially fine, and consisted of contributions from Mr. Turner, Messrs. Keynes, Williams & Co. and Messrs. Rawlings Brothers, and the Cactus varieties from Mr. Ware also claimed a large measure of praise. Hardy autumn-flowering herbaceous plants from Mr. T. S. Ware and Messrs. Paul & Son lent additional interest to the show.

The new plants certificated were *Angræcum caudatum*, from Baron Ferdinand de Rothschild, M.P., Waddesdon Manor. *Rhododendrons* amabile and luteo-roseum, fine greenhouse hybrids, raised from Princess Alexandra and Javanicum, the former blush white, the latter a bright peach colour, both single, with large individual blossoms; from Messrs. Veitch & Sons. *Begonias*, the Hon. Mrs. Plunkett and Paul Vicq, both handsome and distinct double varieties, the first named large and pure white, with petals as broad and well-rounded as a good Carnation; the latter bright rosy scarlet, with broad guard petals as in a good Hollyhock; from Messrs. H. Cannell & Sons. *Chrysanthemum* Mons. William Holmes, an exceedingly fine Japanese, with large deep crimson flowers, with the florets golden wire-edged; from Mr. G. Stevens, Putney. *Dahlia* R. J. Rawlings, a good clear yellow show variety; from Messrs. Rawlings Bros., Romford. *Dahlia* Annie Harvey, a deep maroon Cactus variety, with a fine broad petals; from Messrs. H. Cannell & Sons. *Dahlia* Helene, a very showy single variety, crimson shaded, with an orange-scarlet centre; from Messrs. Cheal and Sons. *Dahlia* Zephyr, a grand single variety, buff and crimson, the centre of the petals of the latter colour, from Mr. C. Turner; and *Adiantum imbricatum*, a very distinct and handsome Fern, with large pinnae deeply and finely cut; from Mr. G. Masters, gardener to Colonel H. Cornwall Leigh, High Leigh Hall, Knutsford, Cheshire. Messrs. H. Cannell & Sons received a Cultural Commendation for a remarkable display of cut blooms of double-flowered *Begonias*, every bloom being of the finest quality in size, form and colour. A similar award was also made to Mr. Searing, gardener to C. F. Partington, Esq., Cheshunt, for very fine cut blooms of *Cattleya Gaskelliana* alba, and *Vanda cœrulea*.

There were twenty-nine classes for Apples and Pears, and Messrs. G. Bunyard & Co., Maidstone, in the class for a collection of fifty varieties of the former, secured the highest honours with a grand lot of fruits; Mr. G. Slater, Heavitree, Exeter, coming in second; and Mr. J. Watkins, Hereford, third. With a dozen culinary varieties, Mr. McKenzie, Linton Park, Maidstone, came in first; and for half a dozen, the highest award went to Mr. A. Smith, Warren Hill, Essex. In the corresponding classes for dessert sorts, the leading awards went to Mr. C. Ross, Welford Park, and Mr. C. J. Goldsmith, Kelsey Manor, Beckenham. In the classes for specially-named varieties, the finest examples were staged as follows:—Blenheim Orange, Mr. S. Haines, Colshill; Cox's Orange Pippin, Mr. T. Baily, Shardeloes; Ribston Pippin, Mr. H. Folks, Great Gaddesden, Herts; King of the Pippins, Mr. G. Thompson, Croxby House, Hounslow; Dumelow's Seedling, Mr. W. Jones, Wallington Bridge, Carlshalt; Mère de Ménage, Mr. C. Ross; Golden Noble, Mr. D. C. Powell, Powderham Castle, Exeter; Warner's King, Mr. T. Turton, Reading; Gloria Mundi, Mr. Threadgold, Downs House, Yalding; Peasgood's Non-such, Mr. W. Edwards, Withington; and Lane's Pricce Albert, Mr. C. Ross. The Pear classes were also well contested, but lacking the bright colours of the Apples, were by no means so attractive. Mr. J. Butler, of Sittingbourne, was invincible with a collection, Mr. C. Davis coming in second, and Messrs. Bunyard & Co. third. Mr. Butler also had the best dozen dessert varieties; and for six, Mr. G. Ware, Tuubridge Wells, came in first. In the separate classes the first prizes were awarded as follows:—Doyenné du Comice, Mr. G. Ware; Beurré Superfin, Mr. Powell; Maréchal de la Cour, Mr. R. Silk, Whiteness Gardens, Margate; Marie Louise, Mr. R. Smith, Kenward Gardens, Yalding; Beurré Diel, Pitmaston Duchess and Louise Bonne, of Jersey, Mr. J. Butler; and Fondante d'Automne, Mr. R. Smith.

At the meeting of the Fruit Committee Messrs. T. Rivers and Son, Sawbridgworth, exhibited fine samples

of Monarch, October Yellow, and Grand Duke Plums; all notable varieties of their own raising. Mr. T. Laxton, Bedford, staged a variety of fruits and vegetables—mostly novelties—including a very promising seedling Pear named Laxton's Bergamot, obtained from the old Autumn Bergamot, Tomatos from the open air, autumn fruits of the Noble Strawberry, the September Beauty Apple, and highly-coloured Dartmouth Crab. Mr. G. T. Miles, Wycombe Abbey, brought up a very handsome fruit of the Lord Carrington Pine Apple, 9 ins. deep, to which a Cultural Commendation was awarded. Monster Pumpkins were shown by Mr. Sim Jacobs, Covent Garden, weight 187 lbs.; by Mr. Steel, 100 lbs.; and Mr. Pionchon, Marine Hotel, Shanklin, 90 lbs. Mr. Jacobs also had a dozen Easter Beurré Pears, weighing 154 oz. Mr. Anton Horvath, Fünfkirchen, Hungary, sent a collection of Grapes grown in the open air; and Mr. R. Dean, Ealing, with a fine sample of Prince of Orange Tomatos, sent some good Ribston Pippin Apples from an old tree that was dying of canker, but had been rejuvenated by the beheading process. Mr. H. Deverell, Banbury, had a fine display of Onions, Celery, Beet, Ne Plus Ultra Runner Beans, &c., which were referred to Chiswick for trial.

The vegetable competition for the prizes offered by Messrs. Sutton & Sons was of the most admirable character, no less than eleven competitors staging collections of a high order of merit. Mr. G. T. Miles, Wycombe Abbey, again asserted his supremacy by securing first prize with splendid samples of Sutton's New Intermediate Carrot, Veitch's Autumn Giant Cauliflower, The Lyon Leek, of gigantic dimensions; Imported Brussels Sprouts, Cave's Pinesfield Onion, a very good selection of the White Spanish, Leicester Red Celery, Trophy Tomatos and Vicar of Laleham Potatos. The other prizes went in the order named to Mr. S. Haines, Coleshill; Mr. W. Meads, Beckett Park; Mr. C. J. Waite, Glenhurst, Esher; and Mr. W. Pope, Highclere Castle. In two other classes for Onions there were also excellent competitions, and Mr. G. Goldsmith, Floore, Weedon, showed the finest samples of the Improved Reading variety; while with six bulbs each of Silver Globe, Golden Globe and Crimson Globe, Mr. S. Haines came in first. The Messrs. Sutton themselves contributed a remarkably large and interesting collection of Tomatos grown in the open-air, consisting of plants with their crops of ripe fruit upon them, dishes of separate varieties, and clusters of fruit showing the varying degrees of productiveness of the different kinds—a most useful and instructive display, for which the firm received a Silver Gilt Medal. Messrs. James Carter & Co. also offered a series of special prizes for Onions, Cauliflowers and Runner Beans. The best samples of Tennis Ball Onions came from Mr. R. Phillips, gardener, The Deodars, Meopham; and the finest Mont Blanc Cauliflowers and Champion Runner Beans from Mr. C. J. Waite.

NATIONAL CHRYSANTHEMUM.

A WELL-ATTENDED general meeting of this society was held at the Old Four Swans, Bishopsgate, on Monday last. The President, Mr. E. Sanderson, occupied the chair, supported by Mr. R. Ballantine, Mr. G. E. Lukes, and other officers of the society. The minutes of the last general meeting were read and confirmed, and the secretary reported that since that meeting several members had availed themselves of the new rule, by increasing their subscriptions to one guinea and upwards, and thus constituting themselves Fellows of the society. The prize list for the first show of early-flowering Chrysanthemums, held last month, was read, and it appeared that no less than £68 5s. had been paid for prizes, and altogether the show had been a very great success.

Upwards of forty silver and bronze medals of the society have been distributed amongst the affiliated societies for competition at the various November shows. During the evening twenty-four new members were duly elected, bringing the roll up to 360. Mr. T. Mardlin, of Finsbury Park, exhibited an excellent bloom of Comte de Germiny, measuring 20 ins. in circumference, and between 5 ins. and 6 ins. deep; the bold broad petals were of good substance, and the flower was well developed. Mr. Piercy, of Forest Hill, also exhibited some early-flowering varieties.

On Wednesday afternoon, the first of the autumn meetings of the society's Floral Committee was held at the Royal Aquarium, Westminster, when a few really good novelties were brought forward. Mr. N. Davis, Camberwell, contributed a beautiful group of plants in pots, and was awarded the society's Bronze Medal. A capital collection of cut blooms, including mostly the newer sorts, was staged by Mr. W. E. Boyce, of Highgate; and Mr. H. J. Jones, Hope Nursery, Lewisham, staged a dozen bunches of the best decorative sorts, tastefully arranged with Maidenhair Fern fronds. M. Simon Délaux also sent a series of cut blooms from France; but they were poor things, and one variety was shown under two names.

First Class Certificates were awarded to Mr. G. Stevens, Putney, and Mr. N. Davis, for Mons. William Holmes, a very fine Japanese variety, dense crimson with a golden wire edge, which gives the centre a yellow appearance; a very fine thing. To Mr. N. Davis and Mr. W. Wright, of the Temple Gardens, for Mdle. Elise Durdans, a remarkably pretty Pompon,

with almost globular flowers, pink with a light centre. To Mr. G. Stevens, for a Japanese variety, Miss Stevens, a fine large full flower, pink at first, then changing to white; and to Mr. Beckett, Elstree, for a Japanese, named Carcw Underwood, a showy fixed sport from Baronne de Prailly, orange ground shaded with bronzy red.

QUESTIONS AND ANSWERS.

INSECTS.—*Rez.*: 1 and 2, the larvæ of the common Curculio, which are very destructive to plants, succulent plants particularly. Water the plants with a weak solution of Fir-tree oil or some other insecticide. You had better experiment with a plant or two first. The fragments of Eucharis bulb sent appear to be affected by the Eucharis Mite. If in bad soil repot the bulbs, cleaning them before potting them into fresh compost, and grow them on briskly in a warm moist shady place.

NAMES OF PLANTS.—*D. L.*: Dendrobium chrysanthum, and what seemed to be only a small flower of Cœlogyne speciosa. How many flowers has it on a spike? *W. Robinson*: Rodriguezia suaveolens.

NAMES OF FRUITS.—*D. L.*: Pears—1, Fondante d'Automne; 2, Leon Leclerc de Laval. *T. C. W.*: Apple, Alfriston; Pear, Vicar of Winkfield. *Young Gardener*: Not recognised, the fruits having decayed before we could compare them.

HACKWOOD PARK.—*ERRATA*: By an oversight, Hackwood Park and grounds were described in our last, as comprising an area of 11,000 acres instead of 800 acres.

COMMUNICATIONS RECEIVED.—*W. P. R.*—*J. S.*—*H. C.*—*U. S.*—*T. L.*—*B. L.*—*T. B.*—*T. P.*—*E. B. H.*—*F. L.*—*J. F.*—*A. Gardener.*—*D. M.* (we have no record of your letter having reached us).—*J. U.*

LONDON SEED TRADE.

October 13th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report very little business at to-day's market. Winter Tares still move, but at very low prices. New samples of American Red, also Canadian Alsike, are to hand, but do not find buyers. Blue Peas move slowly, also Haricot Beans. Hemp is very cheap. Canary Seed is dearer. Linseed is dearer.

COVENT GARDEN MARKET.

October 14th.

FRUIT.—AVERAGE WHOLESALE PRICES.					
	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6	3 6	Peaches, per doz.	3 0	9 0
Cherries, $\frac{1}{2}$ sieve			Pine-apples, St.		
Currents, $\frac{1}{2}$ sieve			Michaels, each	2 6	8 0
Grapes.....per lb. 0 6	2 0		Pine-apples, Eng., lb.	3 0	4 0
Kent Cobbs, 100 lbs. 55 0			Plums, $\frac{1}{2}$ sieve	0 9	2 0
Melons, ...each 1 0	2 0		Strawberries ..per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.									
	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0	
Beans, French, per lb.	0	4		Lettuces . . per dozen	1	6			
Beet, per dozen	2	0	3	0	Mushrooms, p. basket	1	0	2	0
Cabbages per doz.	2	0	2	6	Onions, per bushel . .	4	0	6	0
Carrots, per bunch . .	0	6			Parsley, per bunch . .	0	6		
Cauliflowers, English, per dozen	3	0	5	0	Radishes, per dozen . .	1	6		
Celery, per bundle . .	1	6	2	6	Small salading, punnet	0	4		
Cucumbers, each	0	6	0	9	Spinach, per strike . .	2	0		
Endive, French, doz.	2	6	3	6	Tomatos, per lb.	0	9		
					Turnips . . . per bun.	0	6		

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.					
	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	4	0	6	Lilium longiflorum,	
Arum Lilies, 12 blms.	4	0	6	12 blooms	4 0 6 0
Azalea, 12 sprays . . .	0	9	1	Liliums in variety,	
Bouvardias, per bun.	0	6	1	12 blooms	2 0 0
Camellias, 12 blooms	3	0	6	Marguerites, 12 bun...	3 0 6 0
Carnations, 12 blooms	1	0	3	Mignonette, 12 bun...	1 0 3 0
Chrysanthemums,				Parne Violets(French),	
12 blooms	1	0	6	per bunch	4 0 5 0
Chrysanthemums,				Pelargoniums, per 12	
12 bunches	4	0	8	sprays	0 9 1 0
Dahlias, 12 bunches	3	0	6	— scarlet, 12 sprays...	0 3 0 6
Daisies, common,				Primula, double, bun.	0 6 1 0
12 bunches	2	0	4	Pyrethrum, 12 bnchs.	2 0 4 0
Eucharis, per dozen..	4	0	6	Roses 12 bunches	2 0 6 0
Forget-me-not or Myo-				Roses (coloured)	0 9 1 0
sotis, 12 bunches ..	2	0	4	Roses, Tea per dozen	0 9 3 0
Gardenias, 12 blooms.	2	6	4	Stephanotis, 12 sprays	4 0 6 0
Gladioli .. 12 sprays	1	0	2	Sweet Peas, doz. bch.	1 6 3 0
Heliotropes, 12 sprays	0	6		Sweet Sultan, 12 bun.	
Lapageria, red,				Tropeolums	1 0 2 0
12 blooms	1	0	1	Tuberose, per dozen.	0 4 0 9
Lapageria, white,				Violets .. 12 bunches	0 9 1 0
12 blooms	2	0	3	White Jasmine, bun.	0 6 0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.					
	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	Ficus elastica, each.	1 6 7 6
Asters, per dozen....	4	0	8	Foliage Plants, vari-	
Balsams per doz.				ous, each.....	2 0 10 6
Begonias, per dozen..	6	0	12	Fuchsia, per doz.	3 0 6 0
Bouvardia, per doz.	9	0	12	Gladioli, 12 pots	
Chrysanthemums, doz.	4	0	12	Hydrangea .. per doz.	
Cyperus, per dozen ..	4	0	12	Liliums per doz.	
Dracæna term., doz.	30	0	60	Marguerites, per doz.	6 0 9 0
— viridis, per dozen	12	0	24	Mignouette, per doz.	4 0 6 0
Erica gracilis, per doz.	12	0	18	Palms in variety, each	2 6 21 0
— hyemalis, per doz.	18	0	24	Pelargoniums, doz. ..	
— Regerminans . doz.	9	0	12	Pelargoniums,scarlet,	
Evergreens, in var.,				per dozen	3 0 6 0
per dozen	6	0	24	Petunias, per doz. ...	
Ferns, in var., doz.	4	0	18		

POTATO MARKET. October 11th. During last week 475 trucks arrived at King's Cross, and ninety-one trucks came in this morning, increasing the stock to 362.—

	Lincolns.	Yorks.	Bedfords	Kents.
Magnums, good samples.	55/- to 65/-	60/- to 70/-	50/- to 60/-	70/- to 90/-
Regents do. do.	52/6, 55/-	70/-, 80/-	.....	65/-, 70/-
Beauty of Hebron do.	62/6, 65/-	.....	65/-, 70/-	90/-, 100/-
Champions do. do.	40/-, 47/6	.....	.....	55/-, 60/-

Prices have slightly risen the last few days, for best samples, good stuff being very scarce upon the market. Cold weather is much needed to improve the trade. Prospects good for the ensuing week.

THE Gardeners' Royal Benevolent Institution.

NOTICE IS HEREBY GIVEN that an addition to the List of Pensioners of this Institution will be made in January next. All persons desirous of becoming candidates are required to send in their applications to the Committee on or before 10th November next, after which day they will not be received. Preference will be given to those applicants (or their widows) who have been subscribers for fifteen clear years. Should there not be sufficient of this class of applicants to fill the vacancies, then the claims of others will be considered.

(By order) EDWARD R. CUTLER, Sec.

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6th October, 1886.

P.S.—Printed forms and all information can be obtained from the Secretary.

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BRIGHT BLUE	15s. 0d. " ; 2s. 0d. "
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BRIGHT RED	20s. 0d. " ; 2s. 9d. "
PURE WHITE	27s. 6d. " ; 3s. 9d. "
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LARGE WHITE	14s. 6d. " ; 1s. 9d. "
MIXED, all colours	12s. 0d. " ; 1s. 6d. "

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DOUBLE or SINGLE	21s. per 1000; 2s. 6d. per 100.
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SINGLE DAFFODIL (Lent Lily). Per 100, 3s.	
DOUBLE DAFFODIL. Per 100, 3s.	
PHEASANT'S EYE NARCISSUS. Per 100, 3s.	
DOUBLE WHITE SWEET-SCENTED NARCISSUS, Per 100, 4s. 6d.	

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Sheffield and West Riding Chrysanthemum Society.

THE SECOND ANNUAL EXHIBITION will be held in the Sheffield Corn Exchange on Friday and Saturday, November 19th and 20th. Liberal Prizes in the Open Classes.
Schedules and further particulars of W. K. WOODCOCK, The Gardens, Oakbrook, Sheffield.

CHRYSANTHEMUM SHOW, YORK, 1886. Held in the FINE ART EXHIBITION BUILDING, on November 17th, 18th, and 19th. Liberal Prizes for PLANTS, FLOWERS, FRUITS, and VEGETABLES. Schedules, &c., to be obtained of J. LAZENBY, SPURRIERGATE, YORK.

National Chrysanthemum Society, Royal Aquarium, Westminster.

GRAND CHRYSANTHEMUM, FRUIT and VEGETABLE EXHIBITION, Wednesday and Thursday, November 10th and 11th. Schedules free on application to

Mr. WILLIAM HOLMES, Hon. Sec., Frampton Park Nurseries, Hackney. The Floral Committee will meet on Wednesdays, October 27th, November 10th and 24th, and December 8th at 1.30 p.m.

CRYSTAL PALACE CHRYSANTHEMUM SHOW, November 5th and 6th. For Schedules, &c., &c., apply to W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, October 26th, and WEDNESDAY, October 27th.

SHOW OF CHRYSANTHEMUMS, VEGETABLES, &c. N.B.—Open to Fellows at Twelve o'clock on Tuesday, and the Public at One o'clock; on Wednesday at Ten o'clock a.m.

Next Week's Engagements.

MONDAY, Oct. 25th.—Bulb Sales at Stevens' and Protheroe & Morris's Rooms.

TUESDAY, Oct. 26th.—Meeting of Fruit and Floral Committees at South Kensington.—Chrysanthemum and Vegetable Show (two days).—Special Sale of Orchids in Flower at Protheroe and Morris's Rooms.—Extra Sale of Dutch Bulbs and Plants at Stevens' Rooms.—Sale of Nursery Stock at Cobbett's Nursery, Woking, by Protheroe & Morris (3 days).

WEDNESDAY, Oct. 27th.—Sale of Dutch Bulbs at Stevens'; and Plants and Lilies at Protheroe & Morris's Rooms.—Meeting of Floral Committee of the National Chrysanthemum Society.

THURSDAY, Oct. 28th.—Sale of Imported and Established Orchids at Stevens' Rooms.—Sale of Dutch Bulbs at Protheroe and Morris's Rooms.

FRIDAY, Oct. 29th.—Sale of Imported and Established Orchids at Protheroe and Morris's Rooms.

SATURDAY, Oct. 30th.—Bulb Sale at Stevens' and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 23, 1886.

WINTER VEGETABLES.—Although the cropping and planting season in our vegetable gardens is past, the crops so luxuriant and productive during the summer—Peas, Beans, Potatoes and other tender things, which bring so much of succulence and plenty to our summer dinner

tables—have disappeared, and we must now depend for vegetable sustenance upon the hardier denizens, of which the Brassica family present such valuable elements. Really, in any good garden, well cropped and tended, we find, in spite of the winter season with its inclemency, that there is still a wealth of material at our command—still wondrous abundance, which serves to make the garden fresh and varied in spite of so many disappearances.

Few gardeners, probably, whilst doubtless thankful that they have so many good-class vegetables to maintain the supply essential in these days, yet rarely think over the difficulties which troubled their progenitors in the days when gardening was primitive; and whatever may have been human wants, indeed the opportunities of satisfying them were few. There is hardly a vegetable of any importance which does not seem to have undergone change and improvement during an average lifetime, whilst very appreciable additions have been made to varieties, all of which wondrously help in the duties which a gardener is called upon to discharge. We have not only in vegetables, but in flowers, a wealth of products of which our grandfathers could hardly have dreamt of, and for the possession of which—assuming they were troubled with ambitious conceptions—they must have sighed for in vain. Perhaps our descendants a hundred years hence will pity the unhappy lot of gardeners in these old-time days, doomed to provide for the wants of their employers, or of the public, with the indifferent products of to-day; and yet we have those amongst us now who think not only that improvements are impossible, but almost hold that in vegetables none have been effected during their lives. Argument is thrown away upon such obtuse minds; but those not so indifferent to facts will readily admit that if growth in quality and in quantity has been gradual, it has also been substantial.

But if we have any doubts as to the capacity of the garden to maintain decently during the winter the supplies so abundantly found during the summer, let us look through the quarters and see what is now in robust growth, because so hardy and enduring. Foremost comes the "greens" or Brassica family, and of the members, what more useful or enduring than a good breadth of Brussels Sprouts? Why, not only have we learnt that there is an art in the cultivation of these of which our forefathers were ignorant, but we have such splendid strains, that it seems to our limited range of conception as if further improvement was not only impossible, but needless. We may almost say of a garden which has a big breadth of good Brussels Sprouts, that it was a vegetable as useful and popular in the winter as Peas are in the summer. Next comes the grand introduction of a year yet recent—Veitch's Autumn Giant Cauliflower, almost a marvellous product, because now grown in vast quantities, and filling a void which in old days existing Cauliflowers failed to do. Praise is yet given to this vegetable as if it were a novelty; gardeners, year after year, find it to be of such wondrous usefulness, that they cannot well restrain their enthusiasm when remarking upon its excellencies. Whilst they wonder now how they could manage without it, do they ever wonder also how the old gardeners did? It is one of the strong arguments which may be quoted when advance in vegetable production is maintained.

We find in this branch of Brassicas hardy purple sprouting, and of several superb kinds of white Broccolis, from Snow's Winter White on to Ledsham's White or Model, giving some five months' constant supply of white firm heads. Then there are not a few members of the Cabbage section—big Savoy for the million, Small Dwarf Curled and Early Ulm

for the toothsome; while Cabbages, too, in great variety, turning in now, at Christmas, or at the close of the winter. Specially good are the tender, Rosette Coleworts, and for variety the Kales in the frosty season are delicious. Really, of the Brassicas alone we find a wealth of varied and delicious winter vegetables. Then there are breadths of Turnips in rapid succession, and yet so arranged as to give pullings nearly all the winter. Carrots, Parsnips and Beet are all admirable winter roots, and the autumn-sown Onions prove of the greatest value in making mixed salads, in which cooked Beet with well-blanché hardy Endives and Lettuces figure so prominently.

Look, again, at Celery—what a prominent feature is not this in any good garden? We could not have this pleasing salad in summer, and if we had should hardly enjoy it; but under the winter sky it becomes so sweet and crisp that it is well worth submitting to some of the trials of hard seasons, that we may be enabled to enjoy the rich flavour of well-blanché Celery. Breadths of Endive and hardy Lettuce are provocative of dainty snacks of lobster salad, with accompaniments of ham and fowl, in the one case; or, perhaps, in a humbler fashion, helps to the enjoyment of cold ham or of cheese. We may not, in this rough *resumé* of the contents of a good vegetable garden during the winter, omit mention of such a useful product as Spinach, a vegetable if little esteemed during the summer when more tempting kinds are plentiful, is far too good to be ignored in the winter.

It is not only that this wealth of hardy products renders gardening in the winter profitable, it makes it also enjoyable. A garden devoid of all green vegetables in the winter is little better than a desert. Those who need vegetable luxuries may find in their gardens, making no display, but still there in useful form, such roots as Sea Kale, Asparagus and Rhubarb. These are resting, but, still, awaiting only the warmth needful to promote growth and development. Lift these roots and place them into gentle heat, such as the sun will give to the open ground in the spring, and they will soon give a wealth of good things—food for gourmands whose palates need something more refined than Brassicas. But for winter, we should not realise to the full the value and usefulness of one half of our garden vegetables.

MR. STEVENS, of Trentham, died on Wednesday last, see p. 126.

THE young gardeners at Chiswick have established a GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION, with Mr. A. F. Barron as president; Mr. John Fraser, Kew, as chairman; and Mr. John Barry as secretary.

MR. R. WELLES, for the last two years foreman at Balrath Barry, Kells, has been appointed gardener to W. G. Ashby, Esq., The Highlands, Burgess Hill, Sussex.

A SEVERE storm passed over High Wycombe on Tuesday night, during which the HAILSTONES literally cut the leaves of Strawberry and other plants into pieces.

THE CHRYSANTHEMUM SHOWS in the Temple Gardens and Finsbury Park, were opened early in the week, but will not be at their best for another week or ten days. We hear that the Finsbury Park Show promises to be unusually fine.

To-morrow, Sunday, M. ED. PYNAERT, of Ghent, is to be presented with a splendid work of art in bronze, and an album of portraits of his friends, to commemorate the termination of his twenty-five years' service as Professor of the State School of Horticulture at Ghent.

MR. THOMAS BRADSHAW, lately at Charville, Tullamore, has been appointed gardener at Hillsboro' Castle, County Down, Ireland.

At the meeting of the BELGIAN CHAMBER OF HORTICULTURE, held in Ghent on the 15th inst., Certificates of Merit were awarded to Messrs. Vervaeke & Co., for *Odontoglossum crispum* var. *de Pacho*; and to Messrs. Desbois & Co., for *Richardia æthiopica* fol. var.

MR. E. MOLYNEUX, Swanmore Park Gardens, Bishop's Waltham, who during the last few years has taken most of the leading prizes for CHRYSANTHEMUMS in the South of England, has in the press an illustrated book on the subject, which is expected to be ready for publication about November 1st.

At a meeting of the Council of the Scottish Horticultural Association, held in 5, St. Andrew Square, Edinburgh, on Tuesday night, Mr. Alexander Milne, president, in the chair, it was definitely arranged to hold a great Chrysanthemum show in Dowell's Rooms, George Street, on Tuesday and Wednesday, 7th and 8th December.

WE understand that Messrs. Sutton & Sons, Reading, have been awarded a Gold Medal for their extensive exhibits of seeds, grasses, &c., at the Liverpool International Exhibition of Shipping and Commerce. This makes the second Gold Medal which the Messrs. Sutton have been awarded at Liverpool this year; the first one being for the magnificent display of Horticultural produce—seeds and grasses in growth—made by them at the Royal Horticultural Society's Great Provincial Show.

THE LEWISHAM AND DISTRICT FLORAL SOCIETY announce their Chrysanthemum Show for Friday and Saturday, November 12th and 13th, at the Ladywell Public Baths, Lewisham, and judging from the success of their summer show we anticipate a capital exhibition. The society, which is chiefly composed of amateurs, was only formed last year, and has already a roll of about 200 members. The schedule contains classes for amateur members, and open classes for nurserymen and gentlemen's gardeners. In the open class a prize of £5 is offered for forty eight blooms (twenty-four Japanese and twenty-four incurved); altogether they offer seven silver and eight bronze medals of the National Chrysanthemum Society, together with certificates and a good list of money prizes. It is only fair to say, the success of this young society is mainly owing to their enthusiastic hon. secretary, Mr. Henry Drake, of 64, Limes Grove, Lewisham.

At the usual fortnightly meeting of the MAIDSTONE GARDENERS' SOCIETY, held on the 14th inst., there was a fairly good attendance of members, and a rather more than average display upon the tables. After a general discussion on the subjects exhibited, Mr. Archer started a debate on Aster culture, in which Messrs. Godden, Elbourn, Carr, Robinson, Pettit, Loveland, and Town, joined; the greatest divergence of opinion being about the time and manner of sowing the seed, and the advisability of disbudding for exhibition purposes. The committee announced that after giving the matter their most careful consideration they were unanimously of opinion that Wednesday was a better day upon which to meet than Thursday, and they strongly recommended a return to the Wednesday evening meetings. This recommendation was adopted, and, consequently, the next meeting will be held on Wednesday next, when the subject of *Bouvardia* cultivation will be introduced. Commencing with the first meeting in January next, a series of monthly shows will be held, on much the same lines as the fortnightly exhibitions of the past session, but the details are not yet settled.

JUDGING CHRYSANTHEMUMS.

I THANK "A. D." for drawing attention to my omission of reference to "distinctness" as an essential quality in a stand of any number of varieties; I thought I had referred to that matter, as it was in my mind at the time of writing, and I meant doing so. I can scarcely agree with the suggestion that sub-varieties should be excluded from stands of any number, but this is a matter for the consideration of the committees of Chrysanthemum shows, and judges ought not to consider this unless the schedules specifically state that no sub-varieties can be admitted, or only a certain number of sub-varieties. When two stands are equal in every other respect, then the stand containing the most distinct colours should be placed first; but I do not think that distinctness of colour, or rather, the greatest diversity of colour should be allowed too much weight, although I know some judges lay great stress upon that. An absence of colouring does not necessarily imply an absence of beauty; nor can violent contrasts compare with a harmonious blending of colours and tints; the one is too frequently the outcome of vulgarity, whilst the other is a true index of refine-

ment, and, as such, ought to be encouraged, but not to the disparagement of distinct colours in general or of any colour in particular.

I have said that I could scarcely agree with the suggestion of "A. D." in regard to sports or sub-varieties, and my reason is because many of our most beautiful Chrysanthemums would be excluded. I do not think, either, his objections to "sports" in particular rests upon a sound basis; for if once we admit the principle of ineligibility on account of proneness or liability to revert to parent forms, where shall we be able to stop? "Sports" are not the only variations that are liable to revert. The desirability, or otherwise, of forming classes for botanically distinct varieties is a legitimate subject for discussion, and I hope "A. D." will favour us with his views more fully. Where two flowers of the same kind are exhibited in a stand that ought to contain distinct sorts, such stand would be rightly disqualified—in saying this I am considering "sports" like Golden Empress, George Glenny, and Golden Queen of England as distinct varieties; but in the case quoted at p. 91 the varieties were distinct in the sense desired by "A. D."

I am sorry "A. D." underrates the statement about colour-blindness. It is an affliction far more widespread than he appears to think, and very likely more than is commonly believed; but, comparatively few of those so afflicted are disposed to admit it, even when their defect is very palpable; and "A. D." himself shows that my remarks are not quite groundless, by asking exhibitors to present more "absolute distinctness" of colours, owing to it being "very hard, indeed, to distinguish one flower from another."

I submit, with all respect to "A. D.," that to an experienced man with fairly good eyesight, and with the advantage of a good light, it is not very difficult to distinguish the varying shades of the different colours when placed in juxtaposition, as they are in the case of Chrysanthemums on exhibition stands, even the degrees of whiteness being very distinguishable between some varieties. For example, who would confound the almost "dead" white of Mrs. Rundle with the creamy white of Eve, or the pearly whiteness of Venus with the nearly opaque whiteness of Mrs. Heale? Then, again, who would take the nearly triangular-formed petal of White Globe for the broad strap-shaped petal of Empress of India? and each variety varies in texture and transparency of petal.

If we take the pink-coloured Chrysanthemums, we have still greater distinctness in shades. Taking Princess of Teck as the palest, and which may correctly be termed blush-white, it is a "far cry" to the delicate pink of Queen of England, and quite a contrast when compared with the deep rosy pink of Alfred Salter; then we have decidedly different pinks in Hero of Stoke Newington and Lady Hardiug, and in Empress Eugénie and Novelty.

There is as great diversity amongst the yellow Chrysanthemums, from the rich Indian yellow of Mr. Bunn, the golden yellow of Jardin des Plantes, the dull deep yellow of Mrs. Dixon, and the lighter yellow of Golden Beverley; through the shades of Primrose-yellow of Golden Empress, Golden Queen of England, and George Glenny, to the pale straw or creamy white of Lord Alcester. We have the same distinctness of shades through the bronzes, reds, crimsons and purples, and if exhibitors take care not to set up varieties that are synonymous, there ought not to be any blunders committed by those whose duty it is to make the awards; but considerable mischief has been done by unscrupulous people sending out old varieties under new names, thereby causing great confusion and many heart-burnings. At one time there was scarcely a list of Chrysanthemums extant but what had several varieties under twice as many different names; and judges in times past being aware of this state of things, have exercised a wise toleration and forbearance in the matter of disqualifying stands that they had reason to think contained duplicates, but which, in perhaps all cases, were set up in good faith as distinct varieties by the exhibitors. The National Chrysanthemum Society is doing a good work in trying to check and eradicate the evil, and I am sure all lovers of the Chrysanthemum will heartily co-operate with them.

Committees of Chrysanthemum Societies, and for that matter all kindred societies, should exercise great care in drafting their schedules, especially the classes; the terms relating thereto being so distinctly specified, that it shall be almost impossible for strangers to in-

interpret them in more than one way. Committees are too apt to do this part of the work hurriedly and indifferently, as though it was of little moment, thus giving rise to ambiguity. They know what they mean, therefore other people ought to know what is meant, hence the frequent mistakes and misunderstandings. The words "dissimilar," "distinct," "distinct varieties," "distinct kinds," "kinds," "distinct sorts," &c., are used indiscriminately, and scarcely any two individuals outside the committee place the same meaning upon the terms used; and very frequently some of the committee have not the remotest idea as to the correct meaning of the words used. I feel sure "A. D." can say something on this subject, and I hope he will "come out." *J. Udale, Elford, Tamworth.* P.S.—On p. 91, the word "lie" should read "tie."

I HAVE read Mr. Udale's remarks on judging Chrysanthemums with great pleasure, and may say that my reason for starting the subject was, that during the past few years a great falling off has been noticed at shows of the blooms that I should like to call fancy Chrysanthemums, viz., those of the "Rundle" or "Glenny" type, or in other words, medium-sized blooms of incurved varieties; and not only have the gardeners noticed this but the public also. However, Mr. Udale does not think with me in this matter, and tells us that scarcely a stand is staged that does not include some of the flowers mentioned. He also alludes to blooms of Mrs. George Rundle, Mr. George Glenny, &c., measuring 8 ins. to 9 ins. across, and the large-flowering kinds, 10 ins. to 12 ins. in diameter. Are not such statements misleading? Our show-boards for incurved blooms are not allowed to have the holes for the cups more than 6 ins. apart, and it appears to me impossible to show flowers measuring from 8 ins. to 12 ins. across on them. However, I hope Mr. Udale will explain. I still think it would be more fair to exhibitors if Chrysanthemums were divided into two classes, viz., show and fancy. I should place Mrs. George Rundle as queen of the fancy class, and Empress of India at the head of the large-flowered or show class. I consider, that if Mrs. George Rundle is cultivated to the size named by Mr. Udale, viz., 8 ins. or 9 ins. in diameter, she loses her lovely form; the best blooms I have seen of this flower never exceeded 5 ins. across.—*A Gardener.*

"CHORO-GI."

WE are indebted to the courtesy of Messrs. Vilmorin-Andrieux & Co., of Paris, for the following particulars respecting the new vegetable, "Choro-Gi" (recently mentioned in these columns), extracted from M. Paillieux work, *Le Potager d'un Curieux*:—"Stachys affinis is a native of Northern China and Japan, and is a perennial plant, forming numerous underground tubers, formed by a succession of nodosities, somewhat resembling the tops of the swollen roots of *Ærrhenatherum elatius* var. *bulbosum*. Stem single or branching, erect or in a prostrate position at the base, quadrangular, with hispid hairs on the angles, and from 10 ins. to 16 ins. high. Leaves opposite, long-stalked, rugose hispid, with a heart-shaped base, toothed, and crenate; the lower ones oval, the upper ones oval-oblong, and gradually becoming smaller as they approach the top; flowers sessile, borne 4-6 in distinct pseudo-whorls. In our ground the plant has proved extraordinarily vigorous, and has yielded an abundance of tubers, but we have only observed a few flowers on more than fifty fully-developed plants.

"In the spring of 1882 we received from the Acclimatisation Society a box containing tubers of *Stachys affinis*, which had been sent to the society by Dr. E. Bretschneider, Physician of the Russian Legation at Pekin, but all but five or six tubers perished during the voyage. Such, however, is the ease with which it is propagated, that the loss of the greater part did not grieve us. From the first year each tuber planted on an old hot-bed gave us a satisfactory increase, and from the second year the plants left on the bed yielded from 200 to 300 per cent. By this means we were enabled to send plants to the vegetable section of the Acclimatisation Society, and, following the example of the Japanese, to introduce into our pickles a pretty large proportion of tubers. The result has been very satisfactory.

"For five or six years we had in vain asked for 'Choro-Gi' in Japan. The plant is hardy, having stood without protection through the winter of 1882-83,

though it is true that winter was not a very rigorous one. Belonging to Northern China, it will, however, probably stand the hardest winters. The tubers of 'Choro-Gi' are used in Japan for pickling in Plum vinegar, but are not used in the same way in China; Dr. Bretschneider, on being questioned by us on the subject, however, could not say how they are prepared for the table. The tubers, which are small, French-white, and of fine shape, have no flavour of their own, but readily absorb the aromatic vinegar in which they are immersed. We recommend that they be mixed with Angouina (*Trichosanthes anguina*), *Tropæolum tuberosum*, and Mioga (*Zingiber Mioga*, or *Amomum Mioga* of Kämpfer). The sight of the nice small tubers of 'Choro-Gi' is sufficient to induce us to consign them at once to the frying-pan, either in their natural state or plunged into paste and seasoned with Lemon-juice. Cooked in the latter way particularly, they make an agreeable dish, which can be made use of the whole winter. We must observe, however, that the tubers cannot be kept out of the ground, or out of a sand-heap under cover, as if exposed to the air they soon blacken and wither, and in a few days are lost."

The Messrs. Vilmorin, to whom we are also indebted for the use of the accompanying illustration, remark that in their opinion "Choro-Gi" is more of a curiosity



"CHORO-GI"—*STACHYS AFFINIS*.

than a vegetable; but as we have "only one sauce," and not too great a variety of pickles, we should certainly like to see it well tried for the latter purpose.

NEW ZEALAND VERONICAS.

DURING the past season, Mr. T. S. Ware, of Tottenham, has several times exhibited at South Kensington, plants of some dwarf New Zealand Veronicas, that appeared to be admirable subjects for furnishing window-boxes as a change from the stereotyped *Euonymus*; and having had opportunity of seeing them growing side by side in the nursery, we think, decidedly, that their merits deserve wider recognition than they have yet obtained.

Veronica epacridea is very dwarf in habit, with Epacris-like shoots, densely clothed with bright green box-like leaves, and the younger growths tipped with golden yellow.

V. buxifolia—the box-leaved Veronica—has a very neat dwarf habit, with decussate leaves, and the young shoots also tipped with yellow.

V. pinquefolia, used to be called *V. buxifolia*, but this name rightly belongs to another plant, as above indicated. It is very dwarf, has small glaucous green leaves and is remarkably free flowering.

V. carnosula much resembles the last named, but is double the size and lighter in colour, and slightly varies when raised from seeds.

V. ligusticifolia is distinct in habit from the others,

having long bright green leaves and a dwarf prostrate style of growth.

V. chatamica is more distinct still in its dwarf habit of growth, which renders it more than any of the others specially adapted for growing on rockwork, though certainly none of them would be out of place in such a position.

Both these and the lovely *V. Traversii*, which Mr. Ware grows largely and well, are perfectly hardy at Tottenham, and we heartily commend them to the notice of all who like choice and useful hardy subjects.

THE CLAPTON AND BUSH HILL PARK NURSERIES.

To a genuine lover of plants, next to the enjoyment he obtains in attending to the requirements of those which he himself possesses, perhaps the greatest pleasure he enjoys is an inspection of the floral possessions of others, and especially for choice, a well-stocked nursery establishment. Among the horticultural wonders of the Metropolis must be included Messrs. Hugh Low & Co.'s extraordinary plant emporium at Clapton, and their extensive and still more perfectly organized branch Nursery at Bush Hill Park. At Clapton, the Orchid department alone is at all times worthy of a visit, so vast in extent is this particular branch of their business. Looking through the wonderful collection, who could fail to admire, even at this dull season, the long houses devoted exclusively to *Cattleya Mendelii*, *C. Mossiae* and other popular species of this favourite genera; of *Cypripediums*, of *Odontoglossums*, of *Phalenopsis* and other subjects, too numerous to mention except in a catalogue. It is not my intention, even if I could do it, to give any idea of the enormous floral riches to be seen here; I simply desire to record a few things which I saw during a hurried visit paid a few days ago.

In the Orchid houses I noted a pretty group of varieties of *Cattleya Gaskelliana* in bloom, with scarcely two alike, and among them a pure white form with only a slight dash of purple on the lip. A splendid batch of *Barkeria spectabilis*, flowering most freely, also claimed our admiration; as did a flowering plant of *Pilumna nobilis*, the white blossoms of which are delightfully scented. The scarce *Trichopilia Wagneri* was also in bloom, its broad white lip forming a pleasing contrast to its pale green sepals and petals. A batch of *Odontoglossum Roezlii* in the most perfect health are as pleasing a sight as if they were in bloom; and the collection of *Cypripedium Lawrencianum*, all together, must alone be unmatched for extent. The *Phalenopsis*, too, are superbly cultivated, and in one of the houses devoted mainly to youngsters, batches of *Cattleya superba splendens* and *C. Eldorado* may be seen making luxuriant growths and going to flower freely. Mr. Low gives them plenty of heat, and they are found to enjoy the temperature of the *Phalenopsis* house. Another Orchid in bloom I must not omit to mention—a remarkably high coloured *Lælia Dayana*, with deep rose sepals and petals, and the dark purple colouring of the lip of a deeper shade than any I can remember having seen before.

Having but little time to spare I did not attempt an inspection of the grand collection of New Holland plants, all the leading and good old-fashioned sorts of which, I was pleased to see, are still kept in stock, for many of them are gradually being driven out of our gardens by easily-grown things—"something that we can cut from and won't give much trouble." The winter-flowering Heaths are a grand stock—these still grow well here in summer, but the climate is getting worse, and they are now sent to Bush Hill Park to flower. Ferns, Palms and Azaleas may be seen by thousands, and a house full of Tree Carnations is very gay and promises to yield a rare harvest of blossoms during the dull months near at hand. A great favourite here is Andalusia, a full double yellow with fringed petals, which is not given to bursting its calyx to any serious extent. Rufus is pointed out as one of the finest of the bright scarlet section. Whipper-In is a pretty crimson-striped flower; and Ruby, of a rich port-wine colour, is also a fine variety. The several large houses of Bouvardias are a sight in themselves, so thoroughly good is the quality of the plants. The comparatively new Priory Beauty is much in favour; its single flowers are blush-pink in colour, and are produced in good masses with wondrous freedom. The older Dazzler is also largely grown, a fact which may be taken as sufficiently proving its merit.

Leaving Clapton, a few minutes' journey by train lands us at Bush Hill Park, some seven miles away, and near the station is the branch establishment, which the Messrs. Low started some six years ago, and which is about forty-three acres in extent. Here has been built, on a conveniently arranged plan, a block of forty-six large, light, yet substantial houses, perfect models of what such structures should be for plant cultivation, and heated by some fifteen powerful boilers. At first the Rochford boilers were put down, but experience has taught the firm that the terminal-end saddle is the most economical form, and the latest boilers put in are of this pattern.

Here are grown great numbers of climbing Roses in pots—Maréchal Niel, Gloire de Dijon and others, averaging 14 ft. in length, a good number of pot Vines, immense quantities of decorative Pelargoniums, Azaleas, Camellias, Solanums, Hydrangeas, Heaths, Cytisus, Cyclamens, Marguerites, Palms, Maidenhair Ferns, &c. In smaller quantities I noted a pretty lot of *Acacia armata*, some of them standards, with clean stems about 18 ins. high—rather a novelty; *Acacia Drummondii*, fine bushy little plants; *Cyperus distans*, a neat compact plant, green leaved and dwarfer than *alternifolius*, altogether a better market plant; Tea Roses in 48's and 32's, very good; *Solanum jasminoides*, a fine stock of one of the best of white-flowering climbers; *Azalea amœna*, a very fine lot; *Tecoma jasminoides*, dwarf plants in 48's, full of scarlet blossoms; *Jasminum gracillimum*, full of buds for winter blooming; and a host of other things I had not time to make a note of.

The Messrs. Low have gone largely into the cultivation of fruit trees, and the large quarters of all kinds attest alike the quality of the soil and the ability that has been brought to bear on the manipulation of the trees. Quarter after quarter is inspected, and both standards and trained trees of Apples, Pears, Plums, Peaches, Nectarines and Apricots are all of the most admirable character. *Aucubas* are also largely grown, as are the golden-leaved and other *Euonymuses*—very bright in colour. Need I say more—though these establishments well deserve it—to make good the assertion I set out with, that the Messrs. Low's establishments are wonderful places?—*Sabrina*.

AN EVENING WITH FERNS.

(Continued from p. 103.)

ANOTHER plant of this division is *Woodwardia radicans*: this plant will make fronds 6 ft. to 8 ft. long, which are distinctly pendulous. To see this Fern in its beauty, it should be grown in a large basket, or planted on a projecting rock at one end of the house, where room can be given for the growth and display of its lengthy, light green fronds. In the Fernery at Tatton Park there are several masses of this plant, thoroughly established in such a position; and the effect of from eighty to one hundred fronds, averaging 8 ft. in length, with a young plant growing from the tip of the fronds, is one of noble appearance as well as majestic beauty. Grown cool, this plant is not so readily attacked with thrip as when it is placed in the stove.

Passing from these of more massive proportions, we will notice that lovely class of *Trichomanes*, *Todeas* and *Hymenophyllums*, known as filmy Ferns. These charming plants have a distinct and peculiar attractiveness of their own, and, perhaps, they are seen best when planted out in a rustic Fernery where their creeping rhizomes may run along the rocks and soil and gradually push up and unfold their almost transparent fronds. The majority of these require a greenhouse temperature; but a house or division must be set apart if a large number of them are grown. Where only a few are cultivated, a small handlight or glazed portion in the house can be devoted to them. The conditions for their successful culture are a cool moist atmosphere where shade is always given, and where the admission of air does not cause the fronds or the surroundings of the plants to dry up quickly. Many of the species can be grown in pans with a bell-glass over them. Ample room must be allowed for their development, and if the inside of the glass is occasionally wiped dry it prevents an excess of humidity, which is apt to cause sourness, followed by sickness and death. Fire-heat should not under any circumstances be given to this class so as to injure them. If the foliage dries rapidly, thrip will appear, and once these tender subjects are thus affected,

it is extremely difficult to clear away the pests; for fumigating—the surest remedy—is apt to become very injurious, because the fronds are almost always moist, in which state the fumes from Tobacco smoke are as bad as the pest itself. *Todea superba* may be grown in a glass erection where there is no fire-heat at all. Here, where the surroundings are humid and regular, it will push fine clusters of fronds, which gradually unfold, and soon have a light green feathery appearance. This species may be grown outside in the hardy rockery, when it is best to cover it with a bell-glass or handlight; for though it will stand 10 or more degrees of frost, and continual covering with snow, it does not under these trying conditions succeed so well as when precaution is taken against these severe and low degrees of temperature. A brick pit with a sliding light is a capital place to stand these *Todeas* in, of course, shading them as much as all other Ferns. The Killarney Fern, *Trichomanes radicans*, can also be grown under exactly similar conditions. It will also grow freely in a Wardian or glass case in a window. If much sunshine enter the window, it would be preferable to plant one or two more hardy sorts not so easily injured by changes of temperature.

When well-grown basket Ferns are always objects of beauty and interest—and, truly, some species are of such pendulous and drooping habit that it is only when thus managed that their beauty can be thoroughly seen and admired. Some of the *Adiantums* are charmingly adapted for this method of treatment; *A. assimile*, *A. cuneatum* and its crested varieties, *A. Capillus-veneris lunulatum*, *Asplenium flabellifolium*, *Premorsum laceratum*, *Drynaria diversifolia*, *Goniophlebium subauriculatum*, *G. piloselloides* and *G. verrucosum*. Many of the *Davallias*, *Nephrolepis*, *Nipholobolus*, &c., are among those that display their beauty to the greatest advantage when suspended over the path, and the drooping habit can be readily observed. *Adiantum Farleyense* and *Lycopodium cæsinum* are very beautiful when thus grown. In planting the Ferns in baskets, it is better that shallow rather than deep baskets be used, wire ones being preferable to wooden or earthenware ones. When a selection of plants has been made for placing in baskets, first put a layer of sphagnum moss over the wire so as to prevent the soil washing through. The compost should be rather rough; peat, charcoal broken small, and sharp sand are most suitable. Place the plants in the basket so that the crowns may be just above the level of the sides, fill in with soil, and then press a little moss around the upper edge so that a little space is made round the plants to hold the water when it is given. Into this sphagnum some pieces of *Lycopodium denticulatum* may be pressed, which will quickly root, and in a very short space of time the whole will be covered with a beautiful green coating. As this *Lycopodium* grows very quickly, it will be necessary every now and again to pick some portion off, otherwise the crowns are apt to be smothered, and slugs and damp are likely to cause injury.

Where Ferns are much in request for house decoration, I have found it an excellent plan to have a number of plain wire baskets made, that will just fit the vases or jardinières, which may stand upon the tables or cabinets in the mansion. Into the wire baskets place such plants as *Adiantum cuneatum*, *A. Pacotti*, *Pteris cretica*, *P. serrulata cristata*, *Asplenium alatum*, *Gymnogramma tartarica*, *G. chrysophylla*, *Polystichum capense*, *Davallia hemiptera*, and others of a close compact habit of growth. These, when suspended, will make a stout and hard growth, and if covered with the *Lycopodium*, as suggested, nothing more is required in the way of preparation than unfastening the handle and placing them in the vase in which they are to stand whilst in use in the dwelling-house. In the course of a week or ten days, take them away and replace with others, and but little injury to the plants will be the result. A few Ferns may be grown on stout blocks, and suspended in the Fernery. These, if kept sufficiently moist, will be a source of pleasure, because of their rustic and novel appearance. Such kinds as *Platycerium graude*, *P. stemmaria*, *P. biforme*, *P. alcicorne*, *Drynaria coronans*, *D. Musciformis*, *D. morbilosum*, several of the *Oleandras* (such as *articulata* and *nodosa*), and others having stout fleshy rhizomes and single or but slightly-branched fronds. A rough piece of wood should be chosen, drive a few copper tacks into it to hold the wire, then place some peat on the block, put the plant on it, and make it secure by passing some copper wire over it and securing it to the

tacks; a stout piece of wire should be used to suspend it. When thus grown, it will be necessary to water them more often than if placed in pots. Still, this condition is more in accordance with nature, and if care and attention are given, such plants make nice specimens in a short time. *Davallia elegans*, *dissecta*, and *Mariesii* may be grown on blocks, and as these make long creeping rhizomes, various shapes and forms may be quickly made, the whole being soon covered with bright green fronds.

Hitherto I have been speaking principally of plants that are in pots, baskets, &c., easy to move about, whose position can be quickly altered, either in the house, or for display, or decoration in the mansion. In this form they can be used in a variety of ways, and excellent effects are quickly made, and as rapidly broken up. But if a permanent effect is to be created, there is no better way than having a structure entirely set apart for a planted-out Fernery. Here we see the plants under conditions which are much more natural, and if associated with *Begonias*, *Selaginellas*, *Ficus repens*, and one or two other close-growing plants, some charming effects are produced, and the plants luxuriate much more freely than when cramped in pots or pans. A house of this description should not have any side lights fixed; the walls should be carried up to the eaves, so as to allow of some fine effects being made with the rocks and plants. The walks should not be straight, nor should the whole of the interior be seen as soon as an entrance is made into the house; but by a rise or fall in the walks, the building of rough portions, and the projecting of stout pieces of rock or boulders, many fresh and pleasing views may be made. Do not use much tufa stone, as very few Ferns take kindly to this substance; but limestone, sandstone, and others of a porous nature, which will retain a good share of moisture, are much to be preferred. It will also be noticed that young seedlings come up much more quickly and numerous on stone of this character than on the hard and impermeable tufa. Derbyshire spar is also objectionable; it is not porous, very cold, and, though pleasant to look upon, is not found to be advantageous to the plants. The winding paths should be made of gravel and cement, worked with a trowel as it is spread, so as to get a rather smooth surface, and yet slightly raised in the centre. Such a walk will last for years, and is more in accordance with the surroundings than stone-paving or lattice-work, or the horrible terra-cotta work, beautiful though it may be to look upon, but quite out of place in a fernery. Such a path as that described may be walked upon after any quantity of water is thrown about, which could not be the case with level flags or encaustic tiles. The drainage of the beds must be good, pipes laid along to the outside drains must be put in, and the beds should have, besides, a good layer of brick-ends or clinkers, to ensure a rapid passing away of water; on these some rough peat or turf must be placed, and then proceed to the planting and building up of the rockwork. Do not make the spaces for the plants very large, as the roots prefer to run over and among the rockwork. In the soil that is used let there be plenty of corks, broken bricks, or charcoal. In planting, endeavour to place in the lower spaces some that are tall upright growers, and in the higher elevations place many that have a distinctly drooping habit, whilst on bold projections let there be those placed that are distinct and compact, and are worthy of standing out somewhat apart from their fellow occupants. Do not overcrowd, but endeavour to have the whole of the surface covered with moss, Ferns, or low-creeping plants. If a pool of water can be formed, so as to reflect some of the fronds, much beauty will be added. But do not place mirrors anywhere, as I consider these are objectionable and unnecessary. Fountains and cascades may be introduced if the space will permit, but where the room is limited, be content with the Ferns and rocks. Do not attempt too much, or disappointment may follow; do not fasten virgin cork on the walls, or doses of woodlice and snails will be sure to harbour behind them. If any part of the wall is to be covered, then place cement and sandstone upon it, to give it a rustic appearance. A house of this description will be suitable for many sorts, care being taken that little fire-heat is given except during the winter; for since many of the plants must be near the pipes, the chances are that they may get very dry and ultimately shrivel and die away.

A beautiful addition may be made to many of our gardens by devoting a shady dell, or positions overhung with trees, to the interesting group of hardy Ferns. I know many of the choice British varieties are rather hard to establish; still, if care is exercised, a capital bank of many British and hardy exotic Ferns may be made, which will always be found full of interest: associated with Sedums, Saxifragas, hardy Orchids, &c., this bank may be made one of the prettiest parts of the garden. Many of the choice forms of Athyrium, Lastrea, Scolopendrium, Asplenium and Cystopteris may be grown in pots in cold frames, where they will be protected from the early frosts, which are so apt to injure the first batch of tender fronds; and when these are once seared and brown, it takes a good part of the season ere the disfigurement is hidden.

Be sure and bear this fact in mind, that hardy Ferns in pots must not be allowed to get dry during the winter; in the open air during this period they naturally get more water than at any season; if, then, they are permitted to become dry for any length of time, the fronds will be small and almost certain to be deformed. Many Ferns may be grown in our towns, and in a smoky atmosphere, such as we often find ourselves wrapped in in Preston; to counteract such drawbacks a little more care is needed, and if this is given, many nice cases of Ferns may be grown and will continue fresh for a long time. Choose hard growers, such as Pteris, Polystichum, Blechnum, Lomaria, Asplenium, &c.; give good drainage to the case; plant in soil similar to but rather finer than that mentioned for the large Fernery, and work some pieces of rock amongst them, and in many cases healthy and stout growths will result; wipe the inside glass two or three times a week, and occasionally give a little air when the day is bright and clear.

I have left little space to deal with drying Ferns, and yet this is an operation that all young men should engage in who seek to become proficient in their profession. The way to learn Ferns is by often examining them, and the drying process is one of the best helps in this direction; but to the young men I would say, do not be too anxious to secure fronds until you have permission from the gardener in charge, or, what is better, ask for them, and in most cases, I think, you will get what you require. In proceeding to dry the fronds, get two smooth pieces of board—say, 2 ft. square; place one on a bench or table, or on the floor, then spread a sheet of blotting-paper on it; on this spread out the fronds. When covered so that the fronds do not overlap one another, put another piece of blotting-paper, then more fronds, and again the paper until three or four layers of fronds are spread out; then put a stout piece of brown paper over the whole, place the other board upon it, and on this put some heavy weights, seeing that the pressure is equally distributed. In the course of a few days, examine the fronds, dry the blotting-paper, and replace them as before. After being in the press ten days or a fortnight, they will be fit to be taken out and placed in a book, or mounted on sheets. When permanently fixing them to the paper, place the frond so that the arrangement of the seed-spores can be distinctly seen.—*W. Swan.*

GARDENING NOTES FROM SCOTLAND.

Vegetable Protecting.—*ASPARAGUS* is known to be one of the hardiest of plants in its wild state, but often under cultivation it succumbs to severe weather; not so much from frost, as damp being harboured in the ground—absence of drainage and close tenacious water-holding soil is conducive to rotting of the roots. When ripening is defective (as we fear is very general this season in the northern parts), much loss is generally sustained; the finer the roots, and the more luxuriant the tops, the more likely is the death-rate to be high. We notice that most things are extra strong for the time of year; no doubt the dull close moist weather has to do with this, and means to mature or check growth will have to be taken, so that vegetation may be prepared to resist a severe winter. Asparagus is often covered over during winter with rank manure, holding wet, and when the crowns should start into growth many vacancies are observed. We would prefer to protect the crowns in damp positions

with dry soil, sand, or such material as old Mushroom-bed manure, and put it on ridge form to throw the water from the centres of the rows, keeping the crowns dry, if possible. Cutting down close to the ground while growth is unfinished is an evil to be guarded against; better to wait till the tops become yellow, and leave the stems (stubble-like) 1 ft. or more high. It is easy to enrich the land in March by rich surfacing just before growth begins.

BROCCOLI which is expected to come in during the autumn and early winter should be looked over frequently, cutting those ready for use. The autumn Cauliflowers are very abundant just now, and easily injured; they may be lifted in quantity, and placed in frames, orchard houses, or other structures. Late Broccoli may be heeled over facing the north, the soil made firm over the stems, leaving the leaves clear above ground. Broccoli is successfully protected by some by the use of Ferns packed among the stems, also withered grass or dry litter used in the same manner. All the Brassica family may be helped in this way when in positions requiring it, but the retention of damp in the brakes has as much to do with killing these vegetables as any other cause—hence the necessity of draining.

CARROTS are preferred by many fresh from the soil, and are therefore left in the ground as late as circumstances will allow. In November and December, on the Carrot farms, lifting and protecting takes place. In gardens the same rule holds good; but roots may be left in the ground covered with fine ashes, old tan, or leaf-mould, and dug up as they are required. Much mischief is often done in sheds and cellars by packing the roots in damp earth or wet sand; also forming great masses of roots fresh out of the ground, causing heat and decay. Lift the roots dry, put them safe from frost and damp, and throw some dry straw over them, or pit them in the same manner as Potatoes; a few hours exposure to dry air is advantageous to their keeping.

BETROOTS are treated in the same way. We prefer covering them in the ground, and then the flavour—so desirable in Beet—is retained late in the season. Beet is growing late this year, and care in late districts must be taken not to lift the crops and harvest the roots in a damp state. Breaking them must be avoided, otherwise they lose the juice and become tough. The juice saving is carried to such an extent, that some cooks boil them enclosed in a paste.

CHICORY, SALSIFY AND PARSNIPS always keep best in the ground, lifting a portion as the demand necessitates; and to be ready when frost may set in suddenly, a few dozen roots may have litter or some other material placed over them, so that a supply may be had at any time. In some parts we have seen Parsnips dug up and placed on a border to be exposed to frost or whatever weather may come; but we do not know the propriety of this practice—would someone tell us?

POTATOS are always an important crop, and we do not know a better method of preserving the tubers than by “pitting” them. We know the success of the large growers in these parts, who pit them, and open the covering towards spring, turn over the tubers, rubbing off any growths, and discarding whatever may have become useless. Potatoes placed in a cool cellar or outhouse, from which air and light are excluded, keep well, and are always accessible when required for use. Choice kinds for seed may be laid out thinly on dry shelves and kept airy.

TURNIPS are kept easily, as one would Potatoes; but if the roots are not too large, and to be kept through the winter, they can have soil drawn over them, leaving the tops above ground. Small Turnips for drawing young may have fine ashes, Fern or other litter placed over them. Rhubarb and Sea Kale roots for forcing may have soil drawn over the crowns, to throw off wet and keep them ready in frosty weather for lifting; the leaves should be allowed to die naturally on the plants, but removed as soon as they are useless.

It is time now to set about root-forcing; but well-ripened crowns are indispensable to success. So are Asparagus roots only fit for forcing when they are ripened properly. Amateurs are sometimes puzzled when a variety of systems are advocated by professional men, who sometimes “disagree” as to the best methods of obtaining their requirements; but circumstances often prompt one to pursue varied courses. We scarcely ever adopted the same system in each place; seasons, means and necessity often are made to decide our

plans, and the most simple methods often are attended with the greatest success.—*M. T.*

North of Scotland Horticultural Association.—The monthly meeting of the North of Scotland Horticultural Association was held on the evening of Friday, the 16th inst., in the hall of the Christian Institute, Aberdeen. There was a good attendance of members, and Mr. A. Robson, president of the society, occupied the chair. Two papers were submitted to the meeting, the first read being that by Mr. D. M. Smith, Argyle Place, Aberdeen, on “Chemical Manures.” Mr. Smith’s paper excited much interest, and considerable discussion followed, at the close of which the writer was warmly thanked. Mr. J. Morrison, gardener, Waterton House, Aberdeenshire, read the next paper, the subject of which was “Bulbous and Tuberous-rooted Stove and Greenhouse Plants.” The paper, which was most interesting, was very favorably received, and its author cordially thanked for his contribution. The usual vote of thanks to the president, for his conduct in the chair, ended a very enjoyable evening.

THE AMATEURS’ GARDEN.

THE FLOWER GARDEN.

The recent storms have brought down the majority of the leaves from the Limes and other trees which lose their foliage early, and we have thus been able to clear up, and render the garden comparatively neat. Attention is now being given to the borders of herbaceous plants, and wherever any of these need dividing and transplanting, the time is a very suitable one, as frequently in the spring there are so many duties of importance to be seen to, that this is not done so well as it should be. If only a partial re-planting is required, the best way is to lift the clumps to be divided, forking the ground over with a top-dressing of leaves and old manure; then divide those that need it, and re-place them in the border.

Sometimes, however, such beds may have been neglected for several years, and in that case a thorough re-arrangement becomes necessary. Should the latter be decided upon, select dry weather for the operation; lift all the plants, or if the border is a long one, do a portion at a time, well digging the soil, and re-plant, having regard to the general effect. If the heights and colours of the various plants have been carefully observed during the year, it will be easy to arrange them so that they will have a pleasing appearance, placing the tallest at the back, as dwarf plants are deprived of half their beauty when partly hidden amongst coarse-growing subjects.

Those welcome successors to the Rose, the Chrysanthemums, are now rapidly advancing; indeed, our borders have been gay for some time with the early-flowering varieties, such as the yellow *Précocité*, the purplish *Lyon*, the white *Madame Desgrange* and *La Vierge*, with others. Beautiful and acceptable as these are, we always seem to look with greater interest for the true November Chrysanthemums, and if the weather proves favourable we shall have a fine display. Those in pots are already under cover, and the earlier Japanese are furnishing quite a charming floral show. Like most of our neighbours, the blooms seem rather later than usual, and the incurved give us some concern, for they are, in many cases, very hard and unfavourable in appearance. These varieties are prized for their symmetry, but it is upon the Japanese that we principally rely, and these have never yet disappointed us. The very early, dwarf and free *Alexandre Dufour* is in first-rate condition, compact little specimens being covered with flowers; but our greatest favourite at present is the white *Pompou* Mrs. Cullingford, from which we cut baskets of bloom that are greatly appreciated in the house for vases and general decoration.

In some cases it may not have been convenient to grow the plants in pots throughout the season, as they require a great deal of attention, and if neglected they are extremely disappointing. If it is now wished to bring some into flower under glass earlier than they would be obtained out-of-doors, it can be easily done by lifting the plants carefully, placing them in pots, watering them liberally, and standing them in a shady part of the greenhouse. With ordinary care they will lose very few leaves, and their flowers will open more quickly, coming purer in colour and lasting better than they would do outside, especially if the weather prove severe. It is a suitable time to encourage Chrysanthemums with either manurial top-dressings or applications of liquid manure.—*Scolytus.*

PLANTING TREES AND SHRUBS.

WHEN to plant trees and shrubs is a matter of some importance in view of success in reference to their culture, and this is the time of year when planting demands attention. Are we not on the very threshold of that season described by the poet?—

“Brown autumn quiet with ripe fruits,
And haggards stocked with harvest gold,
And fiery flushes for the leaves,
And silent cloud skies soft outrolled.”

The trees are rapidly shedding their leaves from the ripened wood, and the period of the year when they can be transplanted with safety has come. Transplanting may be performed at any time from October to April, according to the character of the season. It is difficult to lay down any general rule, but roughly it may be stated that autumn is the best time for conifers and evergreens, and spring for such deciduous plants as do not expand their leaves too early. But the universal canon to be observed is to plant as much as possible during wet or cloudy weather, and to refrain in sunshine, drought or frost. Such intervals of forced inaction can be profitably employed in settling the spot where each tree is to be placed, in digging the holes and in providing the compost to be put round the roots when the planting is performed.

The sooner after the receipt of the trees from the nursery they are finally planted the better, but if there must be some delay in planting them, it is better to keep them in a dark shed, that is also cool, in wet moss, hay or matting placed over the roots. When this is done, and a long spell of frosty weather ensues, the roots of the unplanted trees must be carefully preserved against three things of a hurtful character—viz., frost, drought and light; warm sunshine falling upon the roots of unplanted trees is to them as poison. It is much better to lay by the trees in this way than “laying them in by the heels,” to adopt a nursery phrase, which is often done hurriedly and temporarily, and the trees get more harm than they do good.

In moving trees of any size, it is advantageous to place them, when replanted, in the same position, with respect to the cardinal points, as they occupied before being moved. In other words, it is best that the same side of the trees should face the west (for instance) as faced the west before removal. To the unreflecting this might appear matter for ridicule; but we are assured by planters of great experience that it is a matter of great moment, and one that, as far as possible, they observe in their practice.

Before proceeding in a subsequent passage to give some directions as to how and what to plant, we may offer, in the way of caution, a few remarks bearing upon what not to do. Do not plant near the house any trees that will ultimately attain large dimensions, or the day will come when you or your successors will have to choose between cutting down handsome and favourite old specimens, or suffering from the gloom and moisture generated by their too close proximity to the dwelling. Very many instances of this kind can be observed in any suburb of London, and many a fine old mansion has been thus overshadowed, and the inmates have had to elect between unhealthy damp and shade on the one hand, and the uprooting of a favourite or venerable tree on the other; and the planter should equally avoid planting tall-growing trees where, when they attain maturity, they will interfere with a fine prospect, or intercept the view of any beautiful object. When first planted, their ultimate magnitude is overlooked; but the planter must have an eye to the future.

In planting masses of trees, not only size and shape, but also the colour of the foliage must be an element in determining the selection of the species or varieties of it, to be planted. The lively green leaves of deciduous trees in spring, and even their graceful spray in winter, wonderfully relieve the sombre foliage of Conifers and other evergreen trees. An admixture, too, of those species of which the leaves change colour, and assume bright tints in autumn, afford delightful glimpses and lively effects amongst other trees. For instance, the Birch and Tulip tree, true yellow; the *Cryptomeria elegans*, dark bronze; and the red Oak displays large masses of bright scarlet. These, and others producing similar effects, should be freely interspersed among ornamental plantations. Trees with variegated leaves, or with pendulous branches, also afford striking contrasts of colour and form, but they should be introduced discreetly, as when too abundant,

they lose their charm, and rather pall upon the sight. Do not encourage Ivy or other creepers to grow on trees which you wish to keep healthy and long-lived; these parasites do best, and look best, on decaying objects, whether trees or ruins, to which they add grace and cause no injury.

Lastly, all the choice trees and shrubs should be labelled, or at least one of each species. Even if their names be familiar to the owner, they may be new to many a visitor, to whom it will generally prove interesting to know the names, and, if possible, the native habitat of the plant also. The leading principle with the planter should be to plant for beauty and effect; he should also plant for instruction; a well-planted garden thus gains another feature of interest.

THE TREE CARNATION.

FEW, if any, of our cultivated plants are more sought after by all classes than the Carnation, but it is chiefly during the autumn, winter and spring months that they are most valued. Though we find them most useful and highly appreciated at all seasons, it is during the period above named that their fragrant blooms are doubly welcome for cutting; and arranged with a few sprays of their own growth in small glasses for the sitting-room, or made up as button-holes, they cannot fail to find favour in the best company. A good healthy start is the first step essential to success, and in Carnation culture especially so; to work up good plants from a sickly stock is waste of time and labour, so make sure of healthy plants or cuttings to commence with, of good dependable varieties. We put in our fresh batch of cuttings early in February, by placing five cuttings in a 3-in. pot, in a compost of loam, leaf-mould and sand, pressed moderately firm—being fine-rooted subjects; in fact, firm potting must be strictly adhered to all through their career, using thorough drainage and perfectly clean pots; place nearly $\frac{1}{2}$ in. in depth of clean sand on the surface of the soil, and settle all down by watering through a fine rose. The dibbing in of the cuttings may be proceeded with, making them quite firm and taking care not to hang them; that is, place the base of each cutting at the bottom of the hole made by the dibber, and again sprinkling them to level the surface.

Various methods have been tried to obtain a successful strike; the easiest, quickest and best for the well-being of the plants we have tried, is to fill a sunken pit, that is about 3 ft. deep, with flow and return pipe in it, up to within 10 ins. of the glass, with good fermenting material, on the top of that 6 ins. of cocoanut fibre or saw-dust, in which the cutting-pots should be plunged, kept shut perfectly close, with an occasional sprinkling overhead and shaded from bright sunshine; a good strike may then be relied on. By the time the cuttings are well rooted the bottom-heat will gradually decline, so that the young plants can be well hardened in the same structure. By the middle of April they will be ready for potting off singly in the same sized pots as used for the cuttings, using the same kind of compost as before described, and returning them to cold frames, where they can be kept close for a few days, after which they should receive abundance of air night and day on all favourable occasions. When about 6 ins. high, nip out the points to encourage a bushy habit.

In June they will be ready for their final shift; the earliest and successional batches a month later; 6-in. or 7-in. pots will be found quite large enough for good plants, using good fibrous loam of a sandy nature if possible, with an addition of well-decomposed manure and coarse sand, a few $\frac{1}{2}$ -in. bones next the drainage, and a little sprinkle of soot, both of which will be found valuable assistants to the plants later on; the latter will keep them free from worms. Pot quite firm, and be very careful to avoid breaking the fine tender roots. When all has been potted, and a strong neat stake placed to each, a good open spot must be selected for their summer quarters, where they can be plunged in ashes up to the rim of the pots, standing them quite level, and giving them sufficient space to admit the full sun for the thorough development and maturing of their growths. The next three months of their treatment will be an occasional tying, and the liberal, though judicious, use of the water-pot; either too little or too much tells a sad tale among Carnations. As soon as the pots are filled with roots, at intervals of a few days some stimulant in the shape of liquid manure would be found most beneficial to

encourage strong healthy growth and vigorous constitution—so necessary to enable them to perform their proper functions during the short and dull days of winter.

Towards the end of September, before the plunging material becomes too cold, or saturated with the autumn rains, it is best to lift the pots, carefully tying each growth so as not to crowd them, and make all in readiness to place them under cover before frosty nights are upon us. On no account should Carnations be associated with any other plants, but should have a very light airy house or span-pit to themselves, and as near the glass as possible, with flow and return hot-water pipes at command, which will be required more for the necessity of dispelling damp than for the amount of heat required, for without a clear healthy atmosphere the blooms will be spoilt by damp ere they have fully expanded. We are particular to admit air at all times when possible, even if we have to use more fire-heat to keep the necessary temperature, ranging from 45° to 50° by night, and 55° to 60° by day, according to the outside elements.

In many places we see them planted out in well-prepared borders during the summer months, and when strength of labour is a foremost consideration, there is much to recommend the practice, more especially where late spring flowers is the point in view; but for late autumn and early spring blooming pot culture is far the best, as in lifting the plants in September and potting them, the first and generally the best blooms are quite lost, or severely crippled in the operation; besides a more “grassy” growth, often indifferently ripened, is consequently of a less floriferous character. In spring, when sufficient cuttings have been taken for the next season's stock, and the old plants have to be placed outside to make room for other pressing subjects, do not, as often is the case, consign them to the rubbish heap, but take them from their pots, remove the drainage, and loosen the outside roots carefully with a pointed stick; replant firmly in good soil in any vacant place available—against walls, or any such-like places having a south, south-east, or south-west aspect, spreading out and tying up the leading shoots. It is astonishing the quantities of flowers they will produce with the only attention of an occasional good soaking in dry weather, which will be found most useful before the young plants commence blooming in autumn, besides having plenty of stock to propagate from all the summer if necessary.

The varieties we find most useful for the above purposes are *Aléatière*, *Miss Joliffe*, *Seraph*, *Andalusia*, *White Swan*, *Empress of Germany*, *Dauntless*, *Sir C. Wood*, *Covent Garden Scarlet*, *Annie Williams* and a white seedling.—*J. F., Dorset.*

THE VINEYARD, GARSTON.

IN view of the River Mersey, a little over six miles from Liverpool, and within a quarter of an hour's walk from Allerton Station on the London and North-Western Railway, and Garston on the Cheshire Lines Committee Railway, some forty years ago, Mr. Joseph Meredith commenced operations as a Cucumber grower, subsequently adding the cultivation of Vines, and in a few years Garston became famous for its Vineries, and its splendid crops of Grapes placed the grower on the highest pinnacle of fame as a cultivator and exhibitor of this, the most esteemed of all dessert fruits. Prize bunches were grown in houses facing east and west, although the first-named position was preferred. Span-roofed erections also played their part in producing fruit which graced the tables of Her Majesty; of the Emperor of Germany, when his head-quarters were at Versailles during the Franco-German war; of the late Emperor of the French, when he was confined at Wilhelmshoe; of the Pope of Rome; the President of the United States, and many other important personages. From a span-roofed house, planted in 1857, was cut a bunch of Black Hamburg, perfectly coloured and compact, weighing 9 $\frac{1}{2}$ lbs., which was awarded the highest prize, in 1865, which the Royal Botanic Society, Regent's Park, had the power to give; medals, cups and prizes from various places in England and on the continent; and especially the triumphant success as the winner of that splendid trophy, the “Queen's Prize,” at Hamburg, in 1869, which caused the name of Meredith and the Vineyard at Garston to be known throughout the horticultural world. There are still here, in bearing order, two Vinceries, one of which is devoted to Gros Guillaume, with bunches now hanging

in good condition. This variety is held in high repute by Mr. Cowan for its good keeping qualities. The other house contains the Madresfield Court variety; this was planted about sixteen years ago, and the canes are still in splendid vigour, finishing in grand condition five hundred good bunches for each of the two last years. This Vine was planted at the time it was sent out, and has quite outgrown its original position. The glass having been removed from the division of the houses, it now completely covers the roofs of both. The large house with lantern-roof, seen on the right hand side of the accompanying illustration, is of itself worthy of a visit; its length is 204 ft. by 42 ft., with a division in the centre. In times past, one half was utilised for Grapes and the other for Pines, which must have proved, to those who were favoured to see it, a sight not easily forgotten.

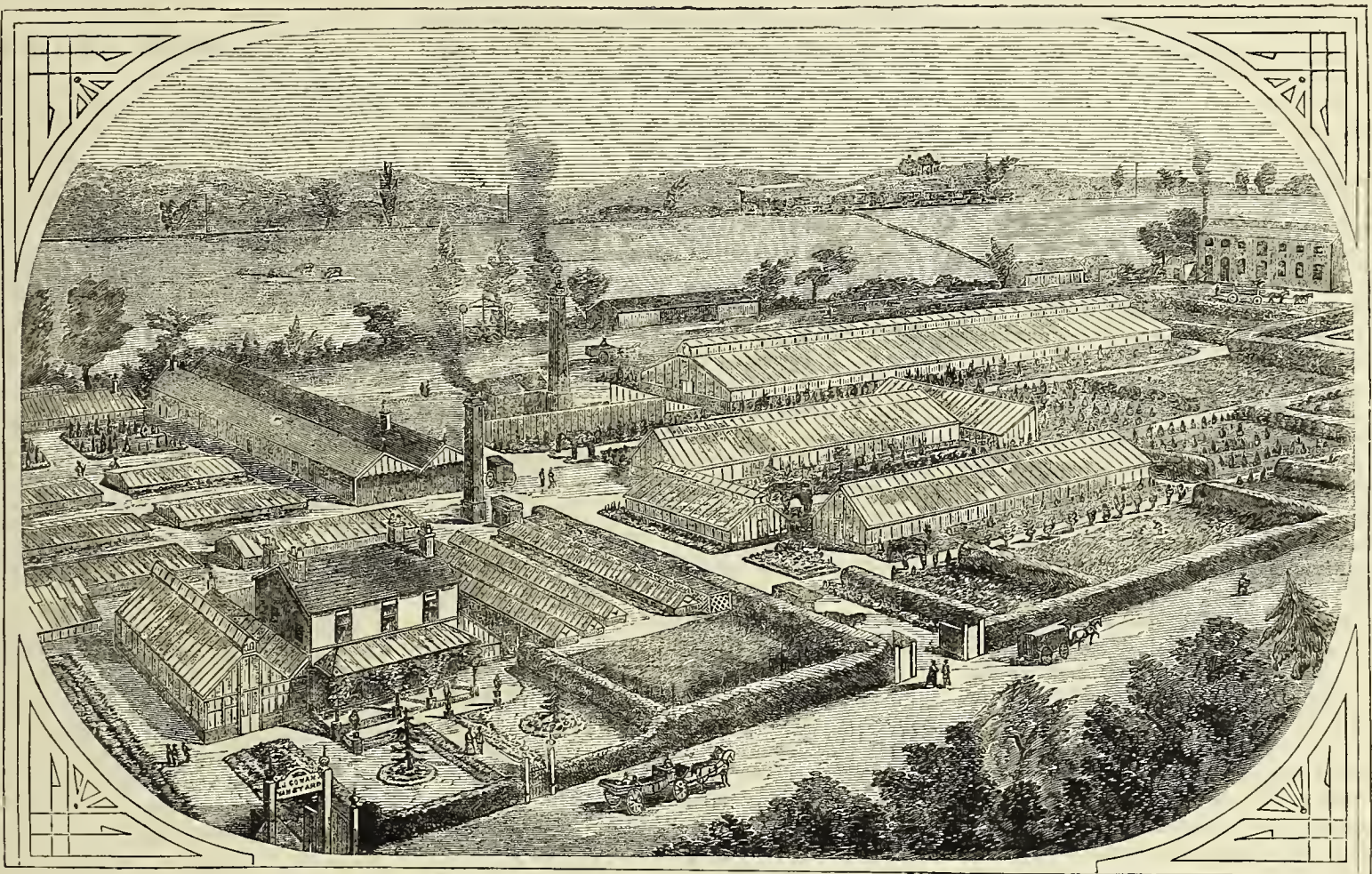
It is not, however, the history of the Garston Vineyard, interesting, though it is, that we intend to deal with to-day, our object being rather to give a brief description of the principal features and specialities of the nursery, as it is now carried on by the Liverpool Horticultural Company, and their indefatigable

south, others from east to west. One was filled with *Epidendrum vitellinum majus* and *Lælia autumnalis*; the next three contained a large assortment of *Dendrobiums*—of which the Company have imported about fifty species and varieties through their own collectors; and *D. Bensoniæ majus* may be seen in thousands. *Lælia Perrinii* in bloom was very attractive. A span-roofed structure—150 ft. by 24 ft., glazed with rough plate-glass—is noticeable for the number of rafts suspended from the roof, and which fill the whole of the centre of the house. The rafts are large, measuring in many cases 3 ft. by 2 ft., and contain magnificent masses of *Lælias*, some having nearly 2,000 bulbs. The ash floor is covered with innumerable samples of newly imported kinds. The old packing-shed is now utilised as a reception house for fine clumps of *Lælia albida*, many of which are literally covered with flower spikes, one having as many as eighty, and others closely approaching that number. Other species largely represented are *Odontoglossum Rossii majus*, *O. maculatum*, *O. nebulosum*, *Dendrobium chrysotoxum*, *D. thyrsiflorum*, *D. primulinum giganteum*, *D. Pierardi latifolium*, and about forty other sorts.

positions outside, by hedges, walls, &c. The fruiting canes, in 10-in. and 11-in. pots, are strong, and promise to be of great service for next season's work.

Roses, especially Teas in pots, are another of the Garston specialities; groups of these exhibited at Liverpool, Manchester and other shows, have well merited the praise that has been bestowed upon them; thousands of buds in all stages are now swelling, *Safrano*, *Niphetos* and the thin-petalled varieties being most satisfactory for winter work, the more double kinds failing to open their flowers in the dull dark days. Of climbers, which are ripening off outside, *Gloire de Dijon*, *Maréchal Niel*, *Cheshunt Hybrid*, *William Allen Richardson* and Paul's new climbers, Nos. 1, 2 and 3, are held in the highest favour.

Amongst miscellaneous subjects, we noted a strong plant of the rare *Crinum angustifolium*, from Mexico, showing a fine flower spike; the prevailing colour of the flowers is white. Of *Chrysanthemums*, some 3,000 are grown, the varieties mostly sought after being *Elaine*, *Mrs. George Rundle*, *Sœur Melaine* and other white-flowered kinds, the blossoms of which are in great request, during the autumn, at the Companys'



THE VINEYARD NURSERIES, GARSTON.

manager, Mr. John Cowan, in whose hands it has been for the past few years. The Orchids, to which a large number of the glass structures are devoted, were visited first, and a span-roofed structure to the left of the dwelling-house, we found filled with what was left of the specimens of the "Percival" collection, the sale of which was carried out in a novel and satisfactory manner. The sale was arranged to take place on an early date of this year, and no plants were sold before that time, although they were on view and orders were received. In cases of more than one offer for the same plant being made before eleven o'clock on the first day of sale, notice to that effect was sent by telegraph to intending buyers, and the plants placed aside. On the following day they were sold by auction, but no bids were accepted except from those who had previously sent orders. The intention of this plan was to prevent disappointment to purchasers who wished to secure certain plants; and the arrangement proved agreeable both to buyer and seller, in some cases the catalogue prices being nearly doubled. In this collection *Lælia anceps* and *L. purpurata* are now in fine condition, showing large numbers of flower spikes.

The houses devoted to Orchid culture are mostly span-roofed structures, some running from north to

Cattleya Skinneri, *C. gigas*, *C. Gaskelliana*, *C. Eldorado*, and other popular sorts; *Aërides*, *Lycastes*, *Masdevallias*, *Saccolabiums*, *Oncidiums*, and *Vandas* are also to be seen, established and newly imported, in large numbers.

Ferns, especially those suitable for decoration, are well cared for; one house facing east contains 30,000 *Adiantums* in variety, though *cuneatum* still holds the premier position for market work. These plants are on raised stages, covered with cinders to retain the moisture, and run the whole length of the house, which is 150 ft. by 20 ft.; the majority of the pots used are 2½ ins. in diameter, the flatness being relieved by plants in 5-in. and 6-in. pots, raised a few inches above the usual level. The lightness of the fronds, and the delicate and varied tints of green, enlivened by the white-washed walls and red shale gravelled paths, make a delightful and pleasing view which should not be overlooked. *Lomaria Gibba*, *Pteris tremula* and *P. serrulata* are also grown in large numbers.

Pot Vines are being grown in rather smaller numbers this season, but the stock consists of 3000 plants of the most approved kinds, with strong, short jointed, well-ripened rods. These are grown in the large house already referred to, but are now placed in various

various Liverpool shops, which, being in direct telephonic communication with the Vineyard, affords greater facilities for supplying the large demands made upon the nursery. The conservatory adjoining Mr. Cowan's residence, which immediately faces the visitor at the entrance, is furnished with *Azalea indica* of all sizes. *Ericas*, mostly *hyemalis*, home-grown, in 5-in. and 6-in. pots, are in robust health and good colour. *Solanums*, *Cytisus* and *Primulas*, in large numbers, with *Crotons*, *Palms*, and a large collection of stove and greenhouse plants also claim attention.

Nursery and garden appliances are kept in the building seen on the extreme right hand side of the view; and a spacious, lofty and well-lighted room is used for unpacking imported Orchids, an operation here of some magnitude, huge quantities being frequently received. To give some idea of the number received, I may state that as many as 278 cases came from Mexico alone this year, some weighing 5 cwt. A portion of the room above is about to be fitted up as a seed and bulb store, so as to be under direct supervision and in close proximity to the packing sheds, which could not be attained in any of the Liverpool depôts. Adjoining the packing department are the workshops, with machinery for making boxes, and carrying out the

necessary repairs and improvements which are continually required in such an establishment. Under the same roof is the plant and machinery for manufacturing "Cowan's Vine and Plant Manure"; and here, also, is a large stock of pottery, lately introduced and known as "Cowan's Patent Orchid Pottery," which is worthy of notice by all growers; an important advantage to cultivators, in these pots, pans or cylinders, is that the roots are thoroughly under control; they can also be placed on stages or used as hanging baskets, holes being pierced for wires for this purpose. The rootlets have perfect liberty to run out and in at will, which is more in conformity with their native freedom than the old style of flower pots.

Gateacre, the branch nursery, situated some three miles distant, in the Childwall valley, contains a good collection of Roses, Fruit Trees, Evergreens and other hardy plants.—X.

MAISON LA HAUT, JERSEY.

WE shall probably be able to convey a better idea of Jersey farming by giving a description of some of the farms that we inspected, and will first introduce our readers to Maison la Haut, about two miles east of St. Helier's, in the parish of St. Saviour's. Owned and occupied by Mr. J. P. Marrett, the extent of the occupation is 75 vergées, of which about half belong to Mr. Marrett, the rest being hired. Mr. Marrett is a horticulturist quite as much as a farmer, and cultivates fruits and flowers for show. The garden surrounding the very comfortable residence is kept in beautiful order, and is stocked with choice flowers and standard Pear trees, of which one, Doyenné du Comice, is reckoned second only to the Chaumontel. Although the present crop is less plentiful than usual, the appearance, to our eyes, was most promising. These Pears are generally grafted on quince stocks. The land is highly dressed with dung and liquid manure, and every inch of space utilised. Thus we saw Cucumbers occupying ground after early Potatos. Roses and Hyacinths were a sight to see.

In such a climate attention to the garden produce is a most important matter, and throughout our travels we always found fruit-growing a prominent item; but nowhere was greater attention manifest, or more successful results, than at Maison la Haut, and it was evident that our intelligent host had made horticulture a special study. Quite recently a field of 6½ vergées had been planted with choice Apple trees, 33 ft. apart, the land cultivated and cropped just as though the trees did not exist; and, in reality, with such high farming, their presence, at any rate for many years to come, will not be a serious obstacle to success. Here and there, the growth of Grapes under glass is an element of garden produce, but not to nearly so large an extent as in Guernsey, where a considerable area of glass is a recognised complement to the residence and farm buildings; indeed, it is said that if all the Vineries could be extended in line they would occupy from thirty-six to thirty-seven miles in length.

Neither here nor anywhere else did we find a very rigid observance of a fixed rotation; barring little bits of orchard ground on a steep bank, Mr. Marrett has no permanent grass, but leaves down the artificial grasses from two to four years. We saw a field near the house containing 3 vergées—i.e., 1½ acres—which had been down four years, carrying a wonderful face, principally due to the application of liquid manure, which is taken great care of in Jersey. Thus the runnings from the stables, cow-byres, piggeries, &c., are collected in a tank, and the feeders are open channels. These also receive some of the rainfall from the roofs, and thus a certain—or, rather, uncertain—dilution is secured in summer, which is necessary; and, if not obtained in this way, water must be added, or the application must be made during wet weather. In this paddock we found a mare and foal, seven calves, and one sheep (a fat ewe), all tethered, and these animals apparently could not keep down the grass. As a rule, all stock are tethered; but there was one exception—a filly—and this animal evidently preferred to graze where liquid manure had been applied.

The old seeds are usually followed by early Potatos. The general cultivation for this all-important crop may be briefly described. The land is first scarified, then the manure is applied—a heavy dressing, carefully spread. Next operations include the use of "la grande charrue," a plough drawn by eight, nine or ten horses,

and turning a furrow 10 ins. or 12 ins. deep. Neighbours assist each other, and the business concludes with a supper and jollification. We cannot do better than quote from Colonel le Cornu's excellent "Essay on the Potato in Jersey," which appeared in the 6th vol., new series, of the *Royal Agricultural Society's Journal*. In describing what is known as "un jour de grande charrue," he says, "A day is fixed upon for a number of farmers—generally neighbours, and, more frequently, political friends—to join in ploughing their land intended for Potatos. This work always progresses cheerily, the good hostess never failing, in her department, to make everything agreeable to her friends. Two ploughs are employed; the smaller plough, taking the lead, buries the manure with a shallow furrow of 4 ins. deep, and say, 14 ins. or 15 ins. wide. The large plough follows in this furrow, and raises 1 ft. of mould, which is left on the top, forming a clean, well-pulverised surface, which has only to be harrowed down to be ready for the business of planting, and secures great depth of soil, with a fine condition and perfect cleanness." Mr. Marrett, being somewhat inland, depends principally upon long manure, either home-made or purchased from St. Heliers, where, with carriage, it costs from 9s. to 10s. a ton; but those who are conveniently situated as regards the coast make use largely of seaweed, which one very successful farmer considers second only to long manure. The parish laws as to the collection of seaweed are very strict, in order that the crop may be allowed to come to maturity. Thus, in St. Ouen's Bay it can only be cut once a year—viz., in March.

Referring to the western coast, there is a certain period in March when the farmers can collect the weed themselves; and all other work, however pressing, is put aside, and all hands are off to the coast to cut and collect as much as possible. Our informant, however, found it cheaper to purchase what he wanted at the auction sales which the parish authorities have of what is washed up at other times. Such weed is carefully stacked so that it may rot down, and is generally applied in November, carefully spread and left for a month exposed, and then ploughed in. A liberal dressing, where no stable-manure is used, would be forty cartloads a vergée, each load weighing from 15 cwt. to 18 cwt., and costing 1s. 6d. a load. Formerly the price was only 1s. The money obtained by the auction sales of seaweed is spent in improving the tracks among the rocks, so as to facilitate the business of racking, as it is called. We have no analysis of this seaweed, but believe it contains a considerable percentage of potash, which partly accounts for its value.

To return to Mr. Marrett's farm: when the time arrives for planting, small drills are opened, either by hand or plough drawn by one horse, 16 ins. to 18 ins. apart; 6 cwt. of guano per vergée—equal to 13½ cwt. per acre—is sown broadcast; and the sets, with sprouts about 1 in. long, are carefully placed in the drill 8 ins. to 9 ins. apart, and lightly covered with a spade. The intervals are hoed and scarified by an implement drawn by two men. The scarifier has three times, with revolving wheels in front and behind, which regulate the depth and help to pulverise the surface. The earthing up is also effected by a hand plough. In this way the soil is kept light, friable and perfectly clean. Some go to even greater expense in hand labour. Thus Mr. G. de Carteret, of St. Peter's, who appears to be a very successful cultivator, as soon as the plants are above ground, forks over the whole of the ground 6 ins. to 8 ins. deep, thus leaving it in the lightest possible condition, allowing thorough aeration, which we know to be of great importance to early growth. The last operation, earthing, is done by Mr. Carteret with the hoe. Like Mr. Marrett, he uses about 6 cwt. per vergée of guano, costing about £12 or £13 a ton. Planting takes place from the beginning of January to the middle of March. Only in very sheltered situations is the earlier period possible; for, although highly favoured as to climate, there would be risk from the hoar frosts already alluded to if the young plants were exposed to their influence. Probably February is the month when most of the early crops are planted. The varieties most in fashion are the Jersey Flukes, Prince of Wales, and English Myatt's Kidneys. Mr. W. J. Labey, of Grouville, informed us that in certain favoured spots he grew Potatos every year, and, giving liberal dressings of manure, he had not observed any falling off in the crop. We believe that such practice is very common on many holdings, and is wise, inasmuch as

climatic conditions are all-important in affecting early growth; and it is only where such early supply can be depended upon that the cultivation will really pay. High prices have greatly stimulated production, until at the present time there is danger that the supply will exceed the demand, and, consequently, prices range so low that the crop will not pay the cost of cultivation, much less leave, as formerly, a large balance of profit.

One or two years like the present will have a salutary effect in checking production, as many of the more intelligent occupiers realise that the Potato crop has recently assumed undue limits, and there is a growing opinion that too much artificial manure is employed; and, from our experience, we are strongly of opinion that Peruvian guano is not the most suitable application. We gather from the report of the Jersey Agricultural Society for 1885 that nearly 700 more vergées were planted than in 1884, and it is supposed that not less than 3,000 tons of artificial manures were imported, principally guano; and it is suggested that this might be partly made in the island, especially as it is well known that considerable shipments of bone and sulphate of ammonia leave Jersey every year; and it is much to be feared that farmers pay much more for the article than it is worth for their purpose.—*The Field*.

CYCLAMEN CULTURE.*

WHEN we consider that we can have Cyclamens in flower from November until May, I think that it will be generally admitted that it is worthy of a place in every amateur's greenhouse. Although the Cyclamen can be raised from seed, and with good management will flower the same year, yet it is better to sow the seeds in July, in a compost of two parts of leaf-soil and one part of loam, a little well-decayed manure, and plenty of silver sand. Sow the seeds thinly, cover them over to a depth of a quarter of an inch, and see that the compost is well-moistened through; place a piece of slate or glass over the pot to retain the moisture, then place it in a frame, or in any out-of-the-way moist corner of the greenhouse where the sun will not shine upon it, and there you may safely leave it for about five weeks. After that time, look at it every day until the seedlings show through the soil, and as soon as you see one leaf make its appearance, remove the cover and place the pot where you can see that the soil is kept moist, for upon this depends very much your success.

In March they should be ready to lift from the seed pan, and be placed with root intact into pots, small 60's, at all times using the same compost. In these small pots the tuberous rootstock must be placed under the soil, as when in the seed pan; now water them freely overhead, and when the soil becomes green or sour on the surface, remove it from time to time until the tuberous root is uncovered, by which time you will find that the roots have well-nigh filled the pots. When this is the case, shift them into pots a little larger, until you get them into the size you intend to flower them in about July and not later than the middle of August. They will seldom require pots larger than 4 ins. the first year, and from the middle of June until the middle of September they will do best in a moist frame; in fact, where the Cinerarias will thrive, there will the Cyclamen thrive also. About the middle of September they should be placed in the greenhouse, as near the glass as convenient, and care should be taken that they are no longer watered overhead, as this will be apt to undo the season's work. To make it more safe that the crown of the bulb does not get wet, place the bulbs in their flowering pots, so that the crowns will be about level with the top of the pot, and not more than one-half of its depth in the soil. A moist bottom and a temperature ranging from 50° to 55° will now suit them well; all that is required being to keep them well supplied with water until the flower-buds begin to rise, then they should have weak manure-water once or twice a week.

We will now assume that we have had a beautiful display of flowers, and the bulbs are showing signs of going to rest; we must then gradually diminish the supply of water until the soil is just moist, then place them under a tree or in any shady place where heavy rains cannot reach them; but, at the same time, they must not be allowed to get absolutely dry. There is

* A paper read by Mr. J. S. Stocks before the Walkley Amateur Floral Society.

much diversity of opinion about the length of time that they should be at rest; some say two or three weeks; but I find that, after they have been exhausted by flowering heavily, eight or ten weeks' rest will better prepare them to give us another bounteous supply of flowers in the coming winter and spring. When the resting period is over, we must begin to increase the water supply again, and the result will soon be seen, as the plants will quickly send up new growths. When they are nicely started, shake them out, and wash the roots and the under side of the bulb clean, and, at the same time, examine the under side of the bulb, for there you may, possibly, find some portion of old decayed roots, which must be carefully removed; when this is done, they will be ready for potting again in a similar compost to that recommended before. Place them in well-drained clean pots, a little smaller than those they have been in, and put them again into the pit or frame; give them a copious supply of water overhead, and, when these pots are filled with root, shift them on into larger pots, and treat them as recommended before.

In starting old roots that have been dried off, fill well-drained pots about 1 in. larger in diameter than the bulb with the compost, and press the bulb into it until it is about level with the top of the pot. Water it and cover it with cocoanut fibre to a depth of $\frac{1}{4}$ in., and place it in a frame; but do not give too much water until they show growth, or you may possibly rot the bulb. When they have started well into growth treat them like the others. The Cyclamen, like many other plants grown under glass, is subject to green-fly, which infests the undersides of the leaves, and the young tender growth. Where they have done this you will find the leaves and flowers come malformed; but fumigation with tobacco paper will rid you, for a time, of this pest. It is said that sometimes the Cyclamen is also attacked by a grub. This I have not been troubled with. The reason is, perhaps, that I always dry my potting material well before mixing it, particularly manure.—*G. S. Stocks.*

CHRYSANTHEMUM NOTES.

PERHAPS no plant is so popular or more extensively cultivated by professional and amateur gardeners than is the Chrysanthemum at the present time; and certainly no plant with which I am acquainted more readily responds to liberal treatment than does the queen of winter flowers. The Chrysanthemum is of such a nature and constitution that it readily accommodates itself to almost any kind of treatment or manipulation; it only asks to be sheltered and protected from the rude and cruel embrace of the ice king, should his ruthless majesty intrude his presence before he is wanted or welcomed. The early-flowering varieties are now so much improved in size and in their general character that as much encouragement should be extended towards them, as regards the raising of good and distinct kinds, as has been the case with their compeers that follow on in succession.

The season, so far, has been most favourable to the plants, and the early kinds in the open ground are magnificent. There can be no doubt but that their cultivation in the future will be vastly extended, if it does not become universal, because of the certainty of being rewarded for any painstaking care devoted to them, and especially so where convenience is wanting to accommodate the late-flowering ones. When the bedding plants are many of them declining, these early autumn bloomers can be introduced from reserve beds with grand and most pleasing effect, and would continue on for a great length of time should the weather be favourable.

As cut flowers, in many respects they are far preferable to the single Dahlia, which, even if grown for flower garden display, requires a great amount of attention in picking off the seed-pods; if this is not done, the plant is rendered exceedingly ugly, at the same time impeding the growth, and, consequently, successive flowering. Besides, there is no dependence to be placed on many of the best marked forms, as the prettiest variegated flowers are so transient that oftentimes the choice colours vanish altogether; hence, in my estimation, by all possible means should the early-flowering Chrysanthemum be improved. Those who have got bottom-heat, such as a propagating-pit or frame, heated with a hot water tank or other means whereby a steady heat can be regularly maintained, can strike the flowering shoots readily of such as may

be growing in the open, and which they cannot afford means of protection for. Five cuttings inserted in a 3-in. or 5-in. pot soon make nice little plants—similar to dwarf Asters when grown in pots—which will occupy but little room, and make the greenhouse look bright when intermixed with miscellaneous greenhouse plants, or useful for any decorative purpose when large plants are not required.

Layering of the Chrysanthemum used to be practised very generally in my early days, and I well remember just forty-three years ago this season being engaged layering a fine lot for conservatory decoration. For this purpose, it was the practice in the spring to set plants in an open situation in the kitchen garden 4 ft. or upwards apart every way. These were allowed to grow without any attention, save in dry weather, when now and then a good watering was given, and some of the shoots were stopped if bushy plants were desired. About the end of August or the beginning of September the shoots were layered either in pots or in the ground. This was done in the most expeditious manner possible, a sharp but careful twist of the shoot from 6 ins. to 10 ins. from the points so as to break or separate the bark to facilitate the emission of roots in abundance, and which very soon took place; the young plants in the meantime growing on without check or hindrance. In about a month or so very fine plants were obtained full of healthy vigour, and which were potted on without being the least disturbed by the removal. Although my associations are those of the old school, I have been privileged to take an active part in that which may be properly designated the new school of gardening, and may state that for ordinary decorative purposes, the practice herein described has very many advantages over the pot coddling system.

I received, in September, about three dozen plants—which were no better than sticks with a few leaves on the top—from one who grows extensively, and not liking their poor abject appearance, I at once planted them out and layered them in the old-time way, and I now have nice plants from 6 ins. to 1½ ft. high in the pots, showing an abundance of bloom, and some even the colour of the flowers.

The Chrysanthemum being so easy to grow, and a plant that adapts itself to almost any or every kind of treatment, must secure for it a lasting popularity in the minds of those who love and appreciate nature's choicest gifts.—*George Fry, Lewisham.*

GARDENING MISCELLANY.

Effects of the Late Gale.—I send you herewith a few cuttings of the points of shoots taken from trees and shrubs, showing, to some extent, how sadly vegetation has suffered from the gales of last week. The hurricane of Friday blew from the S.S.W., and was accompanied at times by heavy rain, hail, and thick mist. All the deciduous trees, such as Elm, Oak, Apple, Pear, Plum, Peach, &c., have their leaves blackened, and the points of the shoots, in many instances, have quite withered. All the beautiful autumnal tints which we so much admire (well on to the end of November in this part) have completely vanished; a black mass of leaves only hanging on the trees. The foliage of Strawberry plants have the same burnt appearance. Dahlias, Roses, and many herbaceous plants are completely stripped—in fact, no flowers are left out-of-doors. Grass, Clover, Turnips, and Mangel Wurzel leaves in the field have suffered in the same way; but there is less destruction in the woods than might reasonably have been expected. Many branches were twisted off, but very few trees were blown down. I attribute this immunity to the fact of the ground being dry, hard, and compact, the rains not having penetrated more than 1 ft. into the earth where covered with turf. The Pinuses, of sorts, have suffered the least of any trees, and *P. insignis*, growing within half-a-mile of the sea, with no shelter whatever, looks as green as usual, and as though it enjoyed the brine. It is a little too soon to speculate on the probable results of the gale on the Apple buds, but I fear they must be damaged considerably. Very few of the Orchards in this part have produced sufficient Apples to make a hogshead of cider this year.—*G. B., Devon.*

Madresfield Court Grape Cracking.—"Wales," p. 107, asks my opinion on the vagaries of

some Vines under his charge, but from the meagre details furnished, I can only surmise that the chief faults have arisen from the atmospheric conditions of the interior of his Vineries. "Wales" also says I have "not cited an instance where it (the boring theory) has altogether failed," but I consider it scarcely fair to throw on me the onus of proving the success or failure of a practice he himself has been, so far as I know, the first to publicly advocate. I maintain that boring the shoots is unnecessary, and under any circumstances of doubtful value in preventing the cracking of berries. I believe prevention to be better than cure, and my whole suggestions and arguments are consistent therewith, as stated on p. 92. I hope "Wales" will adhere to his plan, and another year demonstrate his theory conclusively; at the same time kindly inviting me, or some other sceptic, to witness the results. I casually mentioned my friend's experiments to show that the practice of boring was not quite new, and I have since learned that his faith is more than weak, from the results obtained. It appears to be lost sight of that there is such a thing as an atmosphere out-of-doors, at times very heavily charged with humidity both night and day, and which really requires counter-balancing precautions to be taken with hot-water pipes, and the judicious admission of air. During that very critical period, there is no doubt in my mind that the mischief may be very quickly done. I am pleased to notice there are several cultivators (p. 107) of this noble Grape who can see their way to success without resorting to the unnecessary boring business. If the Vines are healthy, and the leaves are of proper substance (not made in a close steamy atmosphere), it is astonishing what a dry airy atmosphere they enjoy—that is, after the usual moisture has been gradually diminished, commencing at the end of the first swelling and stoning period. I hope some of the successful growers who exhibited those grand bunches at Shrewsbury, Manchester, London, and other places, will give us their experience, as a little ventilation of the subject may prove valuable and interesting to many. No doubt, the Madresfield Court Grape inherits its cracking propensities from one of its parents, the Kempsey Alicante, a kind we find liable to crack unless treated as above. Otherwise it is an excellent late-keeping Grape, but rather difficult to handle at setting time.—*William Crump, Madresfield Court.*

Watering Bulbous-rooted Plants in Pots.

—Many of this class of plants vegetate and bloom during the autumn, winter and spring months. At whatever season of the year a bulb vegetates, it should be planted in moist soil, but very little water should be supplied until it has shot up an inch or so, then the water should be given more freely and increased in quantity, as the plant grows. When in full bloom the quantity of water supplied may be lessened in a slight degree, taking care, however, to keep the soil constantly moist, in order the longer to enjoy the beauty of the flower. As soon as it is out of bloom, water should be freely supplied in order to enable the leaves to be matured and the exhausted bulb thereby to become established. Not a few err in regard to this subject. On the growth of the leaves, after bulbous-rooted plants have flowered, depends the formation of the flowering bud for the ensuing year, therefore water should be freely given until the ends of the leaves turn yellow, which, in most of the common bulbs, as Hyacinths, Narcissus, &c., will be in from one to two months after their bloom. From that period the supply of water should be gradually lessened, and in a few days altogether discontinued; then the pots can be laid on their sides in a shady situation, when the soil will gradually dry and the leaves and fibre of the roots wither, when the bulbs may be preserved for another season's planting.

A Velvety Lawn.—It is a common error, held by those unacquainted with the subject, to suppose that by cutting grass too often it will be destroyed; the reverse is the fact. The oftener grass is cut in the growing season the thicker and finer is its texture, and there is less liability to burn in summer. The verification of the facts of its thickening and greenness from frequent croppings may be seen from an inspection of any roadside plot or common land that is constantly grazed by cattle, &c., when compared with that mowed only for hay; in the former the sward is thick and of a finer texture, while in the mown field the quality is stout and thin. Garden lawns of grass should never be allowed to go over a fortnight, and in the case of showery weather, not more

than ten days without passing the scythe or mowing machine over it. It will then thicken and ultimately become as beautiful as a piece of velvet, and, if the bottom be good, will seldom burn. Short grass scythes or a mowing machine should always be employed for cutting lawns.—Q.

Helianthus multiflorus flore pleno.—This fine yellow autumn-flowering perennial is, perhaps, one of the most suitable subjects we have for planting in shrubby borders; but for gardens of limited extent, if it has a fault, it is that of growing too high, and so becoming out of character with its surroundings. But this objection can be got over by adopting the method of treatment advocated in another column in connection with the subject of Michaelmas Daisies—i.e., by lifting the stools in February, planting them in a frame, and propagating the young shoots. Plants raised in this way make dwarfer and more bushy specimens, and yield much finer flowers than do those left to take care of themselves after being planted.

Tropæolum speciosum.—As considerable attention has been given lately to this beautiful climbing Tropæolum, I should like to call the attention of your readers to the wonderful manner in which it is flourishing in Messrs. Paul & Son's nursery, at High Beech. It can be seen there growing in the Yew hedges, that are used as protection for the small seedling Rhododendrons, &c., in the wildest profusion, without any regard either to aspect or soil; although, for the most part, it is growing in light peaty loam, such as is generally used for Rhododendrons. It commences flowering early in the summer, and is only just finishing now. It has been a perfect blaze of red all the summer, and its wreaths, hanging in the dark green foliage of the Yew, gives it a very chaste appearance. It has been flourishing in this manner for several years, and, I believe, is not disturbed except for propagation. I have arrived at the same conclusion as your correspondent, "F. P. L.," that it will not do well for any length of time in hot dry situations.—*Excelsior*.

Early-flowering Bulbs.—The Daffodil season may be said to have commenced already at Tottenham, where Mr. T. S. Ware recently had in bloom the diminutive *Narcissus serotinus*, a very interesting plant, being the first of all to bloom, and having small pure white blossoms. *Leucojum autumnale*, the Ladies' Snowflake, and pure white; and *Scilla lingulata*, one of the Algerian species, with small pale blue flowers and dark anthers, were also in bloom in the same bed.

To Make Young Pear Trees Bear Fruit.

—A correspondent writes:—"I was afflicted by a sight in my garden, for four or five years, of the most luxuriant and thrifty young Pear trees, which would not bear, but all their strength ran to wood. Vexed at this, I resolved to try the effect of bending down the branches so as to check the flow of the sap, and cause them to form fruit-buds instead of wood-buds. Accordingly, the first week in December, I filled my pockets with stout twine; I drove down some small pegs into the ground beneath my trees, which had branched low so as to make dwarfish heads; I then tied a string to the end of every long shoot, and gradually bringing down the end of the limb till it curved down so as to make a considerable bend or bow, I fastened it in that position, either by tying the other end of the string to the peg, or to another branch, or to a part of the trunk. According to my expectation, the tree next year changed its habit of growth, and set an abundance of fruit-buds. Since that I have had plentiful crops of fruit without trouble."

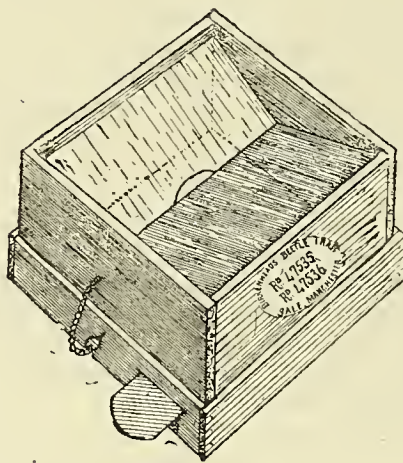
Asplenium marinum.—Your illustration in last week's issue of a plant of this grown in an airtight case reminds me of a similar one which I saw on the counter of Mr. Elms, a perfumer, who once had a shop near Bond Street (Brook Street, I think). The plant had grown into quite an abnormal form, and assumed quite a tropical aspect. I was told that the glass was only removed once or twice a year for the purpose of cleaning it. I am inclined to think that fussing about with Wardian cases causes more mischief than anything else.—J. B.

Journeyman Shoemaker and Member of the Linnean Society.—Mr. Thomas Edward, the journeyman shoemaker, who died in April last, had been for nine years an Associate of the Linnean Society of London. In the recently-issued *Proceedings of the Society*, October, 1886, p. 142, it is stated that Mr. T. Edward deservedly obtained a high repu-

tation as a shrewd and accurate observer of nature, and as a most industrious and careful collector. Following the poorly-paid calling of a journeyman shoemaker in a small Scotch town, his whole life was a struggle against poverty and hardship, and the difficulties that beset the pursuit of knowledge without means and without the necessary education. With Edward, however, the love of all things animate was inborn, and his craving to rob nature of her secrets was insatiable. Notwithstanding his many disadvantages, he was able to add greatly to the knowledge of the fauna—marine as well as terrestrial—of his native district, and made a great number of valuable collections. Many specialists have acknowledged their indebtedness to him for specimens sent and new species obtained. Edward himself has also contributed the description of a number of his observations to various scientific publications, and some have appeared in the journal of this society. A list of the Vertebrata and Crustacea, collected by Mr. Edward in Banffshire, occupies forty-seven pages in Dr. Samuel Smiles' *Life of the naturalist*. At the time of his death, in his 72nd year, he was Curator of the Banff Museum.

A NEW BEETLE TRAP.

SEVERAL times during the past season we have had the opportunity of observing the useful and effective character of a new beetle and cockroach trap, invented by the Messrs. W. & J. Birkenhead, of Sale, near Manchester, and who, finding it so useful in their own Fern houses, are now offering it to the public. The general



appearance of the trap is shown in the accompanying illustration, but it should be stated that it consists of two parts: the top, with the two pieces of glass sloping inwards, with the means of ingress shown on one side; and the double bottom, with a circular hole in the lower corner, to allow the captives to escape into darkness as daylight approaches. The hole is opened or closed by a zinc slide, and should always be left open when the trap is set. To bait the trap, the top half is lifted, off and such tempting bait as cooked fish, oatmeal, &c. spread over the bottom. Attracted by the odour of the good things within, the beetles drop in the box through the open space in the glass top, and once inside find it impossible to get out again. Seeking darkness, as is their custom, the zinc slide is pushed in, the top half is lifted off, and the victims of misplaced confidence are at the mercy of their captors. Besides black beetles, such disgusting creatures as cockroaches, crickets and woodlice are easily entrapped if the odour of the bait is sufficiently strong, and on the efficacy of the allurements of course much depends, as in the case of all kinds of bait laid for larger vermin. To capture these offensive pests in traps is a much less dangerous practice than laying down poison, hence we have all the more pleasure in bringing the Messrs. Birkenhead's contrivance under the notice of our readers.

MICHAELMAS DAISIES.

TRUE to their character in coming into flower about Michaelmas Day, how grandly have the perennial Asters this season maintained their reputation as free blooming and most attractive subjects! Largely grown as they are by those who know their value, and can get the best sorts, yet how many gardens there are, and small gardens in particular, that know them not. It has been urged against them, that their tall straggling

habit renders them unsuitable for other than herbaceous and shrubby borders of large size, and this is to some extent true as regards the taller-growing forms, but there are several now of such lowly and moderate growth, that but little excuse on this score is left for their neglect.

When at Mr. T. S. Ware's a week or two ago, Mr. Amos Perry, who is a veritable epitome of "wrinkles," and who will find out the capabilities of a plant if anybody can, gave us a hint on the cultivation of these plants that may be of great service to many of our readers. Here it is. Said Mr. Perry in reply to a remark as to what pretty pot plants they would make were it not for the length of their stems—"That is easily got over. Lift a stool in February, and strike the young shoots which will soon appear, grow them on in pots, and you at once reduce their height by more than one-third." Well, that is a "winkle," and we hope many of our readers will adopt the plan, feeling certain they will be gratified with the results; for dwarf dense heads of lovely flowers, such as the perennial Asters yield, must be acceptable to any one. Amateurs who have small greenhouses which they can never have too gay, and who depend largely on hardy or nearly hardy plants, should especially adopt this plan, it is so easily done.

Among the choicer sorts that were flowering at Mr. Ware's, we may note *A. amellus* and *A. amellus* *bessarabicus*, both of medium height and both handsome, but the last-named the finest of the two; *A. longifolius formosus*, about 2 ft. high, wondrously free-flowering, and mauve in colour; *A. hybridus nanus*, pale rose, very dwarf and free; *A. dumosus*, height about 4 ft., and the flowers large, of a bluish mauve shade; *A. formosissimum*, medium height, mauve; *A. Novæ Angliæ* and *A. Novæ Angliæ rubra*, 6 ft. high, and both very fine; *A. lævis*, of which there are about 100 varieties, the plant at Mr. Ware's being one of the best, having a strong branching habit and large flowers, French-grey in colour; *A. niveus*, a good white, perhaps the best; and *A. Townsendii*, a biennial, with fine large flowers of a purplish lilac colour.

NOTES ON LILIUMS.—IX.

MY ninth and concluding chapter on Liliams I purpose devoting to a few remarks concerning the latest-flowered group of the genus—viz., *L. speciosum* and its several forms. The flowering of the "Tigers," to which my last note was directed, brings the flowering season well up to the end of August, and some few remain on into the middle of September, when the members of the present group form the connecting link in the chain of their flowering. Taken collectively, the varieties of

LILIUM SPECIOSUM (or, as they were erroneously long known in gardens, *L. lanceifolium*) form a valuable and showy, as well as useful, group, and are always admired, either as pot plants grown for conservatory decoration, or for the embellishment of the flower borders out of doors; in either case they require liberal treatment and a rich loamy soil to bring them to perfection. When well grown, they will attain to 5 ft. high, and bearing from twelve to twenty of their handsome flowers, are very imposing subjects for general decorative purposes. They hold an unique position as autumn-flowering Lilies, and being easily managed, should find a place in all gardens where beauty and a long-continued season of flower is of the first moment. They are extremely hardy, inasmuch as no amount of winter frosts will harm them; but they are benefited by a slight protection in spring time to preserve them from the nipping and destructive frosts which we so often experience at that season of the year, and of which their young and tender shoots are so susceptible.

This protection, however, may be afforded them in such a variety of ways that it is well they should have it, and thus save the blooms; and not only this, but save your bulbs too, for be it remembered that while these frosts do not kill them outright, they suffer both directly and indirectly at the root—i.e., the bulb—in consequence of the check thus received by leaf and stem, which form the important and chief functions in the full development of the bulb; and which, being retarded for the season, do not reach the size that they otherwise would provided they had sprung from the earth, and had reached maturity unharmed. When grown in clumps, a few boughs of Spruce Fir or evergreen Laurels will be all that is needed to protect them;

or where beds of them exist, the simplest way will be to cover them with tiffany, or some such material. In *Rhododendron* beds they are quite at home, but here I must be explicit, or my observations will not be clear to your readers. Associated with the name of *Rhododendrons* is that somewhat expensive article in many provincial localities, peat, and in saying the forms of *L. speciosum* are perfectly at home in the *Rhododendron* beds, I do not wish to contradict what I have previously stated, that these delight in rich loam, for peat, after all, is not absolutely essential in the cultivation of the *Rhododendron*. I have, in my mind's eye, two opposing instances of these delightful shrubs, the one where they are growing most luxuriously in a heavy and greasy clay, and where they have bloomed splendidly for years; the other case to which I refer is a locality where they refuse to grow in any soil out-of-doors, peat not excepted. But I am running from my subject; though, as these thoughts cross one's mind in passing, it may not be altogether lost to refer to them, as showing that soil is not the sole agent in the successful culture of plants generally; other agencies, such as atmosphere, elevation, situation, shade or sun, dry or moist, must all play their part harmoniously with that of soil to bring about a successful issue.

The principal varieties of this important late-flowering group are as follows:—*Lilium speciosum roseum*, which has white flowers stained and spotted with rose; *L. speciosum roseum punctatum*, which is beautifully spotted with pink on a white ground; *L. speciosum roseum album Kratzeri*, splendid pure white variety of great substance, and a free continuous bloomer of sterling merit; *L. speciosum rubrum*, white, suffused and spotted with crimson; *L. speciosum rubrum album*, large pure white flowers; *L. speciosum rubrum Melpomene*, one of the darkest of the rubrums, and a very scarce Lily of American origin; *L. speciosum rubrum multiflorum*, white, stained and spotted with rose, and an early bloomer; *L. speciosum rubrum purpureum*, large reddish purple flowers, heavily studded with purplish crimson spots—this is a most effective Lily, and should be possessed by all; *L. speciosum rubrum atro-purpureum*, also called *Schrynmakersi*, which has flowers of the darkest purple-crimson richly spotted and margined with white, and most handsome form. These, then, are the leading forms, made up, as will be seen, from *L. speciosum roseum* and *rubrum*, all of which are distinguishable by their stems; those of the roseum type having greenish stems sometimes tinged with purple, while those of *rubrum* are invariably of a brownish hue merging into blackish purple.

At no time in the whole year do these transplant better than in the month of October; they have now ceased flowering, the stems are decayed, and ere new roots are emitted they should be transferred to their new quarters. I have this day (October 18th) been lifting a quantity of the forms of *speciosum*; consequently I have been enabled to give my observations from a practical standpoint, and I consider them in the best possible condition for removal. Work in plenty of well-rotted manure, and plant them at 6 ins. deep from the summit of the bulb. The genus *Lilium*, as a whole, is not subject to the attacks of a great variety of insects—a rather fortunate circumstance; in soils, however, where wire-worms are prevalent, they play great havoc among the bulbs, and many are irrecoverably lost in consequence, since they bore right into the very heart of the bulbs, and so do all the mischief unobserved. They can easily be trapped, however, by sinking a few Potatos here and there on a level with the bulbs, and marking their places with sticks; examine them occasionally, and destroy the worms that will be sure to be boring into the Potato; by this means their numbers may soon be reduced, and the owner can once more breathe with freedom and smoke the pipe of peace.

Thus do I conclude a series of notes in which I have endeavoured feebly to bring into prominence the most showy and useful kinds of this magnificent genus of hardy bulbs—a genus remarkable for its almost endless species, and forms all more or less beautiful and interesting, and embracing a flowering period of fully five months; and this coupled with their highly decorative properties as well as their elegant forms and richly coloured or chaste and fragrant flowers should need no further recommendation from the writer, other than that in the majority of cases they are to be had remarkably cheap, and consequently should be grown by all.—J.

ORCHID NOTES AND GLEANINGS.

Treatment of Orchids when at Rest.—

In the *Cattleya* or intermediate house many plants, by their fully made up pseudo-bulbs, tell that their season of rest has arrived, and that a less amount of water is required by them; they should, therefore, only have sufficient given them to keep them in a plump state. A restricted supply of water, together with a free admission of air and light, is necessary to harden the tissues of the finished growths of *Cattleyas*, *Lælias*, *Oncidiums*, &c., at whatever season they may finish their growth, and also to further the object of all good growers viz., to keep them healthily inactive until the proper growing season arrives, so that they may do their year's work at the proper periods and enjoy the full amount of rest required.

But some growers are apt to err too much on the side of what is called "drying off," and injuriously starve their plants during the resting season; they should remember that most of the *Cattleyas*, *Lælias* and other occupants of the intermediate house are, strictly speaking, evergreen plants, and not open to be classed with such things as *Dendrobium Wardianum*, &c., in the matter of "drying off," but require enough moisture to keep all their parts plump, in order to push with vigour the new growths when the resting season has passed.

One of the most important matters in the Orchid houses at all times, is the regulation of the temperature, but more especially in winter. Year by year we get more fixed in our notions of the benefit of cool treatment, and soon, I believe, most growers will ignore the desirability of what is called the East India House, except for the purpose of growing plants in which are to be taken out as soon as their growths are finished. If so used, a downright good hot-steaming house would be of inestimable benefit, as all Orchids can stand a very high temperature when growing, and some of them show marvellous results, but, as soon as their growths are made they must be taken into a cool house. To so work a hot-house, is using it, but to allot to it its class of plants, such as *Phalænopsis*, &c., leaving them in it all the year, is to abuse it; and a costly form of abuse it is, too. The sooner growers perceive that there are no all-the-year-round hot-house Orchids the better for them and their stock.—James O'Brien.

Odontoglossum Harryanum.—This grand cool Orchid of Messrs. Veitch's, the first notice of which appeared in our columns at p. 45, in addition to being the charming plant we then described it, is a curious Orchidic puzzle, and growers, and especially importers, are much perplexed about it. Eager questions, such as Where does it come from? How does it happen that such a lovely thing has never been even reported by travellers? Is it really an *Odontoglossum*? and such like questions being freely asked. One thing, however, it proves, and that is that the store of showy new Orchids is not exhausted as some would have us believe.

Angræcum arcuatum.—A drawing of a spray of this pretty cool Orchid shown us by Mr. Wm. Gordon, of the Orchid and Lily Nurseries, Twickenham, represents it as a very charming white flower, with a curiously recurved spur. There are nine flowers on a spike, and it is said to be delightfully fragrant, especially in the evening.

Prices of Orchids.—Those who have been in the habit of giving long prices for Orchids may be interested to know that there is no sign of any depreciation in their value, if we may judge from some prices obtained at Stevens' rooms on Thursday. A small plant of the hybrid *Cypripedium Arthnrianum*, with two growths, realised 15 guineas; a small plant, with three bulbs, of *Cœlogyne cristata alba* fetched 10 guineas; and a plant of *Cypripedium Spicerianum*, with 150 leaves and ten flower spikes, realised 9 guineas. Among the Orchids in flower there were also some well-bloomed *Phalænopsis amabilis*, *Odontoglossum insleaya leopardinum* and *splendens*, some fine *Dendrobium formosum giganteum*, one of which had seventeen grand white flowers. The varieties of *Lælia Perrinii* and *Cattleya Dormanii* were very bright and showy, and the large golden *Oncidium tigrinum* and *O. varicosum* well exhibited their usefulness at this dull season.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Now that all the houses are filled to their utmost capacity, it will be necessary that care is taken in the ventilating, so that the atmosphere may be as buoyant as possible, and where plants are required to be kept in flower the pipes should be nicely warmed each morning, particularly as the weather has of late been so wet and stormy. Let no more water be used in the structures than is absolutely necessary, especially in the green-houses, and all decaying foliage be removed as it appears. We have completed our storing, and more time can now be given to the occupants of the stoves.

Crotons and *Dracænas* are particularly liable to the attack of thrips, which make sad havoc with them. Let these be gone over with a small sponge and soapy water, taking care that the underside of the foliage is cleansed. Those required for table decoration should be placed as near the glass as possible, to bring out the colour; so also *Pandanus Veitchii*, the finer kinds of *Aralias*—in fact, all plants to be well furnished at this season must have special attention given them. The *Hedychiums* are giving us some splendid spikes of flower; some we cut last week measuring 15 ins. long, and 2 ft. in circumference. After flowering, water will be gradually withheld to induce them to go to rest. All roots, such as *Gloxinias*, the early tuberous *Begonias*, *Achimenes*, &c., which were placed in the cold pit to ripen off, may at once be stored under the stages for the winter. If at all damp let them be stacked on their sides, or probably many will be found rotten when required to start next spring.

The *Begonias* which may have been kept flowering later on must be given a little warmth to thoroughly ripen off. We have removed our main stock of Roman *Hyacinths* from the plunging-bed into cold frames, as they are well advanced. According to the required supply, a few pots must be introduced to the forcing-pit, giving them a position as near the glass as possible to prevent drawing, removing them to cool quarters before the flowers expand, or they are quickly over. Our main batch of *Primulas* we have placed on shelves in the Peach-houses which are generally devoted to forcing Strawberries. Being near the glass, with abundant ventilation, they will be kept sturdy, and the flowers will be of better colour. An occasional pinch of Clay's Fertiliser greatly strengthens them.

THE FORCING HOUSES.

Let the collecting of droppings for making up successional Mushroom-beds be followed up, so that in the season there may be no break in the supply; and if only ordinary care is exercised this may be readily avoided. As the weather has been so unfavourable, we have warmed the pipes each day in our house to keep it comfortable, so that the beds made up may retain their heat as long as possible. The early batch of Sea Kale may be introduced at any time. Should the foliage not be dried off, it may be cut off close to the crowns, and will not in any way interfere. If the material in which the crowns are placed is moist, no water should be given until a start is perceived, when warm water should be given; but to prevent the crowns becoming dry, damp them with the syringe once or twice a day.

A pit must at once be prepared for the early planting of Potatos, where required very early, growing them in pots is decidedly preferable, as they are so much more under control and more amenable to special treatment. The early batch of *Asparagus* should also be put in, the beds having been mown over some days before. We have proved again and again, that nothing so much delights in a strong bottom-heat as this plant; the "grass" too, is much more tender than when cool treatment is adopted. For the making of the hot-bed we use good strong manure, with a liberal mixture of new leaves; we always place 2 ins. or 3 ins. of leaf mould on the surface of the bed, on which the roots are placed, covering with 4 ins. or 5 ins. of the same material, giving also an abundance of water; our supply never fails us.

The early planted Cucumbers are making a good growth; the succession batch are also coming on, so that we have cleared out and painted the house ready for them; the pots in which they are to grow will be placed on piers, and the hot-bed made to them, so that there may be no check, a very particular matter at this

season. Be careful that when the heat of the bed is declining fresh material is added, and for this purpose it will be necessary that a heap may be kept in readiness and frequently turned, so that it may be sweet, when introduced into the houses. Be careful not to feed the plants now with liquid manure.

THE KITCHEN GARDEN.

The weather has been unfavourable for ground work generally, and this has enabled us to gather in most of the late fruit—in fact, we hope to quite finish this week. Another matter requiring attention is the placing of hoops or frame-work over the Endive and Lettuce beds, so that they may be covered with mats during severe weather. We have tied up for blanching a nice breadth of Batavian Endive, and also of Brown Cos Lettuce. We have also had pricked out a good batch of August-sown Lettuce at the foot of south walls, where it generally stands without protection the most severe winters; of course it must be attended to at once, that it may become established before frost sets in. Embrace the very first opportunity to give the Celery the final earthing.

The planting of all kinds of bush fruits may be carried on; forest trees also may be lifted preparatory to planting, so that when the work is commenced all may be in readiness. Beetroot and Carrots may now be lifted, particularly the latter, as if allowed to remain much longer in the ground they are apt to start rooting again. Store them in any open airy shed or dry cellar, using a little sand as the work proceeds; all blemished roots should be cast aside for immediate use, and not stored with the main crop. Be careful in the lifting of the Beet that the roots are damaged as little as possible, and let the foliage be wrung off, not broken. Store similarly to Carrots, only be careful that in case of severe frosts they are sufficiently protected.—*Walter Child, Croome Court.*

FLORICULTURE.

SEEDLING AURICULAS.—A large batch of seedlings, fine semi-double flowers, are just now flowering in my house, and they brighten the dulness of the autumn by giving me some pretty flowers. All flowers of promise are labelled for trial another season, and the flowers cut away; a shift being given to such as are pot-bound. The varieties that are of an inferior character go to the open border, where they are planted deeply in some refuse potting soil. Scarcely a day passes but my attention is challenged by some aspirant for favour.—*R. D.*

WINTER-FLOWERING CARNATIONS.—I think that winter or Tree Carnations are among the very best things that can be grown for flowering at this season of the year. But, hardy as they are, no one must think of flowering them in a satisfactory manner without the help of fire-heat. This is an indispensable requisite during the dull, damp and cold season of the year. It is sometimes said Tree Carnations can be grown and flowered in a cold house, but during October, November and December, as well as January and February, some fire-heat is absolutely necessary, both to dry up the damp and afford sufficient warmth to assist the flowers in expanding. But with fire-heat air must be given, unless the weather is so very cold that there would be some risk in having the windows of the house open. In giving fire-heat, therefore, give air, but always open the windows of the house on the opposite side to that from which the wind is blowing. The reason why so many fail with winter-flowering Carnations, is, because they keep them too close, and draw the plants, so that they become lanky in growth. Therefore, give fire-heat if the weather be damp, raw and foggy, but give air also, and always by day as far as possible. The winter-flowering Carnations are a great sight at the Royal Nursery, Slough, just now especially, a fine lot of seedlings lifted from the open ground and potted—seedlings sown in heat in January last. But more shall be said about these shortly.—*R. D.*

WILLIAM FORSYTH.—Between thirty and forty years ago, when I had charge of the Manor Gardens at Lee, I recollect Mr. Forsyth visiting me in the company of my old friend, Mr. George, now of Putney. At that time the ill-fated man—whose sad end I, for one, very sincerely deplore—was a fine stalwart man, in the very prime of manhood, and with a brilliant prospect before him. Although I have never seen Mr. Forsyth since, I cannot refrain from expressing the most profound sympathy for an old gardener, who was led by some (to me) unexplained cause to seek the means he has done to finish a long and useful career.—*G. Fry, Lewisham.*

Obituary.

DEATH OF MR. STEVENS, OF TRENTHAM.—We regret to announce the death, at Trentham, early on Wednesday morning, of MR. ZADOC STEVENS, gardener to the Duke of Sutherland. Mr. Stevens had suffered much from ill-health during the last two years, and last year passed the winter in Egypt with a view to its improvement. He seemed to have derived much benefit from the change, and was returning homewards when he was taken ill again at Rome, with strong symptoms of typhoid fever. Pushing on, however, he got as far as Paris, where he had to stay for a short time, being unable to proceed further. Recovering sufficiently to enable him to get to London, he had a severe attack of typhoid fever, from which he appeared to have recovered so completely as to enable him to return to Trentham early in the autumn. He was present at the last show of the Royal Horticultural Society on Tuesday week, and on returning home caught a cold, inflammation of the bowels set in, and he died as above stated on Wednesday. Mr. Stevens was fifty-two years of age and was buried at Trentham yesterday (Friday).

Of Mr. Stevens' early career we know nothing, our first acquaintance with him dating back only to the time when he had charge of those monster Indian Azaleas of Messrs. James Veitch & Sons, which, during the two or three years he had them in hand, were turned out in the most faultless style; and when those departed worthies, James Veitch and Charles Turner used to compete with the monster specimens then in vogue, the battle was a thing to see and remember, and always worthy of the men engaged in it. On the retirement of Mr. Fleming from the management of the gardens at Trentham, in the autumn of 1864, Mr. Stevens was appointed to succeed him, and in his hands the famous gardens have lost none of the reputation gained for high-class cultivation by his predecessors, Henderson and Fleming. Three years after he left Chelsea, the monster Azaleas, or most of them, were sent over to the Paris Exhibition, whence they never returned, and since Mr. Turner parted with his "elephants," too, their like has not been seen in this country.

QUESTIONS AND ANSWERS.

CINERARIAS.—*A. Shaw*: By all means let the offsets grow, and so help to furnish the plants. If you want the plants to flower in March, give them another shift into a size larger pot.

PELARGONIUMS.—*J. M.*: Aim at maintaining a regular temperature of 55° by day and 50° at night, giving air accordingly, so as to maintain a somewhat dry atmosphere. Be guided by the action of damp on the flowers as to when the ventilators should be left open a little at night, otherwise keep them closed, and especially during the prevalence of fogs.

CLIMBERS, &c.—*Sussex*: All the plants you name are suitable subjects, but we should prefer to use a smaller number on the walls. *Jasminum revolutum*, the evergreen, yellow flowering species; *Crataegus Lalandii*, and *Pyrus Maulei* should certainly be included; and why not *Gloire de Dijon* and *Cheshunt Hybrid* Roses?

COPROSMA.—*J. D.*: Your sport from *Coprosma Baueriana* variegata, in which the golden variegation is in the centre of the leaf instead of on the margins as in the type, is identical with the *Coprosma Stockii* sent out by Mr. B. S. Williams.

NAMES OF FRUITS.—*J. U.*: Pears—2, *Passe Colmar*; 3, *Beurré Diel*; 4, *Gansel's Bergamot*; 5, *Knight's Monarch*; 6, *Louise Bonne of Jersey*. *W. G. M.*: 1, *Catillac*; 2 and 3 not known; 4, *Baronne de Mello*; 5, *Zephyrine Gregoire*.

NAMES OF PLANTS.—*Con.*: *Crataegus coccinea*. *W. D. Marks*: *Dendrobium chlorops*.

COMMUNICATIONS RECEIVED.—*J. N.*—*H. G. S.*—*G. E. P.* (next week).—*J. D.*—*T. B.*—*R. D.*—*J. C.*—*J. H.*—*H. O.*

TRADE CATALOGUE RECEIVED.

DANMANN & Co., San Giovanni a Teduccio, Naples. Illustrated Catalogue of Flower and Vegetable Seeds.

ROBERT LORD, Hole Bottom, Todmorden. Carnations and Picotees.

JAMES COCKER & Sons, Sunnypark, Aberdeen. Catalogue of Select Roses.

G. COOLING & Son, Bath, Somerset. Catalogue of Roses and Fruit Trees.

JAMES WALTERS, Mount Radford Nursery, Exeter. Descriptive Catalogue of Roses.

J. CHEAL & Sons, Lowfield Nurseries, Crawley, Sussex. Trees and Shrubs, Roses, Fruit Trees, &c.

LONDON SEED TRADE.

October 20th, 1886.

Messrs. **HURST & SON**, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a dull trade at rates current last week. Winter Tares are enquired for to hold over at low prices now ruling. French Red Clover is of good quality and reasonable in price, but does not find buyers at present. White Clover is firmly held. Alsike and Trefoil unchanged. Mustard and Rape in moderate request. Blue Peas easier. Bird Seeds unchanged.

COVENT GARDEN MARKET.

October 21st.

FRUIT.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6 3 6	Peaches, per doz.	3 0 9 0
Cherries, $\frac{1}{2}$ sieve		Pine-apples, St.	
Currents, $\frac{1}{2}$ sieve		Michals, each	2 6 8 0
Grapes, ... per lb.	0 6 2 0	Pine-apples, Eng., lb.	3 0 4 0
Kent Cobbs, 100 lbs. 55 0		Plums, $\frac{1}{2}$ sieve	0 9 2 0
Melons, ... each	1 0 2 0	Strawberries .. per lb.	

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Artichokes, Globe, doz.	2 0 3 0	Horse Radish, bundle	3 0 5 0
Beans, French, per lb.	0 4	Lettuces .. per dozen	1 6
Beet, per dozen	2 0 3 0	Mushrooms, p. basket	1 0 2 0
Cabbages, ... per doz.	2 0 2 6	Onions, per bushel ..	4 0 6 0
Carrots, per bunch ..	0 6	Parsley, per bunch ..	0 6
Cauliflowers, English, per dozen	3 0 5 0	Radishes, per dozen ..	1 6
Celery, per bundle ..	1 6 2 6	Small salading, punnet	0 4
Cucumbers, each	0 6 0 9	Spinach, per strike ..	2 0
Endive, French, doz.	2 6 3 6	Tomatos, per lb.	0 9
Herbs, per bunch	0 2 0 4	Turnips, ... per bun.	0 6

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Asters, dozen bunches	4 0 6 0	Lilium longiflorum, 12 blooms	4 0 6 0
Arum Lilies, 12 blms.	4 0 6 0	Lilium in variety, 12 blooms	2 0 0
Azalea, 12 sprays	0 9 1 6	Marguerites, 12 bun...	3 0 6 0
Bouvardias, per bun.	0 6 1 0	Mignonette, 12 bun...	1 0 3 0
Camellias, 12 blooms	3 0 6 0	Parma Violets (French), per bunch	4 0 5 0
Carnations, 12 blooms	1 0 3 0	Pelargoniums, per 12 sprays	0 9 1 0
Chrysanthemums, 12 blooms	1 0 6 0	— scarlet, 12 sprays ..	0 3 0 6
Chrysanthemums, 12 bunches	4 0 8 0	Primula, double, bun.	0 6 1 0
Dahlias, 12 bunches	3 0 6 0	Pyrethrum, 12 bnchs.	2 0 4 0
Daisies, common, 12 bunches	2 0 4 0	Roses, ... 12 bnches	2 0 6 0
Eucharis, per dozen ..	4 0 6 0	Roses (coloured)	0 9 1 0
Forget-me-not or Myosotis, 12 bunches ..	2 0 4 0	Roses, Tea per dozen	0 9 3 0
Gardenias, 12 blooms.	2 6 4 0	Stephanotis, 12 sprays	4 0 6 0
Gladioli, 12 sprays	1 0 2 0	Sweet Peas, doz. bch.	1 6 3 0
Heliotropes, 12 sprays	0 6	Sweet Sultan, 12 bun.	
Lapageria, red, 12 blooms	1 0 1 6	Tropeolums	1 0 2 0
Lapageria, white, 12 blooms	2 0 3 0	Tuberose, per dozen.	0 4 0 9
		Violets, 12 bunches	0 9 1 0
		White Jasmine, bun.	0 6 0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Aralia Sieboldi, doz.	6 0 18 0	Ficus elastica, each..	1 6 7 6
Asters, per dozen	4 0 8 0	Foliage Plants, various, each	2 0 10 6
Balsams, ... per doz.		Fuchsia, per doz.	3 0 6 0
Begonias, per dozen ..	6 0 12 0	Gladioli, 12 pots	
Bouvardia, per doz. ...	9 0 12 0	Hydrangea, ... per doz.	
Chrysanthemums, doz.	4 0 12 0	Liliums, ... per doz.	
Cyperus, per dozen ..	4 0 12 0	Marguerites, per doz.	6 0 9 0
Dracana term., doz. ...	30 0 60 0	Mignonette, per doz.	4 0 6 0
— viridis, per dozen	12 0 24 0	Palms in variety, each	2 6 21 0
Erica gracilis, per doz.	12 0 18 0	Pelargoniums, doz. ...	
— hyemalis, per doz.	18 0 24 0	— scarlet, per dozen ..	3 0 6 0
— Reginians., doz.	9 0 12 0	Petunias, per doz. ...	
Evergreens, in var., per dozen	6 0 24 0		
Ferns, in var., doz. ...	4 0 18 0		

POTATO MARKET.

October 18th. There are no alteration in prices to notice this week, with the exception of a demand for best samples, which are very scarce upon the market. During last week 497 trucks arrived at King's Cross, and 42 arrived this morning, reducing the stock down to 345 trucks. Good samples of York and Lincoln Magnum Bonums are much sought after; good quality stuff going off rapidly at top prices.

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SPLENDID CLIMBING ROSES in 7-in. pots, with one and two shoots, 6 ft. to 8 ft. long, 2s. 6d. each: Climbing Devonensis, Marechal Niel, Gloire de Dijon, W. A. Richardson, Reine Marie Henriette, and Cheshunt Hybrid.

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SPLENDID DWARF TEA ROSES in 7-in. pots, specially prepared for winter flowering, in about 100 varieties, including Niphetos, Perle des Jardins, Sunset, Madame Falcot, Isabella Sprunt, Lady Mary Fitzwilliam, Homer, Etoile de Lyon, Perle de Lyon, Mrs. Bosanquet, and Madame Lambert, 2s. 6d. and 3s. each, according to size. List on application.

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BEDDING HYACINTHS—

Red, Pink, Carmine, Flesh Colour, &c. 2 3 15 6

BEDDING HYACINTHS—

Pure White, Tinted, Cream, Yellow, &c. 2 9 19 6

BEDDING HYACINTHS—

All Shades and Colours mixed 2 0 13 0

Per 100. Per 1000.

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CROCUS—Golden Yellow 1 3 10 0

CROCUS—All Colours mixed 1 3 11 0

TULIPS—Finest Named, double or single,

-9 -11 1/1 & 1/3 per doz.; 3/6 5/6 7/6 & 8/- per 100

Per doz. Per 100.

TULIPS—Finest mixed single 0 9 5 0

TULIPS—Finest mixed double 0 9 5 0

NARCISSUS—Pheasant Eye 0 6 4 6

NARCISSUS—Paper White, Early 1 6 8 0

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SNOWDROPS—Single 2 3 19 0

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Schedules free on application to
Mr. WILLIAM HOLMES, Hon. Sec.,
 Frampton Park Nurseries, Hackney.

The Floral Committee will meet on November 10th and 24th, and December 8th at 1.30 p.m.

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Liberal Prizes for PLANTS, FLOWERS, FRUITS, and VEGETABLES. Schedules, &c., to be obtained of
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CHRYSANTHEMUM SHOW on November 12th and 13th, 1886, at the Ladywell Public Baths, Lewisham. £5 offered for 48 Cut Blooms, 24 Japanese, and 24 Incurved; also various other open prizes. Schedules of the Hon. Sec., **Mr. HENRY DRAKE, 64, Limes Grove, Lewisham.**

CRYSTAL PALACE ANNUAL CHRYSANTHEMUM SHOW, Friday and Saturday, November 5th and 6th. For Schedules, &c., &c., apply to **W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.**

Next Week's Engagements.

MONDAY, Nov. 1st.—Meeting of the General Committee of the National Chrysanthemum Society at 7 p.m.—Sale of Dutch Bulbs and Lilium auratum at Protheroe & Morris's Rooms.—Sale of Fruit Trees at Osborn's Nursery, Hampton, by Protheroe & Morris.

TUESDAY, Nov. 2nd.—Ealing Chrysanthemum Show.—Mark Laue Chrysanthemum Show (two days).—Important Sale of Nursery Stock at Hallamby's Nursery, Groombridge, by Protheroe & Morris (two days).—Great Annual Sale of Nursery Stock and Herbaceous Plants at Ware's Nursery, Tottenham, by Protheroe & Morris.—Sale of Roses, &c., at the City Auction Rooms by Protheroe & Morris.

WEDNESDAY, Nov. 3rd.—Highgate, Finchley and Hornsey Chrysanthemum Show.—(two days). Havant Chrysanthemum Show.—(two days).—Sale of Plants at Stevens' Rooms.—Sale of Plants and Lilies at Protheroe & Morris's Rooms.—Clearance Sale of Greenhouse Plants at the Melbourne Nursery, Anerley, by Protheroe & Morris.

THURSDAY, Nov. 4th.—Stoke Newington Chrysanthemum Show (two days).—Brixton Chrysanthemum Show.—Sale of Lilium auratum bulbs, from Japan, at Stevens' Rooms.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.—Sale of Nursery Stock, at Maidstone, by Protheroe & Morris.

FRIDAY, Nov. 5th.—Crystal Palace Chrysanthemum Show (two days).—Sale of Plants at Stevens' Rooms.—Sale of Established Orchids at Protheroe & Morris's Rooms.—Trade Sale at Lee's Nursery, Hounslow, by Protheroe & Morris.

SATURDAY, Nov. 6th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—**BACON.**

The Gardening World.

SATURDAY, OCTOBER 30, 1886.

SPORTIVE NATURE.—The common appellation of "silly season," as applied to the dull period of the year when newspapers find news scarce, is always the more vigorously applied when some allusions are made to oddities on the part of nature, especially in the unnatural or rather

unseasonable blooming of trees or production of fruits, or some other sportive development which invariably evolves wonder and curiosity. The most recent outbreaks of this character has been found in the Laburnum, which here and there has burst into bloom (of course, but very partially), and hence has provoked considerable comment. That such blooming, which the French term *fleuraison anticipée*, is a sort of *usus natura* there can be no doubt, because the Laburnum, in common with all other deciduous trees, should be going to its winter rest rather than be exhibiting spring-like activity. But the cause of this unlooked-for floral development is not far to seek. Either it is in each case due to some special local action which does not influence vegetation generally, or to some special check received by the tree early in the summer, and which produced rest as unseasonable as the blooming in the autumn has been irregular; or, as is, perhaps, most likely, certain imperfectly developed flowering buds remained—for lack of the needful capacity to develop themselves—dormant in the spring, and were, through the peculiar effects of drought first and rainfalls later, aroused to action, and to the production of inflorescence in the autumn.

Irregularity of action on the part of the weather not infrequently produces irregularity of action on the part of trees, and thus we are treated to these oddities at such unwonted period of the year. Now it is very unfair to refer to these quaint outbreaks of nature as fit subjects for publicity in the "silly season." Naturally reference to them in the columns of the press show that we have numerous intelligent observers of the action of nature in our midst, and that they think, as we think, that all such strange or unusual appearances should be duly recorded. Certainly, for a large portion of the readers of newspapers, the blooming of Laburnums or other trees in the autumn has quite as much interest as has the fortunes of some princelet or the ramblings of some eccentric politician. Topics of this kind are not to be confounded with mention of the biggest Gooseberry or of the heaviest Potato. We can afford to dispense with such references as these henceforth and for ever; but all singularities on the part of the vegetable kingdom merit the fullest publicity, because their recording may be productive of considerable advantage to science, botany, or the study of plant life. Such abnormal acts on the part of vegetation often reveal forces or operating causes not previously understood.

It was the gossiping and yet quaint observant way in which Gilbert White recorded his experiences of nature in her many forms, but specially in reference to plant life, that gives such undying charm to the Natural History of Selborne. Had that good man lived in these flippant days, no doubt his observations, published in the press, would have been commented upon by hypercritical scribes as fit products of the "silly season." Have we any Gilbert Whites alive now, and recording for the benefit of posterity their experiences of the nineteenth century, in the same way that White recorded his a hundred years since? The columns of the gardening press alone might, perhaps, furnish ample food for contemplation and comment for our children's children, but it has not so far been collated and edited. Still farther, the actual experiences of some earnest observer naturally has more value, and for that reason we hope, in spite of the scorners, there are Gilbert Whites yet amongst us, loving and reading students of nature.

MESSRS. GEORGE BUNYARD & Co., of Maidstone, won ten first and five second prizes with KENTISH-GROWN APPLES AND PEARS at the recent Apple fair held at Exeter.

MR. JAMES BLAIR, foreman at Lord Belper's Gardens, Kingston Hall, Derby, has been appointed gardener to Viscount Powerscourt, Powerscourt, Ireland.

MR. T. F. DRANFIELD, late gardener to the Earl of Roslyn, Dysart House, Dysart, has been engaged as gardener to Mrs. Ingleby, Valentines, Ilford.

MR. RICHARD WELLER has been engaged as gardener to Sir Croker Barrington, Bart., at Glenstal Castle, Murroe, Ireland.

THE Executive Council of the Liverpool International Exhibition have awarded to Mr. John Matthews, of Weston-super-Mare, a silver medal for the TERRA COTTA ORNAMENTS which he is showing at the exhibition. The medal now awarded makes the fourteenth which Mr. Matthews has received, and the third this year.

MR. J. BRAMHAM, of Liverpool, has also been awarded a Gold Medal at the same exhibition, for his Allerton Priory Boiler.

MESSRS. WILLIAM THOMSON & SONS, Tweed Vineyards, Clovenfords, have been awarded a Bronze Medal at the Edinburgh Exhibition for their Vine and plant manure.

THE second annual show of Chrysanthemums and other flowers, fruits and vegetables of the St. Peter's, Hammersmith and district horticultural and cottage garden society, will be held at the St. Peter's boys'-school, King Street, West Hammersmith, on Thursday, November 11th.

THE late MR. Z. STEVENS, was, we are informed, a Derbyshire man, and served his apprenticeship in the gardens at Osmaston Manor, whence he went to Trentham as journeyman under Mr. Henderson, and subsequently became foreman. From thence he went to Messrs. Veitch's nursery at Chelsea, and returned to Trentham as chief, in succession to Mr. Henderson, not Mr. Fleming, as stated in our last.

MEETINGS OF THE LINNEAN SOCIETY are announced to be held at Burlington House, on November 4th and 18th, and December 2nd and 16th; and in 1887, on January 20th, February 3rd and 17th, March 3rd and 17th, April 7th and 21st, May 5th and 24th (anniversary meeting at 3 p.m.), June 2nd and 16th. The meetings take place at 8 p.m.

AN inquest was held last week at Dartmouth on the body of a girl, aged seven years, who died through eating HAWTHORN BERRIES. Dr. Mahon said he had made a post-mortem examination, and found a lot of seeds of berries which grow on Hawthorns. These seeds had very sharp points at the ends, and these points had caused excessive nervous irritation, and produced inflammation of the stomach and bowels, which eventually caused death. The berries were not poisonous, and death was primarily caused by the irritation, which a stronger person might have thrown off.

WE are indebted to Price's Patent Candle, Company for a liberal and welcome supply of GISHURSTINE, which those who do not know the article, may be informed is the best composition for rendering the boots watertight in the market. We say the best advisedly, from an experience of four or five years constant use. Besides keeping the tops supple and impervious to water, if properly put on the soles, it not only adds materially to the comfort of the wearer by keeping the soles dry, but also increases their measure of durability.

THE *Montreal Trade Bulletin* states that the POTATO DISEASE in that province has assumed serious proportions, causing a rapid advance in prices, amounting to fully 100 per cent. In many instances, whole fields have been so much affected that growers state they will not go to the useless expense of digging them. From Ontario advices have been received to the effect that the ravages of the Potato disease are very serious, and that Toronto and other Western points will have to draw upon Lower Canada for supplies.

MR. HERBERT GLADSTONE has contributed an article on the all-important subject of "National Physical Education," to the book which is to be published in December next, in connection with the opening of "Olympia," the new National Agricultural Hall at Kensington.

HORTICULTURAL.—The Honourable Tom: "Haw! This is, I suppose—er—the new Tobacco that everybody's growing." Elfrida de Smyth: "Oh, dear, no. That's an India-rubber plant." The Honourable Tom: "India-rubber! Bai Jove! Now I'd have bet any money it was real. What—er—wonderful imitations there are now-a-days!"

COLONIAL FRUIT PRODUCTION.

OF all the remarkable exhibits seen at South Kensington during the past summer, of products of our vast colonial possessions, few, perhaps, would have more greatly impressed gardeners with the fruit resources of Canada, for instance, our nearest and greatest dependency, than the wondrous display of Apples, Pears, Grapes, &c., and of farm and garden produce, made by that colony in the conservatory this week. Talk about chickens coming home to roost, here we have evidence that in our anxiety to colonise far-distant lands, and, at the same time, relieve ourselves of our assumed surplus population, we have raised up clever and prosperous competitors, not only for the world, but for our own trade also; and few competitors display so much enterprise as these Canadian folks do.

This exhibition of colonial fruits, put up here in all their attractive form and beauty, is a formidable inroad, and such as should waken up our home growers to the dangers which surround them in the shape of foreign or colonial enterprise. Why, were it proposed to make even in Paris, much less at Montreal or New York, a gigantic show of purely English produce, our growers would shrink from the suggestion as an impossibility, and yet we see Canadian growers from all parts of that vast dominion sending us literally thousands of dishes of their fruits, that we may see with our own eyes what Canadian fruit really is, just as we see the enterprising manufacturers of that and other far more distant colonies, creating such a wonderful exhibition as is now on view at South Kensington; whilst, next year, we are to see what enterprising Yankeedom can do in the same way close by.

We have, with our insular ideas, begun to regard ourselves so much as the elect consumers of the world, that we somehow think it the duty of all the world to bring their products to us for our delectation. The world has been doing so with a vengeance, with the result that we are eaten up, body and bones, by excessive cheapness. Of course, the vast army of consumers,—and all producers are consumers of something—cannot and do not complain of prices, so long as they do not conflict with their own peculiar products. It is when we find other produce literally cutting down the prices of our own commodities to starvation point, that we turn and wonder, with a purely based surprise, how it is all to end. If we turn specially to the numerous samples of Apples which the Canadians show, produced in their great orchards with almost universal abundance, and at the most trifling cost, we are forcibly reminded that at home our lands are heavily charged with burdens, which literally absorb, and more than absorb our profits, and choke our resources as with a gag.

The Canadian knows nothing of these heavy charges, and if his profits are not extensive, they are, at least, his, and not those of someone else. If the Canadians can excel us in the production of beauty and colour in their Apples—and, without doubt, colour is a very profitable element—we beat them in the production of quality, as found in flavour and density of flesh. Canadian fruits seem produced with great rapidity, and under bright skies and warm sunshine; the very dryness of the atmosphere seems to enter into the texture of the fruit, which is dry and "chippy," lacking high flavour and keeping qualities. If our fruits are less showy, at least we may declare them to be otherwise far better, and, perhaps, may challenge the world in the production of quality. It is in the cost of production of fruit in which we are so heavily handicapped, allied to the fact, which adds so materially to the cost, that our crops are irregular, and can never be relied upon until really gathered. Whilst in private gardens we grow a variety of kinds which cover a long season, in our market gardens and orchards the largest grown kinds are early ripeners. Growers excuse this by saying that they thus command a market before the great bulk of American and colonial Apples are imported. As a result, they do but literally swamp the market with early kinds, whilst they leave no appreciable bulk of fruit in the market to compete with the foreign fruit.

If this latter found formidable competition at home, no doubt the importers would soon find that the trade did not pay. If, on the other hand, we leave the market during the winter almost in the hands of the importers, they can command fairly remunerative prices, and thus further importations are encouraged. By so largely increasing our home Potato production, we checked foreign importations, because the prices

would not pay the foreigner. We can only hope to check this tremendous rush of outside fruit in the same way. Home growers also should do something to impress upon the home consumer the exceeding superiority of quality found in home-grown samples; but then more care must be taken in the packing and sending to market. These Canadian fruits largely, in spite of the comparative softness of flesh, yet, in most cases, come out of their tubs far less injured than do ours out of hampers and market baskets. There seems only two courses open to the home grower; either he must fold his hands and accept defeat and ruin, or else he must buckle to and fight competitors as Englishmen should.

JUDGING CHRYSANTHEMUMS.

IT is very kind of Mr. Udale that he should be so anxious to learn what farther I may have to say with regard to the points I raised as to the merits of sports, &c., and their respective place in stands of flowers. I fear, however, I have little more to add, because I stated clearly previously that I thought the introduction of the same variety in sported forms in small stands of flowers was wrong, and lacked distinctness and variety. Suppose, for example, if any exhibitor were to stage, in a class for six blooms, Empress of India, Golden Empress and Lord Alcester with Mrs. G. Rundle, G. Glenny and Mrs. Dixon, such an exhibit would, under existing regulations, be perfectly correct, but can anyone say that it would be desirable? Except in colour of flowers the plants are identical in the two sorts given, the form of blooms in each case identical, and there is an absolute lack of honest variety. I am simply anxious to induce exhibitors boldly to go in for variety in their stands, and not to be tempted by size of bloom, as is often the case, to put no less than three of the Empress strain in a stand of twelve blooms. As a result in competitions, we see these forms re-duplicated over and over again, until sameness becomes wearisome.

In Potato competitions I have endeavoured to promote distinctiveness in collections, not only in colour, but as far as possible in form. We have no Potato sports happily, but some kinds come very near each other, especially in the general appearance of the tubers. Still, as with Chrysanthemums so with Potatoes, there are so many distinct kinds, that a twenty-four collection, or even thirty-six dishes, may be easily obtained, everyone of which admits of no question as to distinctiveness. Chrysanthemum exhibitors may try to the same end if they wish, and in so doing very materially help judges, because it is, I hope, in all cases, a full point in favour of any competitor, when his blooms are not only distinct, but clearly show distinctness. If in making up a stand, a man would say, "Well, I won't put in two sorts which bear close resemblance, lest it should lead to difficulty, even though I leave out a good flower," he would act most meritoriously. With respect to the subject of wording schedules in a clear and satisfactory way, I think that it has been pretty well thrashed out already.

If the term "kinds" signify, in all cases, distinct sections or families, as, for instance, Japanese, Chinese, incurved, reflexed, or anemone-flowered, &c., and "varieties" be the term invariably applied when it refers to classes of these sections, it seems as if all were done that is needful. Whereas in most good schedules the various sections are classified under their respective headings, such as Japanese, incurved, &c., the term "distinct" attached to each class seems to be all that is desirable, and admits of no dubiety. If there be mixed classes, then the term "any flowers" will suffice. In all cases I should give prominence to varieties of real distinctness, because there is so much room for it, and I hope judges will do their utmost to give force to the same view.

With respect to "A Gardener's" suggestion as to creating a division in the incurved flowers by terming the large ones "show," and the smaller ones "faucy," I think the proposal deplorable; we want no more divisions, they should be avoided if possible. Where there is absolute diversity in form or style of flower, then division may be desirable, but nothing of the sort is shown in the case of Empress of India and Mrs. G. Rundle. No doubt small flowers, though even as perfect, have no great chances against big ones; but here again judges might do some service by declining to recognize mere size, unless accompanied by corresponding high quality.—A. D.

BEURRÉ DE L'ASSOMPTION PEAR.

IN our issue of September 25th, we inserted a communication from our esteemed correspondent, "W. C., Croome," on the useful and practical subject of Pear *versus* Peach culture on south walls. In the garden over which our correspondent so ably presides, it has been found, as in many others of late years, that the Peaches grown on the south wall do not come to the same perfection as they used to do; and it has been found more profitable to grow in that position the choicer varieties of Pears, which are more appreciated at the table than inferior quality Peaches. Our correspondent sent us at the same time two specimens of the comparatively little-known Beurré de l'Assomption Pear, which weighed within a fraction of 2 lbs. Our artist has cleverly hit off the characteristics of the larger fruit in the accompanying illustration, which we

means which only needs the co-operation of the growers to attain a most laudable end—the attraction of attention to the recognised best sorts of Apples and Pears, conducing thus to an improvement in the special culture of these fruits in the west country. That such essential co-operation is being received, says a local paper, is self-evident, for as many as 1,353 dishes of Apples, and 576 dishes of Pears, were this year staged. These numbers represented 463 class entries and 90 exhibitors, who came variously from the counties of Devon, Cornwall, Somerset, Hereford, Dorset and Kent. The Dowager Countess of Morley, Lord Poltimore, Lady Frances Fletcher (Kent), Sir Thomas Acland and Sir George Clay (Dorset) were among those who sent fruit.

Much the same character was given to the show by the decorations as in previous years, with the result that the interior of the market was agreeably transformed into an attractive spectacle. Additional interest was also attached to the show by the introduction of one or two

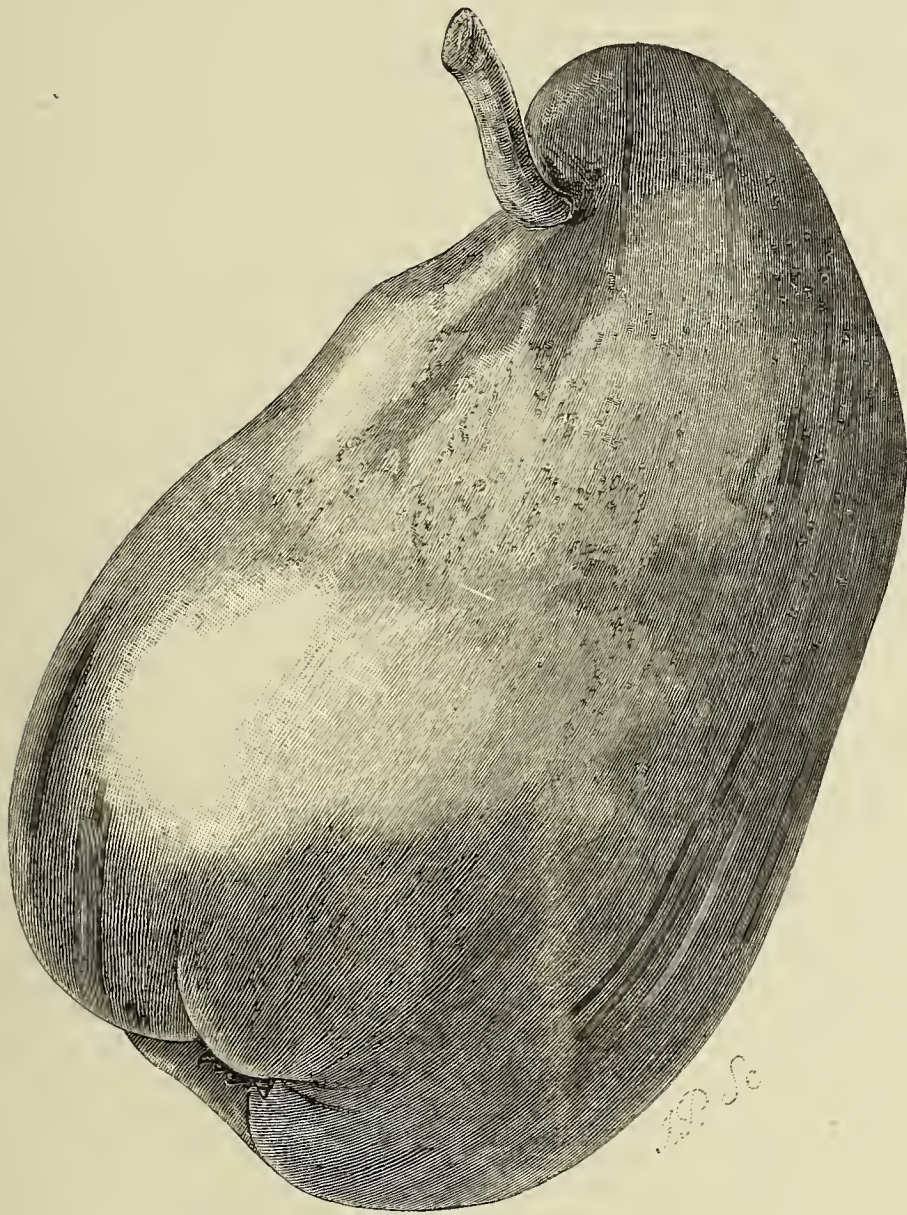
J. Watkins, H. Berwick and G. Arnold. Messrs. Lueombe, Pince & Co. sent 100 dishes of Apples of recognised excellence, and a choice collection of Pears; the firm also exhibited specimens of the Tobacco plant grown at their Exeter Nurseries, and in which considerable interest was manifested. Messrs. Veitch & Son were represented by 125 dishes of fruit, the merits of which attracted the attention of visitors; they also sent a few dishes of English-grown Almonds, and one or two other novelties. The judges were Messrs. George Baker, Plympton; W. Bull, Downes; J. Enstone, Wear, Exeter; J. Horsham, Dawlish; P. Lang, Poltimore; and W. G. Pragnell, Sherborne. At noon the show was opened in state by the Mayor, who was accompanied by Aldermen Wilkinson and Tucker, Councillors Wreford, Brown, Davey and Linscott, Mr. B. C. Gidley, Mr. C. R. Collins, &c. His Worship said he was glad to note that the entries had increased from 580 in the first year to 764 at this show, and hoped that the balance against the society—£27—would be cleared off by the extensive patronage which this show deserved. He instanced the Horticultural Society, which began the year in debt, and was now, thanks to the new life imparted into it, about £100 to the good. Alluding to the Canadian fruit exhibited, he said the result of enterprise in that quarter had been that while in 1874 15,000 barrels of fruit were sent to this country from Canada, last year 244,000 odd were sent. His Worship concluded by giving those present a few hints on the value of transplanting, and for his inaugural services received, on the motion of Mr. Alderman Tucker, the thanks of the committee and public.

THE STOKE-HOLE.

THE almost daily downpour of rain which we have experienced in Lancashire for the past three weeks, and the approaching winter, force our mind to wander up and down the country to various places familiar to us where the stoke-holes are affected by floods, and even ordinary rain. We have a vivid recollection of the unexpected step over shoe-tops into some of these water-traps; and before retiring for the night, in order to prevent the fire being put out, we have been engaged in leading the water out, to find in the morning our efforts defeated. It is well known that to excavate a stoke-hole of ordinary depth in low-lying localities, and especially near rivers, is to make a well where more or less water will be found most of the year, and much money has been spent in bricks, cement and clay, with the view of shutting out the water; but alas! of no avail, for in it came. In one instance I was told £50 had been spent in puddling, and after all the water oozed in, and in winter occasionally put out the fire just at a time it was most wanted. The only security in this case, it appears, would be to construct an iron tank of sufficient dimensions to enclose the boiler, and accommodate a supply of fuel for the night, also ashes and clinkers. It would prevent the tank wearing if it be covered with sheet iron where there is the most traffic and shovelling going on.

What a relief it would be if we could dispense with these costly adjuncts to our hot-houses, for other reasons than to escape the water. Hitherto, the orthodox rule of having the flow-pipe to raise gently from the boiler during its whole course, has compelled the hot-water engineer to sink his boiler in order to attain the desired rise, and all who have written or spoken on the subject of heating by hot-water, have never, so far as I am aware of, suggested any other course. We had an exhaustive paper on the subject, read before the members of the Preston and Fulwood Horticultural Society, by Mr. Bardney, of Norris Green, which I have read, and I think it stated that the flow should rise 1 in. every 20 ft. to secure good circulation, and this, I believe, is the usual practice. Recently, however, I have watched the working of more than one boiler set by Messrs. Metcalfe & Dillworth, Fishergate St., Preston, on the ground level, and the 200 ft. or so of piping is in one instance from 2 ft. to 3 ft. below the boiler, so that the above rule, as to the flow-pipe, is contemptuously disregarded with satisfactory results. In other words, the boiler is 3 ft. above its work, which has saved the expense of excavating a hole 4 ft. to 5 ft. deep, and about 8 ft. square, bricking it round as well as paving the bottom.

From the arrangements I have seen, the water difficulty would present no obstacle to Messrs. Metcalfe & Dillworth to fix a boiler in any locality, but to what extent the principle would work, I am not prepared to say.—*Hortus*.



PEAR, BEURRÉ DE L'ASSOMPTION.

publish in order to direct attention to a variety, which, when cultivated on walls, does not deserve the character of being clumsy and ugly, and inferior in quality, that has been given it. It is an early variety, somewhat resembling in flavour Williams' Bon Chrétien, with the flesh melting and juicy; but, unlike that variety, which is only in first-rate condition for a few hours, Beurré de l'Assomption can be used over a longer period.

FRUIT SHOW AT EXETER.

THE season has not been the most favourable for the production of a heavy crop of Apples and Pears. Notwithstanding this, the number and the excellence of the fruits staged at the recent exhibition at Exeter surpassed those of the previous shows. A committee, of which Mr. J. I. Pengelly is the energetic hon. secretary, and Mr. W. Playters Wilkinson the hon. treasurer, has now given, by the efforts of the members, the exhibition a permanent character, and provided a

specialities, the first being a consignment of Canadian fruit, from one of the collections sent periodically to the Colonial Exhibition, and in obtaining it for the Exeter show, the committee received the assistance of the interest kindly exercised by the member for the city (the Hon. H. S. Northcote). The specimens from Canada were admired for their state of preservation, and in one or two instances for merit in point of colour and size; but after allowing for disadvantages sustained by long transit and frequent packings, the preference by general consent was given to the home fruit exhibited. The best class in the show was undoubtedly that for twenty-four varieties, and open to all. The judges had a deal of difficulty in arriving at a conclusion, but eventually premier honours went to Kent; the evenness of Messrs. Bunyard's specimens placing them in front of Mr. J. Watkins's (Hereford), and Mr. C. G. Sclater's (Heavitree). The Messrs. Bunyard were successful in winning altogether ten first and five second prizes. Among the exhibitors (not for competition) were Messrs. F. D. Fulford, W. Barrow (Bishopsteignton), B. Brown,

HOW TO GROW BULBS IN HOUSES IN TOWNS.

THEY can probably be counted by the million who live in towns in the British Isles who dearly love flowers for their windows and rooms, especially from Christmas onwards, when all without is bleak and cheerless, but except a back yard and their rooms, possess few facilities for growing them. I never take a quiet walk through the streets of populous towns in Great Britain and Ireland without thinking what a vast number, especially women, seem to be interested in growing plants and flowers. I get most of the gardening journals, and would appeal to the editors and their contributors, to think oftener of these teeming millions. Now is the time, if not done already, to think of growing the majority of spring and summer-flowering bulbs. The Hyacinth comes first for sweetness and beauty. The smaller Roman Hyacinths may be had with the dawning of the new year, producing several spikes, and a few scenting a whole room. How best to grow bulbs in rooms is the object of these observations.

I know several residents in towns who collect a quantity of coal-ash in a back yard, or any corner where there is little interference for the next two or three months, who pot up their Hyacinths or other bulbs during October and November, and plunge them, properly labelled, in it. Here they remain until they burst through and begin to appear, and are then taken indoors, when the eyes are very soon gladdened by the appearance of the flower-spikes. A few considerations must then be borne in mind. The roots must not want water, yet it would be better not to have the soil in the pot waterlogged, such as one observes when the pot is placed in a saucer of water permanently. Hyacinths will not suffer so much from this method of growth if light and air can be given in the daytime. No matter what method is adopted, it would be most desirable, if sweetness and robust growth is desired, to let the plants have both.

Many persons, especially ladies, do not like going out in wet, frosty, or, perhaps, snowy weather, even to a backyard, to examine their favourites, to see if they have yet bursted through, if the pots are full of roots—a necessary point before any forcing takes place—or whether they may be taken indoors for flowering. To such I cannot do better than recommend a system a lady in Mountjoy Square, Dublin, drew my attention to last spring, whose Hyacinths, early Tulips, Narcissi, Dielytra, Lily of the Valley, Star Anemones, and a few other handsome flowers attracted my attention when making a call on business. If I remember aright, it was towards the end of February, and she assured me Iris reticulata, Crocus, in variety, Snowdrops, Narcissus bulbocodium, and N. minimus were then done blooming.

I enquired where the greenhouse, frames and apparatus were? There were no greenhouse, no frames and no heating apparatus, but I was shown into a sort of back lumber-room, with a large window looking north, at the back of the house. I saw at a glance that a considerable portion of this room was given up to the favourites. Here was the method pursued.

Take Hyacinths for instance: the lady commenced by remarking if "cruelty" could be practised to vegetation, growing Hyacinths in glasses of water came under that head; she never did it, but liked her bulbs to get a fair chance to fully develop. As space was a consideration, no Hyacinth had larger than a 4½-in. pot. The potting material was the best loam, with a considerable dash of clean river sand, and surfaced with the same material. As soon as potted, plants of the same kind were laid in little groups, with pathways between, on the floor, with pretty long wooden labels.

The soil, when using, was tolerably moist, so no water, as a rule, was then given. When every group was finished, over all was placed about 2 ins. deep of the same moist river sand—that washed down by the sides of roads would be equally suitable. No further trouble was necessary—no watering until active growth commenced, and none of the inconvenience of going out to a backyard in bad weather. As the plants were fit, they were removed to a large, warm, southern window for blooming. I submit that this is a plain, inexpensive, yet successful method of growing bulbs in towns that all classes may practise, and by which the plants are always under control.—*W. J. Murphy, Clonmel.*

PROPAGATING FERNS.

ALL hardy creeping rhizomes, as Davallias, Hypolepis, Goniophlebium, Microlepia, Gleichenias, &c., may be easily increased by severing the rhizomes having roots attached to them, and potting separately. These should, for a few days, be kept a little closer, that there may be no inducement to cause the fronds to shrivel. Those also that have many crowns growing together, as Adiantums, Pteris, Polypodiums, &c., may be treated in the same manner. Several species, as Asplenium alatum, caudatum, flabellifolium, roehrhizon, and Woodwardia radicans, produce young plants at the end of the fronds; these may be pegged down till rooted, then cut off and established in separate pots. Woodwardia orientale will have the whole of the upper surface covered with small bulbils, which, if planted on a damp surface, will soon root. Several of the Polystichums will produce small crowns at the juncture of the pinnae with the main stem of the frond. These will bear cutting up, and if inserted in a pot will soon establish themselves. Many of the common varieties will spring up in our houses in out of the way places. The seed spores, which are very light, will be wafted by any slight breath of air, and falling on a damp surface, quickly germinate and form young plants. Ferns also may be raised in large numbers if sown in separate pots, and covered with a piece of glass to prevent other varieties being self-sown in the same pots. Ferns may also be hybridised, strange as this may appear to many; yet, when we bear in mind that the spores (when sown quickly) assume the prothallium state, and that during this condition and period the reproductive organs are actively at work, it will be admitted that the result of two sorts sown together will often be the production of a Fern intermediate between the two. This branch of the subject, however, is of a lengthy scientific character, which, I fear, will not be attractive. Permit me, however, to express a hope, that the consideration of the culture of this interesting family may be helpful to all, and that in the future we may be more successful in raising, as well as in cultivating, the many forms we may have under our care.—*W. Swan.*

FLORA OF THE BRITISH EMPIRE.

At the inaugural meeting for the winter session of the Horticultural Club held recently at 1, Henrietta Street, Covent Garden, Mr. J. G. Baker, F.R.S., of the Herbarium, Kew, introduced for discussion the subject of the flora of the British possessions, of which the following is a *resumé*. He pointed out that the British Empire contains the whole or a portion of seven distinct botanical provinces, as follows:—

I. Britain itself is botanically a mere appendage of the European continent. Including Malta and Gibraltar, we can claim about 3,000 of the 10,000 plants of the European flora. He thought that in dealing with gardens and gardening in Britain, it would be a decided advantage if the climatic zones as defined by Watson were used by horticulturalists. Watson divides Britain into Arctic and Agrarian regions, and subdivides each of these into three zones. We know the zonal range of every British plant, and would it not be an advantage if we could similarly speak of Superagrarian, Midagrarian and Inferagrarian gardens? The Inferagrarian zone is marked by the upper limit of Clematis, the Midagrarian by the upper limit of fruticose Rubi, and the Superagrarian by that of the Foxglove and common Brake.

II. India embraces every variety of climate, from equatorial heat to perpetual snow, and an enormous range of variety in humidity. In India we have not less than 15,000 plants. There are a large portion of those that are known in the whole tropical zone of the Old World. Sir J. D. Hooker's "Flora of India" will fill no less than six volumes, of which four are now finished.

III. The British possessions in North America fill an area nearly as large as that of Europe, but they yield very few plants not known in the United States. We estimate their flora at 5,000 species.

IV. We have in Mauritius, Seychelles and Guinea a mere fragment of the little-known flora of tropical Africa, which closely resembles in its general features that of tropical Asia. We may claim here, perhaps, 3,000 species.

V. The flora of the Cape and Natal is exceedingly

rich, containing, perhaps, 8,000 or 10,000 species. On this subject all horticulturists should read the excellent sketch contributed by Mr. Bolus to the Cape handbook issued in connection with the Indian and Colonial exhibition.

VI. The flora of Australia is very rich, and has been fully worked out by Mr. Benthham and Baron Von Mueller. The principal endemic types are concentrated in extra-tropical Australia. In tropical Australia there is a strong infusion of types from tropical Asia. The flora of New Zealand is not large, but interesting and peculiar. The flora of Fiji forms part of the general flora of Polynesia, and is as yet very inadequately explored. There is no abrupt line of demarcation between Malaya and Polynesia in plants. We cannot reckon the number of plants in this province at less than 10,000.

VII. In the West Indies and Guiana we possess a mere fragment of the great tropical American flora. The number of species may be estimated at 4,000. So that, from a botanical point of view, the empire embraces three distinct botanical provinces and portions of four others, and these different areas are so situated that comparatively few plants are found in more than one province; so that there is in the British Empire nearly one-half of the whole number of the plants of the world—a state of things which, both in botany and horticulture, places us in a very favourable position.

GARDENING NOTES FROM SCOTLAND.

Autumnal Notes.—ROSES in flower, at the present season, cannot fail to excite admiration; and we notice, in some unlikely places too, that the quantity of blooms, strength of foliage, and wood of fine proportions is more general this season than usual. The complete absence of vermin during the past season, no doubt has had much to do with this. Among the best, at present, we have noticed Duke of Edinburgh, Sénateur Vaisse, Lord Macaulay, Pierre Notting, Queen of Bedders, John Hopper and Général Jacqueminot are doing extra well, literally loaded with open and opening blooms. Those grown on in pots during the summer, and kept free of flowers, are at the present time a mass of blossoms, and when taken under glass to cool airy structures, are really very fine and most useful objects. The beautiful, never-failing Niphetos, Gloire de Dijon and Souvenir de la Malmaison are in full bloom, and may be kept on throughout a great part of the season.

HERBACEOUS BORDERS are not without interest at present, some very showy plants being in bloom. Groups or rows of Anemone japonica, white and pink, are very telling at present; masses of such in shrub clumps, or anywhere when space can be spared, are admirable objects at this season—and we never saw them finer than they are this year—and may be cut freely for indoor decorative purposes. These grown in pots and removed to the conservatory after being kept back in shady positions, will repay the little trouble expended on them. They are good companions to Gladiolus, now flowering freely in pots. The seedlings, which have been so extensively raised of late years, and sold from 10s. to 20s. per 100, bring them within easy reach of growers. Some very distinct colours are among them; for cutting they are invaluable. Named kinds grown in half-dozens to each pot are very valuable for grouping in the show house; these being taken under glass now, should have drainage examined and righted if necessary, old surfacing taken off and rich material placed in its stead; manure-water is also of service.

Wallflowers brought forward for flowering in pots at the present time, afford a fine display of sweet-scented flowers. If sown during March or April, pricked out and potted firmly, when ready, into good rich loam, and put along with the Chrysanthemums to share their treatment, will well repay labour and attention. In borders they are blooming freely, and likely to continue while weather permits them.

Shrubby Calceolarias which have done duty as bedding plants, are excellent for show during the spring and early summer months. Repotted in March to increase root-nourishment, creates great flowering vigour.

FRUIT TREES require little attention at this season where planting is not taking place, but there are im-

portant items of work which cannot be passed by with impunity. During the dull season—and this is extra dull in the North—one ought to do all in his power to facilitate ripening of wood preparatory for next year's service. Young growths on vigorous dwarf trees should be topped back; on walls, where the leaves are yellow, it is well to free them from the trees, which can be done by the aid of a light Birch broom; large leaves in full vigour may be reduced to let in air to the wood. On gross-growing Peaches we have often practised leaf-reducing with great advantage. Rather than lose a season for root pruning, we would do it now. Cutting off downward-growing roots clean, and ramming a firm bottom of old lime rubbish mixed with soil underneath, may be all that is necessary to put the trees into a free-bearing condition. Planters should now prepare for such important work, and select their trees at the nurseries.—*M. T.*

Auchendrain, the seat of Sir Peter Coats, which is situated on the banks of the river Doon, about seven miles from Ayr, is well known as one of the finest establishments in the west of Scotland. Under the able and practical skill of Mr. Currie, who has been head-gardener here for over twenty years, the garden has long been known as one of the best-kept in the county; and it is with a strong feeling of regret that we learn he is about to leave for America, to join his sons in their increasing florist trade. His brother gardeners in the district will miss him much, for his practical knowledge of gardening and amiable disposition made him always a welcome visitor, and gained him friends wherever he went, and I am sure that all who had the pleasure of knowing him will cordially join with me in wishing him every success in his new undertaking. Though we lose such a good friend as Mr. Currie, we are gratified to learn that Sir Peter has secured the services of an able substitute in Mr. James Thompson, who is at present gardener to Samuel Boyd, Esq., Marchmont, Dumfries, and for some years previous foreman under Mr. Murray, the able head-gardener at Culzean Castle, Maybole. Under his management we are well assured the high reputation of the place will be maintained.—*J.*

Quality of Grapes, &c.—Under this heading, at p. 103 of October 16th, your correspondent "M. T." gives an opinion upon a collection of fruit staged at a recent show which I cannot allow to pass unchallenged. To the first part of your correspondent's remarks I have nothing to say, but the following quotation I do call in question:—

After touching upon the quality of Pines, your correspondent says:—"And yet we saw much dissatisfaction by an exhibitor who tabled a Queen Pine, 1½ lbs. in weight, and another kind—green as grass, also small—which was quite worthless, while his opponent had a pair of excellent fruits, which were of more value than all that was in the unsuccessful exhibitors' collection. The Grapes, too, in the successful lot, were made up with such grand kinds as fine Dukes, Hamburgs and Marocs, all excellent. A fourth lot, perfectly sound in berry, but stale, were cancelled, all balancing at six to four against the fair samples, which had to give way."

These remarks refer, I take it, to the first and second collections of twelve dishes of fruit, staged at the Royal Caledonian Horticultural Society's Exhibition held at Edinburgh last September, and seems to me to be intended to convey the impression that the second-prize lot was comparatively worthless. Four collections were staged, and since, in the estimation of "M. T.," the second lot was comparatively worthless, what would be his estimation of the two remaining lots? Good for nothing, I suppose. According to your correspondent, the second-prize lot contained a Queen Pine, 1½ lbs. in weight. This is incorrect; the exhibitor of this collection tabled no Pine of that weight at the above show, and probably has never done so at any exhibition. Had your correspondent placed the Pine at twice that weight he would have been nearer the mark. The other Pine which your correspondent calls "another kind," was not "quite worthless," nor was it as "green as grass." It was not ripe I admit, and was just about half coloured; but surely there is a difference between a half-coloured Pine and one as "green as grass"; and as for being "quite worthless," some prefer to eat the Pine in question when at this stage than when fully ripe, considering the flavour much brisker. The two Pines in the first collection were superior fruits I admit, though but ordinary fruits after all; and as for their

being of "more value than all that was in the unsuccessful exhibitors' collections," is a mere matter of opinion, and not a fact. Pines must stand very high in value with your correspondent. Some years ago I sold seven as fine Queen Pines as, probably, ever graced an exhibition table. They were exhibited at one of the first fruit shows in Britain, and received a special award; but all the money they brought me was 2s. 6d. per lb., and I do not think Pines have risen at all in value since.

Now for the Grapes. To compare those in the first-prize lot with those in the second, is a proceeding I could scarcely credit. Why, sir, out of a show of over 400 bunches it was the general opinion that the Grapes in the second collection were the finest finished in the exhibition. Black Hamburg was the only kind that formed a first-class dish in the first collection. The Dukes were comparatively green, and Gros Maroc, though well shown, was scarcely fit for any gentleman's table. This your correspondent surely knows, as the gist of his whole article is quality. On the other hand, of the six bunches which formed the Grapes in the second lot, every bunch was perfect in finish, and what was of equal importance, the varieties were good dessert ones. I will strike out the Pine which appeared to be so green, and challenge your correspondent to point out one single dish in the second prize collection which was not perfectly ripe and fit to place before a prince. I do not wish to be understood as questioning the decision of the judges in this competition—with that I have nothing to do, as I was neither a judge nor an exhibitor at the show in question; but I may mention the fact that their decision in this case, as regards the award of the first and second prizes, was the cause of a considerable amount of unfavourable comment; many practical men, including some of the best fruit growers in Scotland, considering that the awards ought to have been reversed. Let me add, in conclusion, that it is only about five years since the exhibitor of the fruit your correspondent evidently alludes to entered the list of exhibitors, but in that time he has proved himself one of our best fruit growers, and probably has done as much in that time as anyone to uphold the honour and reputation of Scotland.—*Fairplay, Oct. 25th, 1886.*

The Criticising of Fruit Shown at Exhibitions, when done by experienced fruit growers who have no other object in view but that of advancing the art of fruit cultivation, is, I consider, very interesting and instructive, besides affording encouragement to competitors, and giving credit to all connected with such meetings; but when one competitor only is singled out, and gets his fruit criticised in the manner adopted by "M. T." at p. 103, I think that competitor has just cause of complaint against the treatment accorded to him. I am, besides, at a loss to know what good can be derived from such remarks, which only have a tendency to do harm. "M. T." compares the different varieties of Pine Apples, pointing out the merits of one variety as compared with another, such as that a Queen, although much lighter in weight, is equal to a Smooth Cayenne, and I quite agree with him on this point, but the comparison only holds good during the summer months. From the end of October till the month of May, I would prefer a Smooth Cayenne to a Queen, although they were equal in weight, provided the first-named was not over ripe.—*D. M. C.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

THOUGH we employ but little artificial heat in this house, our Chrysanthemums have expanded fast since they were placed under cover, and the Japanese varieties are making a bright show. To keep these flowers as long as possible and in their best condition, it is necessary to protect them from damp as much as possible, to ensure which, amateurs frequently resort to increased artificial heat. But extremes in that direction are apt to prove as injurious as the other; the plants become weakly, the flowers lose substance, their colours become faint, and altogether their beauty is soon completely spoiled. A moderate amount of heat with free ventilation is the means of preserving the blooms, and it is better to open the ventilators at the lower part of the house, as when the roof lights are opened early or late in the day, the damp settles on the blooms.

When the weather is bright and dry at mid-day, the roof ventilators can be advantageously opened for a time, but otherwise we prefer to keep them closed.

There may be some who have grown Chrysanthemums with the view of obtaining blooms for exhibition, and with ordinary good culture it is not difficult to secure half-a-dozen or a dozen blooms fit for competition in amateurs classes. Less uncertainty will be experienced with the Japanese in this respect, than with the incurved, particularly as the latter often need "dressing" by an experienced exhibitor to render them suitable for the stand. When it is intended to cut for exhibition, the blooms should be selected and marked on the previous night, choosing blooms distinguished by their smoothness, even development and size, depth being a strong point in a show bloom. Select varieties as distinct in colour as possible, well proportioning the light and dark shades, so that there is not a preponderance of any one tint, and arrange the blooms in the stand with the largest at the back, carefully placing good effective blooms at the corners, as this adds much to the appearance of the stand. When Chrysanthemum blooms are cut for decorating vases, &c., in the house, take them with a convenient length of stem to allow of subsequent trimming, as the blooms will last for a long time in water if the end of the stems are cut off occasionally, and fresh water supplied.

The earliest Camellias are now coming on, but it is best to let them expand gradually, or trouble will be experienced in falling buds. Forcing these plants is an unsatisfactory process, and leads to more failures than anything in their treatment. It is a critical stage now with many; a sudden increase of temperature, and once allowing the soil to become dry at the roots, is sufficient to ruin all prospect of flowers this season. If kept in the greenhouse they can be placed in the warmest part of the structure, and if carefully attended to with water, they will advance quite quickly enough.

Many of the climbing plants trained up the rafters of the house, require attention in thinning and regulating the growths, and if it is necessary to take them down for this purpose, it will afford a good opportunity to clean them of insects, mealy-bug usually being very abundant. Give the plants a good washing or syringing with soft-soap and water, or if scale be present, remove it with a small brush.—*Scolytus.*

AUTUMN FLOWERS.

THE end of the month of October invariably leaves the hardy plant garden with very little in the way of flowers. True, we have single and double Dahlias in plenty yet, but dare not prophecy that they will be with us on the morrow, for frost may come at any moment now, and strip the garden of these very showy and most useful of flowers; gay with almost every conceivable shade of colour, they have this season played their full part in the embellishment of our gardens, and contributed their utmost with their many resplendent forms; so that when the frost arrives, which we may nightly expect, we must, seeing the flowering is done, turn our thoughts to preserving the tubers which in due time will come out again. It will not be advisable to lift these and store them away immediately on their being cut down, as at this time the tubers are quite green and in anything but a fit condition; rather gather the tops and place them over the crown of the plant to preserve them from frost, or, better still, some light litter till they are ready for removal, which they will be in about three weeks. Apart from Dahlias, we have

SUMMER-FLOWERING CHRYSANTHEMUMS in the open ground, still giving plenty of showy flowers, and which are really valuable at this season of the year. Foremost among these are Madame C. Desgrange and G. Wermig, the former the well-known and most useful white, and the latter its golden sport, which proves to be a most valuable addition to our border flowers. It is a good golden, shaded with light canary at the tips, out of doors; under glass, no doubt, it will come much lighter, as is the case with the first-named. Flora is an extremely good and useful yellow, very freely flowered. Casson is a good rosy lilac, very dwarf—i.e., 1 ft. high; and of similar height, though somewhat earlier, is the white-flowered Mdlle. Jolivart. Lyon is a deep rosy purple; Nannum is a good silvery white; and we have also white in Souvenir d'un Ami, and a very useful one also. These are only a few out of the many of this exceedingly useful group. Turning,

however, to the hardy perennials proper, we have a few choice bits of flower still remaining ; prominent among these are

TRITONIA CROCOSMEFLORA.—A most showy and useful autumn bulbous-rooted plant, and one whose sterling worth entitles it to a much wider distribution among cultivators of choice hardy flowers, and especially such as are on the look-out for late-flowering subjects. The rich orange of its flowers, and its somewhat arching stems, appear to make up a very pleasing whole ; and I am sure it would be more eagerly sought after if its beauty were known to the masses instead of the few. The next subject to which I will allude is one that for weeks past—by which I infer not one week or two, but for something like a space of three months—has given me very great pleasure ; I mean

PHLOX AMENA.—This plant has been to me a great surprise this season, for it has not been content with being one of the earliest of the Alpine section to flower, and with its usual freedom ; but it has, after a short rest, thought fit to begin again, and it has kept up its flowering until now. It is one of the most delightful carpet plants I know. Smothered with its lovely bright pink flowers, it is, indeed, the gem of this lovely group of Alpines, and one which should find a home in all gardens where modest—and, at the same time, refreshing—colours are sought. So unassuming in its procumbent habit of growth, and yet so cheering in its pleasing clusters of flowers, it surpasses any other Alpine in the garden now, and remains a picture of modest beauty to cheer the approaching flowerless days of winter. Yet another which, while on the wane, is too choice and distinct to pass unnoticed. The plant I refer to,

SENECIO PULCHER, is one whose praises have long been sounded, and that deservedly ; it is a very effective species, which finds favour with all lovers of hardy plants, and coming, as it does, quite late in autumn when flowers are scarce, renders it still more valuable. Singularly enough, it is a very shy seeder, and in this particular, as well as in its handsome flowers, it forms a striking contrast to some of the troublesome pests of this genus, to which many of our gardens are prone. The brilliant crimson-purple of its flower, which are an average of 3 ins. across, are most effective, for it comes when the garden is destitute of its colour, and, indeed it is of a peculiar shade of colour of which we have none too much, and, perhaps, hardly enough. One way, however, of overcoming the latter difficulty, is to increase and multiply this Senecio, for one cannot tire of it, or have too much. It grows about 3 ft. high and is, withal, a plant of very superior bearing.

GAILLARDIAS are still showy, but severe frost will end their floral gaiety for this season ; still we cling to them and admire as long as we can, and few are so brilliant as these flowers of orange, crimson, and gold.

LEUCANTHEMUM MAXIMUM has been in flower since July, and with the cooler nights of the past month has certainly produced a far greater per-centage of better formed flowers than previously ; it still holds good, and fully endorses all that has been said of its superiority over the various other members of its tribe, as a plant of sturdy habit and a continuous bloomer ; it is unique among composites.

PHYGELIUS CAPENSIS, too, is very pretty, having scarlet tubular drooping Pentstemon-like flowers ; *Centaurea montana rubra* has made an autumn flowering from a late planted batch which were cut down and re-planted about the end of June ; it is very showy and useful, and full of buds, but which, I fear, will not continue to expand much longer.—J.

PLANTING TREES AND SHRUBS.

How to plant is a matter of prime importance, and it is necessary to submit a few considerations under this heading before proceeding to deal with the not less important subject—what to plant. The first duty of the planter is to see that the roots of the tree or shrub about to be planted are in proper condition. It should be provided with a sufficiency of small fibrous roots, for it is from these that the plant derives its nourishment. Trees are found to vary in the form of their roots from the dense mass of tangled fibres close to the crown, which makes the *Rhododendron* so safe to transplant, to the long, coarse, thick tap-root, which renders transplantation a dangerous process with some trees, unless removed young. But these tap-roots emit from various parts tufts of fibres, and it is on these being

uninjured, and in sufficient quantity, that the success of the planting will depend. It is evident then, that should it be found necessary to prune the root, the knife should be applied to the big coarse taps, but not to the fine hair-like rootlets, all of which should be carefully preserved.

Let the hole dug to receive the plant be larger than required by the roots when spread out. If the points of the roots be placed against a wall of hard soil, they will, instead of extending laterally, turn upwards, and come towards the surface. If it be possible, it is best to dig the holes which are to receive the plants some days at least before planting takes place, so as to leave the interior of the hole exposed meanwhile to the fertilising influences of the atmosphere, sun, rain, &c. Rainy or damp cloudy weather is by far the best time for planting, and it should not be done during sunshine or frost, or a run of dry weather. If, after receiving the trees from a nursery, it is inconvenient to plant at once, they should be kept in a cool shed as previously directed.

In planting, see that the fibrous roots are not cramped or tangled in a mass ; they should be spread out very carefully, so that they occupy, as nearly as possible, the position they did before the plant was taken up from the ground. If the tree has been reared in a pot, the roots will most likely be found coiled up spirally into a dense mass. If so, they must, before planting, be patiently unravelled, and the fragments of pottery placed for drainage extricated. In doing so, care must be taken not to injure the extremities of the rootlets, which must be placed as deftly as possible in the hole, and spread out in such positions as that when they grow they shall not again resume the twisted form.

Then, beware of planting too deep. The tree should not be fixed in the ground lower than will bring the soil, when the hole is filled, 1 in. or 2 ins. above the "collar" of the tree ; the collar is the spot where the ascending stem meets the descending roots. There is no doubt that thousands of young trees perish annually from being planted too deep. In situations exposed to violent winds, it may be allowable to plant a little deeper ; but it is only meeting one evil by substituting another, and it would be preferable to undergo the expense and trouble of staking the young trees where it is required. When the plant is placed in the hole, and the roots well spread into their natural position, half fill the hole with some fine soil—different, if possible, from that in which the hole has been dug ; then shake this soil into the interstices between the roots by gently pulling the stem up and down just enough for the purpose, and afterwards tread the soil lightly in. The planter may then proceed to fill up the hole, and when done, again tread the soil in pretty firmly before making the surface neat.

Another important point in planting is to see that the stem of the tree, when planted, is quite perpendicular. If the tree is of a shape or size that may cause it to be swayed about by the wind and thus disturb the roots, it should be securely fixed to a strong stake till the soil has become settled about the roots, and the tree should be attached to the stake so that it shall not, by its contact, fray or wound its bark ; a small mop of hay placed between the two will prevent damage of this kind.

If the soil be very dry at the time of planting, mulching must be resorted to ; this is much more necessary in the case of spring than autumn planting. Mulching, in its fullest sense, means watering abundantly, and following it up as the first watering becomes absorbed, so as to make sure of saturating with water all the ground about the roots. Mere surface-watering is a sham, and a waste of time. Watering should be done abundantly and repeatedly until no doubt remains as to the water, which percolates very slowly through dry, dusty soil, having reached the lowest roots. Any watering short of that is worse than useless.

NOTES ON LETTUCE.

THE past season was anything but favourable for the production of good Lettuce, on account of the extreme heat which prevailed, and also the long spell of dry weather experienced ; nevertheless, having taken notes of those which we grew, I venture to send them to you for publication. Foremost, of course, stands the

BLACK-SEEDED BATH COS, which, in my opinion, is much the best of its class, as well as one of the

hardest ; it grows to a large size and may always be relied on, being of delicious flavour. It requires tying to blanch thoroughly, but amply repays the attention bestowed ; it is alike valuable for spring and autumn use. There are many varieties now in commerce which are simply selections of this good old variety, but none to supersede it.

PARIS WHITE COS.—This, as a summer Lettuce, has no equal when obtained true to name, but, from the many varieties selected from it and sent out as distinct varieties, there is some difficulty in obtaining the true variety ; it grows to a large size, blanches perfectly without tying, and is most reliable. *Balloon White Cos*, *Kingsholm Cos* and many others, are simply selections of this standard variety, but, certainly with us, inferior to it. In the Cabbage class

ALL THE YEAR ROUND, sent out, I believe, by Messrs. F. & A. Dickson, Chester, many years since, still holds its own as one of the very best for furnishing a supply of tender salading throughout the winter and early spring months, when grown in frames, but I am bound to confess, it does not stand a severe winter well out of doors, and must not be relied upon ; it is of excellent quality, and should always be included in the most select list.

NEAPOLITAN.—This, a summer variety, stands unrivalled, furnishing the whole of the season through a certain supply of splendid salad. The heads are large and beautifully crisp, even in the hottest weather, when most other varieties are flagging ; added to which, it blanches perfectly, and may be always relied upon.

GREEN UNCTUOUS.—This is a rather newer variety, with very dark green foliage and close-folding habit, and may be planted closer together than most varieties. It hearts very quickly, and stands the hot weather well, remaining a long time fit for use, and is decidedly an acquisition.

HARDY WINTER WHITE.—This is a variety to stand without protection through the winter, and for furnishing a supply early in the spring stands unrivalled, coming in well before the *Brown Cos*, being, for that reason alone, valuable ; added to which, it is very crisp, and gives immense heads of tender well-blanced salad, much appreciated so early in the season.

TROCADERO.—This we grew last season for the first time, and as a summer variety it is far ahead of many now in commerce. The foliage is of a pale green colour, with a bronzy tinge at the edges, somewhat fringed or curled. It stands drought extremely well, and during this autumn we found it very valuable, being quite sound and fit for use when all others sown at the same time were over.

GOLDEN NON PLUS ULTRA.—This is another of this season's acquaintance. As its name implies, it is of a golden colour throughout the entire plant. I cannot say I consider it a desirable variety ; added to which, it is of that flabby nature so much to be objected to in all salads.

I might continue *ad infinitum*, but think I have enumerated sufficient varieties for even the largest establishment ; and will, in conclusion, give a selection that I have proved to yield a thoroughly reliable supply all the year round :—*Cos vars.* : *Black-seeded Bath* and *Paris White*. *Cabbage* : *All the Year Round*, *Neapolitan*, *Trocadero* and *Hardy Winter White*.—Cor.

ARTISTIC POTTERY.

DURING the last few years the art of painting flower portraits on pottery-ware has made rapid strides in this country, both as regards the increase in the number of ladies mainly, who practice the art, and the greater fidelity to nature with which such portraits are depicted. At most horticultural exhibitions such decorative subjects as plaques, vases, &c., are now regularly exhibited by local artists, and those who made a pilgrimage to the provincial show of the Royal Horticultural Society at Liverpool, will remember the pretty display made in the section of "Botanical and Decorative Art." Among other subjects of beauty and interest exhibited on that occasion, was a vase beautifully decorated by Mrs. Harry Turner, of Slough, the subject of her artistic treatment being the *Clematis* ; the judges were much pleased with the work of art, and awarded to it the Society's Silver-gilt Banksian Medal. For ourselves, we have thought the subject worthy of an illustration in our columns, and now present the same to our readers, with an acknowledgement at the same time of our indebtedness to the kindness of Mrs. Turner, for placing at our service an admirable photograph of the vase so cleverly decorated.

OLD GARDENS AND NEW FLOWERS.

A WELL-KNOWN WRITER in the current number of *The Leisure Hour* says:—"I should be sorry to dispraise the flowers of our ancestors—the Rose and Violet and "pale Primrose," the Crocus and Hyacinth, "Daffodils which come before the Swallow dares," and all other flowers mentioned by the older poets, the "floures yellow, white and rede" of Chaucer, Pansies and Periwinkles, and the white Lily, which in mediæval ages were all placed in turn upon the shrines of the Virgin, to whom all flowers were dedicated. "The fairest flowers of the season are our Carnations," says Shakespeare, and no doubt this species is worthy to be called *Dianthus* (flower of the gods); but even the *Dianthus* of a century ago would not content us now.

A gardener by profession, aged eighty-three, whose fiftieth year of service, fourteen years ago, was recognised by two hundred horticultural friends throughout the country by a handsome testimonial, showed me lately some interesting old flowers growing in the famous garden at Dropmore, which he manages with unabated energy, such as only those who live much in gardens and the open air can hope to retain at his patriarchal age. Pointing to *Fuchsia coccinea*, he remarked that he remembered it in 1822, the only species in England. As a plant of the Pacific seaboard ranging from the Falkland Islands to the rainy parts of Mexico, the *Fuchsia* has species suited to a great variety of climates—outdoor sorts, such as *F. gracilis* and *F. spectabilis*, *F. coccinea*, and the handsome *F. Riccartoni*; and others for the conservatory, which are sometimes placed out of doors in summer, as the magnificent *F. corymbiflora* is at Dropmore; or *F. fulgens*, another noble exotic, having long-tubed flowers like the last-named. The history of the *Fuchsia* is characteristic of the progress of gardening and the improvement of flowers. It had been discovered and described by a botanist and traveller of the seventeenth century, and was duly named by him after Leonard Fuchs (or Fox), a German herbalist and physician. But it blushed unseen by European gardeners, a shrub of 16 ft. in height, in favourable situations, till about a hundred years ago a sailor brought it home from Chili, a present for his wife.

But the new plant proved too valuable to be long retained by a poor woman, who accordingly soon sold it to a Nurseryman at Hammersmith, who introduced it to the public after having raised several hundred cuttings, which he offered a few at a time, and soon disposed of them at a guinea a plant.

The *Fuchsia*, like all flowers which attain a wide-spread popularity, lends itself very readily to such moulding and modification as florists may desire. The hybridising of the various species, long-flowered and trumpet-shaped or globose, commenced, according to the records, in 1837, and it has been continued up to the present moment, and with such success that the seed of choice sorts is not held too dear at £50 per ounce. But the amateur who beholds *Pillar of Fire* and other successful hybrids, with their golden leaves and glorious blossoms, need not be discouraged. There are still "other worlds to conquer," and he may readily produce new forms of this beautiful flower, since hybrid *Fuchsias*, like hybrid *Calceolarias*, are

as fertile as the original species from which they sprang.

The operation of hybridising is easily effected, and although the necessary limits of this paper will prevent much enlargement on matters of detail, I may say here that the act consists in removing the anthers of a flower as soon as the bud opens, and then introducing to the stigma some pollen from a flower of the species, which thus becomes the male parent of the hybrid. This delicate operation is usually performed with a camel-hair pencil, and the *Fuchsia* is the best plant for the experiment of unpractised hands, because the prominence of the stigma and the abundance of the pollen grains furnished by the anthers render the operation exceptionally easy. The seed-bearing plant must be carefully isolated, or the wind or other agency, such as bees and insects, may render the parentage uncertain.



VASE PAINTED BY MRS. HARRY TURNER, SLOUGH.

The crossing of *Fuchsias* is so readily effected that an amateur having access to a greenhouse or frame containing good varieties may readily obtain seed without resorting to artificial fertilisation. When ripe, the "plums" of the *Fuchsia*, which are harmless in tarts and tasteless without adventitious flavouring, should be cut open, rubbed between the folds of a fine linen cloth till the seed is dry, when it may be sown in pans of light good mould with bottom heat, and the young plants potted separately when large enough. A good homely rule in growing *Fuchsias* is that of Mr. Cannell, of Swanley, one of their most successful cultivators. They should be grown, he says, just as Radishes ought to be, quickly, in a warm, rich, moist bed, with plenty of light and air, as soon as the seedlings or cuttings are well rooted. Seeds sown in autumn will produce plants to blossom the following summer, that is with the aid of artificial heat in winter, and without such aid the seeds should be sown in spring. I have ventured on these details because the *Fuchsia* is a typical new flower. I may mention that it has been so generally hybridised in recent times that the original

species are rarely met with, except in a few old-fashioned country and cottage gardens, especially in the secluded parts of Surrey and Sussex, in Devon, and on the western sea-board. In fact the *Fuchsia*, as a shrub, flourishes in all the warmer parts of Britain, especially in moist districts near the sea, or in inland situations near a water-butt. But the *Fuchsias* of our geometric gardens must of necessity be compact and small. Most of the points of excellence in florist's flowers are merely arbitrary, but the neatness of form of all bedding plants is indispensable, and accordingly most of the flowers of old gardens have been modified in that direction.

The only fault of the *Fuchsia* is the drooping of its flower, which, as in a lovely face hung down, or in the case of the pendent-flowered *Gloxinia*, partly conceals its beauty. But a flower that cannot be modified loses the main source of its attractiveness; and breeders and selectors, rejoicing in their work, have already produced

erect-flowered *Gloxinias* as well as a *Fuchsia erecta superba*! Not flowers only, but fruits and vegetables, and even the plants of the farm, have yielded to the same persuasive skill of their cultivators, which seems to have been exerted in some degree, at least in the case of food plants, from the earliest ages.

A wonderful story has been told by Mr. Darwin of the "struggle for existence" among plants. We shall not venture to repeat any portion of it, but I may remind the reader that the power of variation which has modified wild plants to their profit, endowing them with organs advantageous to them in the battle of life, has enabled cultivators to produce such changes as were profitable, not to the plant but to himself.

"In the Stone age," says Mr. Darwin, "wild crabs, sloes, bullaces, hips of Roses, and other wild berries and fruit, were largely collected for food." So long as the population could be maintained on the produce of uncultivated land, and by fishing and hunting, the wild plants remained probably unaltered. The next step was to attempt their improvement, and this was, perhaps, effected by the same method as in the wild parts of Africa, where Livingstone as well as Du Chaillu observed that the savage tribes sometimes enclosed Palms and other wild fruit trees in their gardens.

By the improvement of the soil the plant may be improved; but its power of modification depends on the natural laws that no two individuals in the animal or vegetable kingdom exactly resemble each other. The diversity of life is due to those minute differences between individuals, in the absence of which a blank uniformity must have spread over the whole earth, and the infinite variety of nature could have had no existence. The Palms by the hovel having received a certain amount of attention and manure, their tendency to produce varieties would then be enhanced, and assuredly some wise old savage would soon possess himself of the best of these and would sow their seed. The improvement of plants is a game in which all may win and none can lose, and we learn by research that the game has been played as far back as historic records extend.

Cultivation inevitably occasions change. Strong evidence has come to light of a general improvement of cereals, inasmuch as the ears and grains of Wheat and Barley discovered in the lake dwellings of the Stone period in Switzerland proved inferior in size to their

living representatives. During his investigation of the actual remains of primeval plants, Professor Heer discovered that a peculiar Pea of the Stone age, having small seeds, was afterwards superseded, while a small Bean of the Bronze age, did not survive the improvements of those Romans who applied the principle of selection to seeds, and with "industrious hand did yearly cull the largest."

As the greatest results of floriculture have been produced by hybridising, the amateur will naturally feel an interest in the methods pursued in cross-fertilising different flowers; but the methods differ with the flowers, and could be described here satisfactorily. I propose, therefore, to mention how a number of ardent flower-growers master such details in the case of one of their favourite plants. About the year 1848 the Pansy began to attract attention as a flower for florists and for limited gardens, on account of its dwarf habit and abundant early blossoms. It was one of the flowers that working men were particularly attached to. Many persons of that class became keen Pansy-growers, and raisers sometimes of superior seedlings. In one of the manufacturing towns—I believe in Nottingham—a knowledge of hybridising was very opportunely diffused by means of a horticultural lecture delivered to a society composed mainly of working men, the lecturer himself being a working man. Knowing the tastes of the members, he had carefully studied the parts of a flower as described in the *Library of Useful Knowledge*. He mentioned these parts, and proceeded to describe hybridising, when his audience evinced such extraordinary interest in the subject that they sent one of their number to fetch a Pansy from his garden, and on his return the flower was dissected and the parts distributed. In that manner the Pansy-growers became acquainted with the art which many of them afterwards practised with success. The late Professor Henslow used to impart instruction to his village school on the same plan, offering to the humblest class of country people the same opportunity of instruction as when he lectured on botany before the Queen and Prince Consort and their children. He and other practical instructors, such as Charles Kingsley at Chester and at Eversley, have all resorted to the same methods of teaching botany and natural history by field clubs, and by the use of diagrams and natural objects in the lecture-room; and in these days of schools and extended culture the hybridising of flowers and useful vegetables might be taught throughout the country in the same way.

The size of seeds, as a permanent feature of improvement, cannot be modified so readily as the blossoms of flowers or the fleshy parts of vegetables. The conversion of the *Ægyptus ovata* into Wheat by the French naturalist, M. Fabre, by means of a few years' selection and cultivation, has been shown to have been a myth, as was a similar supposed conversion of wild Oats in England a few years ago. But the student's Parsnip of the Agricultural College at Cirencester was actually developed from the wild type.

Even in agriculture, which is a comparatively dull pursuit, considerable modifications have been effected in regard to succulent vegetables, such as Turnips and a few forage plants, within the past forty years. With regard to gardens the inducements are larger, since objects of beauty usually command a better market than those of mere utility, and flowers are easily modified. The Pelargonium, Mrs. Pollock, is said to have brought the breeder a small fortune, and the total revenue obtained from its sale by nurserymen must have been enormous.

With regard to garden flowers, it is not, perhaps, generally known that their modification by breeding and selection, arts which have created "florist's flowers," and altered most others to some extent, has been the work of amateurs. Experts, undoubtedly, are employed in the great establishments of nurserymen and seedsmen, and very wonderful and mysterious are their ways. With their deft hands and their camel-hair pencils for the conveyance of pollen from the anther to the stigma, they can accomplish the work of fertilisation where bees and the wind—potent agents in this way—have failed. We could mention a great propagating establishment for Orchids where the hybridiser, patient as he is skilful, records his operations and their results in a ledger. Thousands of little pots, each containing a seedling, are marked for reference, and not one of those seedlings will blossom in a less period than five or six years. The more one knows of

the energy and skill of seedsmen and nurserymen, of the large amount of capital and enthusiasm embarked in their business, and of the services they have rendered to the gardening public, the more highly one must needs esteem them.

But although the nurserymen have been the paymasters of genius and the distributors of novelties, the work of improvement has been chiefly effected by amateurs, and I may add to this statement that one of the most accomplished hybridisers and breeders of Peas at the present time is a lady of the North of England.

In the gardens of thirty or forty years ago, the beds were filled with what are called good old-fashioned English flowers, although they were, in point of fact, inferior to their successors. The bedding-out system, or the planting of brilliant flowers in geometric beds with tasteful contrasts of colours, as in our public and other gardens, naturally occasioned a necessity for changes of form and size. A Pelargonium, for example, might have a beautiful blossom and yet be unfitted for bedding-out in consequence of its straggling habit. Even the superb Fuchsias, native shrubs of America, and now flourishing in Australia, one of the lands of their adoption, frequently play their part in geometric bedding as small plants not exceeding 8 ins. in height. The Pentstemons, flowers from the New World, but still favourites of old-fashioned flower-gardens during the past half-century, have been considerably modified in recent years. The tall and straggling Antirrhinum has been curiously moulded, its latest development at the hands of the improvers being a little plant called Tom Thumb, whose large blossoms bear the same comparison to the original native Snapdragon—if it be a native, and it is certainly ancient—as the Tom Thumb *Tropæolums* do to the *Nasturtiums* of our kitchen gardens.

A POTATO TERCENTENARY EXHIBITION.

WE have a circular before us, that has been distributed during the present week, which states that "An article in *Nature*, for May 6th, drew attention to the fact that this present year is the tercentenary of the introduction of the Potato into England, and discussed some of the points of its history. Apart from the purely historic aspects of the question, 'Whence did our Potato first come?' it is shown that in connection with the suggestion of cross-breeding to strengthen against disease (*Linn. Soc.*, vol. xx., p. 489) it is very important to know which is the species that for 300 years we have been cultivating. With a view to drawing the attention of cultivators to the subject in a wider and more popular way than the learned societies have done, it is proposed to hold a Potato Tercentenary Exhibition, at the St. Stephen's Hall, Westminster, from Wednesday, December 1st, to Saturday, December 4th, and to appoint one of those days for a Conference, when some of the unsettled questions may be discussed.

"The exhibition will consist of four sections:—

1. A historic and scientific collection, to include early works on botany, in which the Potato is figured; maps showing the European knowledge of the New World 300 years ago, and the proximity of the Potato-growing districts to the ports most frequented; early books on travel and voyages in which references to the Potato occur; works and papers in which attempts to define the different species are made; illustrations of the species and varieties; contemporary references to the voyages of Hawkins, Drake, Grenville, and Raleigh.
2. Illustrations of Potato disease, and works on the subject. Sections 1 and 2 will be arranged under the advice of a committee of scientific gentlemen, who have consented to give their co-operation.
3. Methods of storing and preserving Potatoes; methods of using partly diseased Potatoes; Potato products of any kind.
4. A display of tubers of the various varieties grown. It is hoped that a nearly complete series will be shown. In this section Gold, Silver and Bronze Medals will be awarded. Each exhibit must be accompanied by a statement of date of planting, locality, nature of soil, &c. Full particulars will be found in entry form, to be obtained on application at the Office, St. Stephen's Hall, Broad Sanctuary, Westminster, S. W."

Earl Cathcart is the President, and the following gentlemen are stated to have consented to act as a scientific committee of consultation, to co-operate with the executive, in relation to sections as below.

1. Illustrations of the Order *Solanaceæ* and the tuber-bearing species in particular.
2. Batatas, Yams, Ignames, &c., that in Elizabethan times were confounded with the Potato.

3. Distinct species of tuber-bearing Solanums. J. G. Baker, F.R.S., F.L.S. (Kew).
4. Cultivation by the Incas. Clements R. Markham, C.B., F.R.S.
5. Early cultivation in the British Isles.
6. Cultivation at Chiswick.
7. Cultivation of species at Kew.
8. Cultivation at Reading and other places.
9. Potato disease (*Phytophthora infestans* de B.) George Murray, F.L.S. (Brit. Mus.), and Worthington G. Smith, F.L.S.
10. Methods proposed for preventing the disease.
11. Other diseases affecting the Potato.
12. Chemistry of Potato and of Batata as food.
13. Soils suitable for Potatoes, geologically considered.
14. Meteorology as affecting disease.
15. Historic literature of the Potato.
16. Maps showing European knowledge of the New World in Elizabethan times. J. Scott Keltie (Librarian R.G.S.)
17. Raleigh. H. B. Wheatley, F.S.A.
18. Drake.
19. Hawkins. Clements R. Markham, C.B., F.R.S.
20. Other Voyages of Elizabethan reign.
21. Heriott.
22. Gerard. B. Daydon Jackson, F.L.S.
23. Statistics of produce.

GARDENING MISCELLANY.

The New Zealand Veronicas.—Your notes on New Zealand Veronicas in your last issue are far from complete. I have made a special study of these pretty shrublets for some years past, and now, thanks principally to the kindness of the director of the Botanic Gardens at Edinburgh, who is better acquainted with these plants than probably anyone in Europe, I possess a tolerably complete collection. The correct name of the variety you print as *Pinquifolia*, is *Pinquifolia*, the fat-leaved, and it is almost indistinguishable from *V. carnosula*; indeed, I almost think that the former name is given as a synonym for the plant in the *Botanical Magazine*, where it is figured under the latter name, but not having my books over here, I cannot make sure on this point; in any case, no one having the one need buy the other. Then the name you print *ligusticifolia* should, I think, be *ligustrifolia*, the privet-leaved, which I consider to be a worthless variety, and have for some time discarded from my collection. The only one you mention, which I am unacquainted with, is *buxifolia*, and this I must see about and add to my collection, if distinct. The other varieties which I grow, and which are not mentioned in your list, are *V. anomala*, most distinct, like a small *decussata*; *V. salicornioides*, like a small Cypress; *V. Armstrongi*, a smaller-leaved form of the trailing *chathamica*, whose flower I not yet seen; *V. amplexicaulis*, said to be very fine, but which is yet small with me; *V. Colensoi*, most distinct in habit, but has not yet flowered. This I raised from seed sent me from the Botanic Garden at Christ Church, New Zealand. *V. Haastii*, quite distinct, with broad leaves and pretty white flowers; *V. Lavandiana*, whose flowers I have not yet seen; *V. lycopodioides*, a most distinct and curiously-foliaged plant; *V. Coleusoides* glauca, quite distinct from *V. Colensoi*, and though sent me from the Glasnevin Botanic Garden must, I think, be incorrectly named, but cannot say for certain till it blooms; *V. Kirkii*, a pretty variety which bloomed with me this year for the first time after growing it for seven or eight years, with pretty blush white spikes of flowers, with conspicuous violet stamens. This plant is unknown at Kew, and they wrote to me for specimens for their herbarium, but too late to get them, as the plant had gone out of bloom. One of the best, *V. Benthani*, has yet to be introduced, and I hear of a most distinct and beautiful hybrid raised by a New Zealand nurseryman, named *V. Fairfieldi*, which we may hope to see some of these days in our gardens.—*W. E. Gumbleton, Junior Carlton Club, Pall Mall.*

Dwarf French Marigolds.—I am obliged to you for your kind note respecting flowers of dwarf French Marigolds sent from here. I had lifted some plants into a big basket to take to South Kensington last week, but the tremendous rainfall here, in the morning of the show day, prevented me from taking them, to my regret. I was anxious to show both the quality of the blooms and habit of the plants, the latter especially, quite astonishing people who are

familiar only with the old free-growing striped strain. A friend who called here from Nottingham recently, innocently enough actually wanted to know whether I pinched the plants, they were so dwarf and compact. Naturally I laughed, but the good man seemed incredulous when I told him what he saw was the real habit of the plants, and nothing more. Really they average 15 ins. in height, and from 15 ins. to 18 ins. through, some, indeed, being broader; all depends upon room. Every single or indifferent flowering plant is pulled, and only the very best formed flowers retained; many of the blooms one half the size of African Mari-golds. For massing, the plants are singularly effective; especially so is the pure yellow aurea floribunda, which gives a mass of yellow at this time of the year no other plant can excel, and about 12 ins. to 14 ins. in height. Of course, these features have been obtained only by dint of long and patient selection, and, in this way alone, the seed florist has accomplished wonders during the past twenty years. Sow seed in a cool house early in April, doing so thinly. By the middle or end of May—all depending on the weather—the plants are safe to dibble from the seed bed direct into the open ground. Very much care cannot be bestowed, as lots of other things have to be got out just at that time. The best of strains will give some single flowers; these are unsuitable, and should always be removed, and replaced by doubles.—*A. Dean, Bedford.*

Camellia Buds Injured.—I have a few Camellia plants in a cool greenhouse, and one morning last week, while in the house watering, I found some of the flower-buds a good distance from where the plants stand, and how they got there is a puzzle to me. I examined the plants and found nearly all the buds more or less damaged, a good many of them nearly cut through to the centre, and others with the one side torn away. I think it must have been done by mice, although, as yet, I have failed in either seeing or trapping them, neither will they take poison. If any of your correspondents have been troubled in the same way and found a remedy, I should be much obliged for a hint.—*J. Cameron, Auchterarder House.*

Bean Ne Plus Ultra.—The Bean to which I recently made reference was not a dwarf but a runner, and a remarkably fine one, too. I did hear who sent it out; but, unfortunately, have forgotten. It was raised by Mr. Neale, of Bampton, Oxon. It is a pity, if the samples shown at South Kensington really represent its true character, that this fine sort is not more widely known. I have not heard of a dwarf Ne Plus Ultra, and accept the assertion of "B. L." that it is a good thing. Will that gentleman kindly describe the colour and shape of the seed, as that is essential in seeking for information respecting any Bean. I cannot but remark on the poverty of invention shown in finding names, that we should have so many "Ne Plus Ultras" amongst vegetables.—*A. D.*

The Madresfield Court Grape.—I have grown this Grape with Black Hamburg in the same house, for the last ten years. They are all planted inside, with an outside border to run into. For the first four or five years I was much troubled with cracking, and was advised to nick the wood just below the bunch, that is, cut the wood half through with a sharp knife; I did so for nearly two or three years, still we had some cracked berries, and I thought the bunches did not finish off so well as they ought to do, consequently, I abandoned the nicking practice and sought another remedy. We start our Vinery about the first week in February, and the berries begin to colour about the first week in June. The last three years I have let the growth extend, stopping but very little after thinning. About a week after the bunches begin to colour, on a fine dry morning, I give a good soaking with manure-water, both inside and out for the last time, after this we turn all plants out of the house and keep a very dry atmosphere, with plenty of air on night and day, and a little heat from the pipes, according to the state of the weather outside. I am pleased to say, that during the last three years we have had but very few cracked berries. This year I had twenty bunches on one Vine with two roots, or little short of 40 lb. in weight, well finished and not a cracked berry among them. Some of the bunches have carried me to the top of the list in more than one contest this season, and I now have much more faith in a dry atmosphere and the extension of laterals, than in nicking or boring.—*W. P. D., Weston-super-Mare.*

The Burdock.—Amongst the seedling beds at the Darley Dale nurseries, there is a bed of the Burdock, *Aretium Lappa*, which raises the curiosity of visitors; but when its virtues are known, one may say it is worthy of the bit of ground allotted it. Mr. Smith told us of the cures he has witnessed from the bite of the viper, as far as sixty years back, by applying the juice from the root as soon as possible to the part affected, and never knew it to fail. He has repeatedly cured his dogs that have been bitten by vipers on the moors amongst the heather in the same way.—*G. B.*

Dwarfing Michaelmas Daisies.—There is another way of dwarfing these plants besides that described at p. 124. I prefer to divide the old stools into several pieces, and planting them in the open ground or in pots plunged their full depth, and then cut the plants hard back in June. By this hard pruning process, only necessary for the taller kinds, the density of their heads of flowers will be rendered doubly so, and by being planted out, and lifted and potted as required—previously soaking with water—they will be found to make a more vigorous growth than when confined to pots. As all the best kinds were named in your last issue, I will not repeat them here, except to refer to *Aster ericoides*, which is, perhaps, the most elegant of all, and is not mentioned. It bears out its specific name most accurately, and is certainly a very pleasing plant; the flowers are small and white, with yellow centres, and borne in great numbers. It is delightfully adapted for cutting purposes, and arranging with flowers in vase decoration; is also among the latest to flower, and grows about 3 ft. high.—*J.*

Chrysanthemums Damping Off.—May we ask the specialists to give some logical explanation of that mysterious damping which is quickly destroying the blooms in most collections of Chrysanthemums near London. It is very disheartening, and to me inexplicable, at least, by any theory yet advanced. I am, however, inclined to believe that if it were investigated scientifically, it would prove to be a disease similar to that which attacks Potatoes, Hollyhocks, and the like. Has Mr. Worthington Smith worked at this subject at all? If he has, his views would be eagerly welcomed by distracted growers in all parts of the country.—*Vanda.*

Fir Tree Oil for Rheumatism.—A trustworthy correspondent informs us that of all the remedies he has tried for rheumatism, and, unfortunately, they have been many, he has never found anything give so speedy and permanent relief as the Fir Tree Oil of Mr. Griffiths Hughes, of Manchester, and he thinks the fact ought to be made known. The trial can easily be made by others, and if found of the virtue our correspondent is positive it possesses, there is no reason why "St. Griffith" should not enter the lists with "St. Jacob," and do his best to get honours divided at all events.

Passiflora cœrulea, &c.—I saw this hardy climber beautifully in bloom on the 23rd of this month, trained over the south front of a suburban residence in this town. Veronica Andersou was also finely in flower in another garden. This last-named shrub was about 4 ft. high. To-day, the 26th, I have seen a bed of *Ageratums* and *Heliotropes* also looking as bright as in the month of August. One of the Honeysuckles trained on the iron palisading of another little domain was also flowering freely. We are having a very fine October this year. Very different to the same month last year.—*J. W., Norwich, Oct. 26th.*

Prunus pissardii.—On visiting the Darley Dale nurseries recently, I was much struck with *Prunus pissardii* as a bronze-leaved deciduous tree of the first water. Large flats of it growing by the purple Nut and purple Beech, make them look quite dull against it at this time of the year. It is a glorious bright bronzy red. I was informed by Mr. Smith, that Mr. Thomas, of Chatsworth, was using it pegged down with *Acer negundo* variegata, and a fine effect it must have.—*G. B.*

Bignonia Chamberlaynii.—Though introduced from Brazil over sixty years ago, this fine yellow flowering evergreen climber is very seldom seen in gardens, and it was quite refreshing to meet with it at South Kensington last Tuesday, when it was honoured with a First Class Certificate. The cut flowers exhibited, came from Mr. C. R. Scrase Dickens' garden, at Coolhurst, Horsham; and his gardener, Mr. D. Kemp, informed us that the plant was doing well in a cool greenhouse, and had been subjected to hard pruning last spring.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The stock of show and fancy Pelargoniums will now need to be placed in some thoroughly open structure, where they may be well ventilated, to encourage a good sturdy growth. Those required for forcing or early flowering should now receive their final shift, but be careful to avoid large pots; full-sized 32's are, in almost all cases, sufficient. Let them be kept growing, but by no means coddled, or green-fly will very quickly make its appearance. I need hardly say that those required to flower early must not be pinched again. Many of the "fancies" are the better if not pinched at all; and if allowed to grow unrestricted, generally make good, well-furnished, sturdy bushes, and flower more freely than if subject to pinching. Our stock of zonals we have staged inside, and by feeding we hope to induce them to throw up an abundance of flower, which will be most useful for cutting in conjunction with Chrysanthemums.

Herbaceous Calceolarias should now be removed to a shelf in the greenhouse or other similar structure, where they will receive abundance of air. If they have been properly attended to, they should now be good sturdy little stuff and clean; but should there be any trace of green-fly upon them, fumigate before removing them from the pits or frames. Unless very much pot-bound, do not give them a shift at this season; later on will be far preferable. Chrysanthemums are now coming on apace. Jane Salter and Lady Selborne are two of the best early-flowering Japanese with us, to be quickly followed by the beautiful "Elaine." Certainly, they are very beautiful in any state, and it behoves all who make an attempt at a show to discard second-rate varieties, and procure some of the newer and far superior varieties which may now be obtained.

We are now busy thoroughly cleaning the occupants of the stoves, for no matter how careful one may be, unless almost daily attention be given, insect pests will become established; after this thorough overhauling we hope further attention in this respect will not be necessary until the new year. Cyclamens in many instances are throwing up their flowers, and are consequently assisted with manure-water. We find these extremely useful for decorating, and also in a cut state, the flowers lasting fresh for a long time in water, added to which many of the flowers are deliciously scented, but still we think not so generally as formerly; probably, this desirable point has been sacrificed in the desire to obtain the giant flowers which are now generally grown.

THE FORCING HOUSES.

We this week intend planting a new lot of young trees along the front of our early Peach house; the border is all ready for their reception. The trees have not yet shed their foliage, but that is to be accounted for by the extreme mildness of the autumn so far; but, although the foliage is quite green, far better plant now than later on, as the trees by attention will become partly established, and start much more readily when forcing is commenced in the spring. Be careful to keep the sowings of French Beans made frequently, remembering that they do not fruit so freely now as in the spring, consequently, a few extra pots should be put in, say five dozen at a time. We notice those sown in the pit are beginning to fruit, thus keeping up the supply, the late sowing out-of-doors being just over.

We have cut the last fruits of late Melons, and the house will now be cleared out and painted, after which it will be devoted entirely to growing French Beans. We have renewed bottom-heat to Cucumbers, which are growing rapidly. Great care is necessary now; train the shoots carefully—serpentine fashion, avoid all stopping, except it may be, perhaps, a strong shoot likely to take the lead towards the top of the trellis; should green-fly make its appearance, fumigate at once, and keep all scrupulously clean about the plants, water and syringe rather sparingly, but keep a humid atmosphere in the house by frequently damping the walks, walls, &c.; admit air, if possible, every day, closing early in the afternoon. If the house is short of piping—rendering hard firing necessary, place evaporating pans on the pipes, this will greatly tend to ward off the attacks of spider and thrip.

THE KITCHEN GARDEN.

The welcome change in the weather enables us to clear up arrears in the shape of finishing the lifting of late Potatos. We do not pit ours as dug, but place them in heaps near where the pit is, covering them up with mats, and allowing them to remain for a week or more; by this means all danger of sweating when finally put together is avoided. We are disappointed with our crop this season, as they are smaller than usual and ill-shaped—especially the Magnum—undoubtedly from the excessive drought of the summer. In many instances, the growth made since the rain is considerably larger than the first; added to which, the latter is quite unfit for cooking.

All other roots are of excellent quality and heavy crops, particularly the Carrots, many of which, when trimmed, weigh over 3 lbs. and are perfectly symmetrical. If these are allowed to lie in heaps before storing, similar to the Potatos, they will be found to keep better. Chicory, Salsafy and Parsnips we shall not lift yet. We have taken advantage to give the finishing touch to the Celery-square, so that no further care is now necessary unless very sharp frost sets in, when, of course, protection must be given. If not done, lose no time in planting out Lettuce, as advised. The stock of Cauliflowers should also be potted, a mode very preferable to pricking out in frames, unless some can be left to button where pricked, when time is gained. Where Tarragon is much in demand, a good box of roots may be lifted, planted in leaf-soil, and placed in the Mushroom-house until started, when it may be gradually introduced to the light.—*Walter Child, Croome Court.*

THE GINGER BEER PLANT.

We would not return to this subject, were it not for the fact that correspondents are often asking about it. It was fully described and illustrated in THE GARDENING WORLD for January 9th, 1886. It is nothing but sedimentary yeast, and bears the same relation to ginger beer as brewers' yeast does to the baker's loaf, in other words, if anyone will supply himself with all the necessary ingredients for ginger beer,

except yeast, and then put a little of the sedimentary yeast called the "Ginger Beer Plant" into his mixture, he will be able to make some uncommonly bad ginger beer, very suitable for giving himself a bad stomach ache or diarrhoea.

The amazing part of this clap-trap subject is, that certain persons have been puzzled by it. In the *Proceedings of the Essex Field Club*, vol. iv., p. 44, it is actually stated that one of the botanists at Kew had then been long studying this "plant," and (September, 1883) was then trying it under various conditions. Whether this botanist was "trying it" for dinner and supper or "trying it" under his microscope is uncertain.

Strange to say, one of your contemporaries in July last returned to the wretched "Ginger Beer Plant," and said:—"Nothing definite is known about the fungus called the Ginger Beer Plant," and further on "We believe several eminent fungologists are investigating its characters." All this is very amusing, and reads almost too rich to be true. It is a pity the world has



Extraordinary development of the "Ginger Beer Plant," as observed under the microscope. Enlarged one million diameters.

not yet learnt the name of the "botanist" at Kew, who is so sorely puzzled, or who the "several eminent fungologists" are, who are still "investigating" this unmitigated marc's nest.—*W. G. S., Dunstable.*

THE PRINCIPAL CHRYSANTHEMUM SHOWS, 1886.

DATE.	NAME OF SOCIETY.	NAME AND ADDRESS OF SECRETARY.
November 2	Ealing	R. Dean, Ranelagh Road, Ealing.
" 2, 3	Corn Exchange, Mark Lane	H. Robins, Corn Exchange, Mark Lane.
" 3, 4	Highgate, Finchley and Hornsey	H. Barnaby, 49, Southwood Lane, Highgate.
" 3, 4	Havant	
" 4	Brixton	
" 4, 5	Stoke Newington and Highbury	W. Goldsmith, Grove Road, Stamford Hill.
" 5, 6	Crystal Palace	W. G. Head, Crystal Palace, Sydenham.
" 8, 9, 10	Lambeth	T. F. Davison, 9, Union Square, S.E.
" 9	St. Neots	William Ratchelous, St. Neots.
" 9, 10	Kingston and Surbiton	T. Jackson, Fyfe Road, Kingston.
" 10, 11	National Chrysanthemum	W. Holmes, Frampton Park Nurseries, Hackney.
" 10, 11	Bath	B. Pearson, 14, Wilson Street, Bath.
" 11	St. Peter's, Hammersmith	T. Finch, Mulberry Cottage, West End, Hammersmith
" 11, 12	Bury St. Edmund's	Peter Grieve, Orchard Street, Bury St. Edmund's.
" 11, 12	Richmond	
" 11, 12	Portsmouth	
" 12	Reading	W. Smith, 97, London Street, Reading
" 12, 13	Finchley	C. H. Mobbs, The Lodge, Elm Grange, Church End, Finchley.
" 12, 13	Huddersfield	
" 12, 13	Lewisham and District	Henry Drake, 64, Limes Grove, Lewisham.
" 12, 13	Canterbury	
" 16	Yeovil	W. T. Maynard, Yeovil.
" 16, 17	Watford	C. R. Humbert, Watford.
" 16, 17	Southgate	G. James, Chase Side, Southgate.
" 16, 17	Winchester	R. Porter & J. B. Colson, 45, Jury Street, Winchester.
" 16, 17	Brighton	
" 16, 17	Putney	
" 17	Luton, Beds	J. Gardner, 5, Regent Street, Luton.
" 17	Chelmsford and Essex	W. Duffield, Chelmsford.
" 17, 18	Hampstead	J. E. Anderson, The Conservatory, Belsize Park Gardens, N.W.
" 17, 18	Bristol	
" 17, 18, 19	York	Jno. Lazenby, Spurriergate, York.
" 18	Hitchin	
" 18	Chiswick	
" 18	Taunton	
" 18, 19	Hull and East Riding	R. Falconer Jameson, Queen's Dock, Hull.
" 19, 20	Sheffield and West Riding	W. K. Woodcock, Oakbrook Gardens, Sheffield.
" 20	Kettering	
" 22, 23	Leeds	
" 23, 24	Liverpool	E. Bridge, Tarbock Road, Liverpool.
" 24, 25	Birmingham	J. Hughes.
" 25	Colchester and East Essex	J. C. Quilter, 5, Head Street, Colchester.
December 7, 8	Edinburgh	

FLORICULTURE.

MR. E. SANDERSON'S CHRYSANTHEMUMS. — Our old friend, the president of the National Chrysanthemum Society, has, at his residence in St. Mary's Road, Harlesden Park, Willesden, a superb lot of Chrysanthemums in bloom. He is, perhaps, a little early—the hot weather of a few days ago having brought on the flowers with a rush—still, the flowers being of great size and not yet developed, if the weather should be cool and dry, will yet last until the Royal Aquarium show. Our friend has a select collection of some 175 plants in about forty-eight varieties; the plants are all grown on single stems to produce exhibition flowers, and they carry three and four blooms on an average. The plants are mainly in 16-sized pots, a few in 24's; the stems are very stout and hard, and the foliage large and finely developed. They are in a house 20 ft. by 12 ft., and so they are crowded pretty close together, as one might suppose; but they can be seen, and so fine are the flowers that they well repay a visit just now. The following are in grand form:—Lady Hardinge, Mr. Shipton, Princess Beatrice, Queen of England, Lord Alcester, Alfred Salter, Golden Queen of England, Cassandra (white, tinted with lilac), Empress of India, Emily Dale, Jeanne d'Arc (wonderfully fine), Princess of Wales, Princess of Teck, Antonelli (very fine), John Salter, Prince Alfred, Barbaro, Le Grand, Mabel Ward, Baron Beust, and Prince of Wales. This does not exhaust the list, but I have mentioned these because so full and fine, and characterised by such wonderful breadth of petal. Mr. Sanderson grows only the large-flowered incurved varieties; not a single variety of any other type finds a place in his garden. Indeed, he has no room for them. It may be remarked that Mr. Sanderson takes cuttings as soon as possible after the plants have gone out of flower, and he gets them struck earlier than is usual. Perhaps this is the reason why he gets such wonderful development into his plants.—*R. D.*

OUTDOOR CARNATIONS.—I hear considerable complaint as to the lack of seed given by outdoor Carnations this year, even the common singles or "Jacks," proving shy. For success in this direction we want very dry weather during the blooming time, and a few heavy rainfalls just then, or gloomy weather, destroys the fertile organs. Of course, the finest double kinds seed sparingly at any time, and seed can seldom be obtained in this country except under glass and from artificially fertilised flowers. I have had good fortune sometimes, indeed, had such last year, and in addition to getting a very good lot of seed from the exceedingly pretty but smaller double French flowers, I got a very nice lot of seed from choice doubles, enabling me to raise several hundreds of fine plants, which will bloom admirably next year. Perhaps these may give me good fortune again, for I find that all such seed gives for the greater part double flowers. The French kinds are so wondrously free that they often bloom themselves to death, as it were, the first year. Some others happily stand, and will strike from pipings much more readily than will good border varieties, whilst, as cut flowers, all kinds of Carnations are very useful; I think those French forms are specially so, because they bloom so liberally, that it is not so needful to exercise great care in cutting. Seed obtained, either by saving or purchase, may be sown in the open ground at the end of April, or in a box under glass. The seedlings need but little special care, as, if dibbled out as soon as strong enough for moving into a piece of ground deeply dug and lightly manured, they will bloom there finely the following year, when, ample room being given, some of the best may be propagated by layers put over during the summer.—*A. D.*

GOLD-LACED POLYANTHUSES.—We are pleased to find, by a letter just received from Mr. Samuel Barlow, J.P., Stakehill House, Castletou, near Manchester, that it is his intention next year—having worked up a fine stock of the finest named varieties—to cross the choicest flowers, and raise another batch of seedlings, as he did a few years since, when he produced Sunrise, Criterion, Model, John Bright, and a few others equal to the foregoing, which never saw the exhibition table. Of the four named, Model and John Bright are to be had. Criterion, a flower of high quality, we believe Mr. Barlow has altogether lost, but he has a few plants of his beautiful red-ground, Sunrise, the pollen of which he will use next season. In the batch of seedlings just

referred to, Mr. Barlow had one which, in his opinion, beat everything he has ever seen exhibited; a fine black-ground of superb quality, which he unfortunately lost. Mr. Barlow is so painstaking a florist that we may reasonably look for something very good indeed from the crosses he contemplates.—*R. D.*

THE GRAND NATIONAL DAHLIA SHOW, 1886.—The list of prize money awarded at the annual exhibition held at the Crystal Palace in September last, together with a balance sheet, has just been issued by Mr. Thomas Moore, the hon. sec. and treasurer. We find there were thirty-six prize-takers; the highest amounts went to Mr. C. Turner, Royal Nursery, Slough, and Messrs. Keynes & Co., Salisbury; the lowest amount fell to the lot of Mr. J. Bullard, Norwich. The amount of subscriptions was £66 14s., contributed by fifty-one subscribers, and to this was added a grant of £50 from the Crystal Palace Company, making in all £116 14s. The amount of prizes awarded was £105 10s., and expenses, including luncheon to the judges, secretary's assistant, printing, postage and parcels, and miscellaneous payments amounted to £11 4s., so that the receipts just covered the expenses. It was a good show, well managed, in Mr. Moore's usual business-like style, and the expenses, it must be admitted, were very low. It is to be hoped this exhibition will be continued annually, and that the lovers of the Dahlia all the country through will rally to the support of the committee.

ORCHID NOTES AND GLEANINGS.

Zygopetalum rostratum.—A very fine variety of this showy Orchid is now in flower with B. Lemon, Esq., Moat Lodge, Beckenham. The flowers are over 6 ins. in length, their large labellums reminding one of a white form of *Odontoglossum vexillarium*. *Z. rostratum* is not a good-tempered plant in everyone's hands, but at Moat Lodge, like all the other Orchids there attempted, it thrives well. It wants rather more heat and moisture than the other *Zygopetalums*, and usually thrives well in a basket suspended over the *Odontoglossum Roczlii*, or with the *Bolleas* and *Pescatoreas*. It comes from Demerara, and is a speciality with Mr. J. E. Bonny, now of the Hextable Nurseries, Swanley, Kent.

Gongora quinquenervis (maculata).—From Reginald Young, Esq., of Fringilla, Ullet Road, Liverpool, comes a grand spike of this curious Orchid, 2 ft. 6 ins. in length, and bearing thirty-three of its singular insect-like flowers, which are yellow heavily spotted with purple. In the same basket recently flowered a very handsome orange-coloured variety of the same plant, flowers of which were also sent to us. We are glad to note that *Gongoras*, *Stanhopeas* and other curious Orchids are now getting more in favour than formerly.

Vanda Sanderiana.—In the gardens of E. A. Leatham, Esq., Misarden Park, Cirencester, under Mr. Excell's care, a very fine plant of this superb species is in flower. On the main stem it has two spikes of nine and ten flowers respectively, and the three smaller growths at its base have each a spike of flowers; it is, moreover, a very large and well-coloured variety.

HORTICULTURAL SOCIETIES.

ROYAL HORTICULTURAL.

THE last exhibition of the year, held at South Kensington on Tuesday and Wednesday, was certainly worthy of the occasion, and the place being, as far as it went, both for extent and quality, an admirable representation of the flowers and vegetables of the season. Indeed, nothing better in the way of vegetables could be desired; while the collection of Apples staged by the Canada Commission, afforded food for serious reflection. The new plants which received First Class Certificates were *Rhododendron jasminiflora carminata*, one of the hybrid greenhouse varieties, with pretty carmine red blossoms; and *Crataegus tartarica*, a species with large, showy pyriform berries of a dark crimson colour, from Messrs. James Veitch & Sons. *Chrysanthemum Elise Dordan*, an exceedingly pretty pompon variety, rose-pink in colour, and almost a globe in shape, from Messrs. John Laing & Co., Stanstead Park, Forest Hill; Messrs. H. Cannell &

Sons, Swanley; and Mr. R. Owen, Maidenhead. *Chrysanthemum William Stevens*, a very promising Japanese variety, large, bronzy red, and yellow on the reverse side of the petals, from Mr. G. Stevens, Putney. *Odontoglossum blepharicanthum*, a small-growing species, in the way of *O. niveum majus*, with dense-cinnamon-spotted blossoms, from Mr. C. Cowley, gardener to F. G. Tautz, Esq., Studley House, Goldhawk Road, Hammersmith. *Cattleya Eldorado virginialis*, a fine clear white variety with a lemon-coloured blotch on the labellum, from H. M. Pollett, Esq., Fernside, Bickley. *Bignouia Chamberlaynii*, an old species, but little known, with pale yellow blossoms, from Mr. D. Kemp, gardener to C. Scrase Dickens, Esq., Coolhurst, Horsham. *Chrysanthemum Buttercup* (Salter), an exceedingly fine, compact, flat-petalled variety of a distinct and bright shade of yellow, from Messrs. James Veitch & Sons; and *Chrysanthemum Toulousain*, a pretty pompon variety, rosy lilac, edged with silver-white, from Mr. R. Owen, Maidenhead.

A Botanical Certificate was awarded to G. F. Wilson, Esq., F.R.S., for *Primula Reidii*, a small seedling plant, with a short spike of three pendent white bell-shaped blossoms, very distinct, and promising, when fully grown, to be a very good thing. Cultural commendations were awarded to Messrs. H. Cannell & Sons' for *Begonia Double White*, a decided acquisition in the tuberous-rooted section, with blossoms as pure white and as fine in shape as a good *Picotée*; a plant of moderate growth and neat habit, and a most profuse bloomer; and to F. G. Tautz, Esq., for *Dendrobium superbiens*, with one fine clean growth with two spikes, one of which bore ten richly coloured blossoms.

Among the miscellaneous subjects, we noted a small group of evergreen *Amaryllis*, of the Mrs. Garfield and Mrs. Williams Lee type, from B. S. Williams; a new pillar Rose, H.P., Paul's Single White; and *Erica Mawean*, a dwarf-growing species with reddish purple flowers, from Messrs. Paul & Son; a very pretty lot of dwarf, well-berried seedling plants of *Pernettya mucronata*, in various colours, from Messrs. W. Cutbush & Son, Highgate; a seedling tessellated form of *Pteris tremula* from Mr. H. B. May, Dyson's Lane, Edmonton; a strong plant of *Warszewiczella cochlearis*, with white sepals and petals, and the broad lip blotched and veined with purple, from Messrs. Hugh Low & Co., Clapton; *Saxifraga Fortunei*, a wondrously free-blooming species with dark green foliage, and small greenish white blossoms, *Colchicum speciosum* and *Sternbergia lutea*, from Mr. T. S. Ware; a choice collection of *Chrysanthemums* from Messrs. H. Cannell & Sons; and a nice group of tree Carnations from Messrs. Hooper & Co., Covent Garden, both of whom were awarded bronze medals.

The two *Chrysanthemum* classes both brought out a good competition, and if the high-class quality of the blooms staged may be accepted as an indication of what is to follow during the next few weeks, the *Chrysanthemum* bloom of 1886 promises to be the best on record. With groups of plants in pots, there were four competitors, and for the first prize the race lay between Mr. F. N. Davis, of Camberwell, and Mr. G. Stevens, of Putney, both of whom were in rare form; but Mr. Davis having the greatest variety, this point carried him through, and Mr. Stevens secured only second honours; Mr. J. Townsend, Providence Nursery, Gardner's Lane, Putney, being third. The class for twenty-four cut blooms was an exceedingly good one, all the stands being more than passable, and the winning ones especially good. The first prize was won by that excellent all-round plant grower, Mr. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, with a collection of Japanese varieties, as remarkable for their good even size, refined form, and bright clear colours, as we shall probably see this season. The varieties staged were *Madame de Sevin*, *Criterion*, *L'Triomphante*, *Comte de Germiny*, *Coquette de Castille*, *Jean Délaux*, *Elaine* and *Dormillon*, in the back row; Dr. Macary, John Laing, Mons. B. Rendatler, *Bouquet Fait*, *Mille Lacroix*, W. Robinson, Mons. Sarin and Maiden's *Blush*, in the second row; and *Lady Selborne*, Mons. Freeman, *Lakme*, *Phœbus*, *Margot*, Mons. Astorg, *Triomphe du Nord*, and *Chang*, in the front. Mr. E. S. Cole, Woodside, Bristol, who was second, had a capital lot of Japanese varieties also, but among them were some of what are now regarded as "the ragged division"—large loose flowers, with nothing but their size to recommend them. The third prize collection, which consisted of Japanese and recurved varieties in

equal numbers, came from Mr. McKenzie, Linton Gardens, Maidstone.

The vegetable show was again an unqualified success, both as regards numbers and quality, Potatoes especially being wonderfully well shown. For a collection of vegetables, Mr. G. T. Miles, Wycombe Abbey, again came to the front from among seventeen competitors with an admirable lot of garden produce. The second prize went to Mr. James Neighbour, Bickley; and the third to Mr. S. Haines, Coleshill, Highworth. In a good competition with twelve kinds of Potatoes, Mr. Hughes, gardener to Col. Cartwright, Eydon Hall, Byfleet, came well to the front, showing splendid samples of Mr. Bresee, M.P., *Purple Perfection*, *Snow-drop*, *Reading Russett*, *London Hero*, *Adirondack*, *Champion*, *Sutton's First and Best*, *Edgcote Purple*, *Sutton's Seedling*, &c. Mr. E. S. Wiles, gardener to R. A. Cartwright, Esq., Edgcote, Banbury, was a good second; and Mr. W. Kerr, Dargavel, Dumfries, and Mr. W. Ellington, West Row, Mildenhall, were declared equal third. For six kinds, Mr. Hughes and Mr. Wiles again held the same relative positions, the third prize going to Mr. C. W. Howard, Canterbury.

The single classes for vegetables brought out very fine competitions in every instance, and required very close scrutiny to pick out the best. For Celery, the prizes all went to the red varieties, exhibited, in the order named, by Mr. Pope, Highclere Castle; Mr. Timbs, Tyler's Green, Amersham; and Mr. Richards, Somerley, Ringwood; though we think at least one exhibit of white Celery should have had a place among the prize winners. Of Parsnips, the leading varieties were the Maltese, Student and Elcomb's Improved, and the prize winners were Mr. Meads, Beckett Park, Shrivensham; Mr. Palmer, Thames Ditton House; and Mr. Bloxham, Brickhill Manor Gardens, Bletchley. Carrots were especially fine in quality, both Long and Short Horn varieties, Sutton's New Intermediate being contributed in the greatest number. The awards went to Mr. Jas. Neighbour, Bickley; Mr. Robins, Hartwell House, Aylesbury; and Mr. John Baker, Bampton. The best varieties of Turnips exhibited, were the White Stone, Early Six-weeks, Dobbie's Model, Early Snowball and Sutton's Snowball; and the prize winners were Mr. May, Northaw House, Barnet; Mr. E. S. Wiles, and Mr. G. Bloxham. Onions consisted, in the main, of various strains, all good, of the White Spanish; and the awards in this class went to Mr. Finlay, Lee's Court, Faversham; Mr. G. Neal, Bampton, and Mr. S. Haines. The Brussels Sprouts were a fine class, no over-large ones, but quality all through. Of strains or selections we noted The Wroxton, Aigburth, Carter's Perfection, Veitch's Exhibition, and May's Northaw, all excellent sorts, and as shown in dishes, not a pin to choose between them; the winners here were Mr. W. Finlay, Mr. R. Lye, Sydmonton Court, Newbury, and Mr. W. Pope. The Beet class, though good as regards numbers, ran too much in the direction of size, most of the samples staged being, in our opinion, too large; the principal varieties were Pragnell's Exhibition, Sutton's Dark Red, Dell's Crimson and Nutting's Dwarf Red; and the prize winners were Mr. J. Neighbour, Mr. C. J. Waite, and Mr. S. Haines. As regards Cauliflowers, there was only one in it—Veitch's Autumn Giant; and with admirable samples, Mr. Miller, Rood Ashton, Mr. G. T. Miles, and Mr. W. Meads secured the prizes offered. The Leeks were especially fine, and notably The Lyon and Ayton Castle, which carried the palm for thickness of stems from the Musselburgh and Sutton's Prizetaker. Mr. Miles had the finest samples, followed by Mr. C. Ross and Mr. Waite; and the successful exhibitors of Tomatoes were Mr. R. Farrance, Chadwell Heath, Mr. F. Hughes and Mr. Meads; the principal sorts staged being *Reading Perfection*, *Trophy*, *Hackwood Park Prolific* and *Acme*.

Messrs. Sutton & Sons, Reading—who exhibited fine samples of a large number of varieties of Potatoes, for which they were awarded a Silver Gilt Medal—also offered special prizes, in seven classes, for vegetables, for which many of the exhibitors in the previous classes competed, the competition in every case being close. Mr. C. Fidler, Reading—who took a Silver Medal for a good collection of field-grown samples of Potatoes—also offered special prizes in three classes, and was also rewarded with excellent competitions. Messrs. James Carter & Co. also contributed a collection of Potatoes; and an interesting display of home-grown samples of Tobaccos, for which they were awarded a Silver Medal.

The same firm also offered special prizes for four dishes of Potatoes; and Mr. H. Deverell, Banbury, initiated a competition for Onions.

At the meeting of the Fruit Committee, a Silver-gilt Medal was awarded to the Canadian Commission for a handsome collection of some 260 dishes of well-grown and finely-coloured Apples. Messrs. Veitch & Sons exhibited a small standard tree in a pot of the new Bismarck Apple, bearing a capital crop of handsome fruits. Mr. W. Ronpell, Ronpell Park, had a couple of pot trees of the Nelson Apple, bearing excellent crops; and Mr. D. Kemp, gardener to C. R. Scrase Dickens, Esq., Coolhurst, staged a dish of large and highly-coloured specimens of the Hollandbury Apple. Mr. W. H. Divers, gardener, Ketton Hall, Stamford, showed an excellent dish of Salway Peaches, grown in a cool house.

NATIONAL CHRYSANTHEMUM.

This society held their second floral meeting of the season at the Royal Aquarium, on Wednesday last, the 27th inst., when a very attractive collection of Chrysanthemums was brought together. The chair was occupied by the president of the society, Mr. E. Sanderson. A First Class Certificate was awarded to Mr. J. Martin, of Dartford, Kent, for Phœbus, a very fine bright yellow Japanese, with drooping petals; the same gentleman was also awarded a First Class Certificate for La Triomphante, a good full flower with broad lilac petals; this variety was exhibited by two other members, and is likely to prove an excellent exhibition front row flower; it comes free and is of good substance. Mr. Henry Harlton, of Shawford House, Winchester, staged a bloom of Marie Louise, a pale rose sport from Bouquet Fait; this flower received a First Class Certificate two or three years since, and the flower exhibited proved that it is well worthy of the award it then received. Précocité, a new reddish brown pompon, was exhibited by Messrs. Cannell & Sons, Mr. Davis and Mr. H. J. Jones, of Lewisham, and was commended. Flambeau Toulousain, a lilac Pompon, exhibited by Messrs. Cannell & Sons, was awarded a First Class Certificate. William Bealby: First Class Certificates were awarded to Mr. Robert Owen and Mr. N. Davis for this pretty soft rose reflexed Pompon. Buttercup: Messrs Veitch received a First Class Certificate for this bright yellow reflexed flower, which is a valuable addition to the reflexed class, although scarcely an exhibition bloom. Messrs. Veitch also exhibited fine blooms of Phœbus, and they were also awarded a First Class Certificate, in addition to Mr. T. Martin.

William Clark, one of Messrs. Delanx' new Japanese varieties, was not considered by the committee of sufficient quality to receive a Certificate; it is quite a lady's flower, of the crushed Strawberry type, but, certainly, cannot at present be called an exhibition flower. Temple of Solomon, a very good old deep yellow reflexed flower with straight flat petals, was exhibited by Mr. N. Davis, and commended. Lilacea, a very pretty, tender lilac and white pompon, exhibited by Mr. N. Davis and Mr. Wright, was also commended. William Stevens, a seedling raised by Mr. Geo. Stevens, of Putney, was awarded a First Class Certificate; this is a very good Japanese flower, similar in colour to Source d'Or, but larger and with a much finer petal. Cincinata, a large Anemone, of a deep lilac colour with a yellow tipped centre, exhibited by Messrs. Cannell & Sons, was awarded a First Class Certificate, and, judging from the flowers exhibited, it is likely to prove an acquisition to the large Anemone class, which is anything but numerous.

M. J. H. Laing was also exhibited by Messrs. Cannell & Sons. It is a very attractive flower, of a soft creamy white with a rose tint, and broad florets; but although it has come finer this year than last, the committee did not consider it merited a Certificate. Cremé, a rose reflexed Pompon of good substance, exhibited by Messrs. Cannell & Sons, was commended. Two very fine plants of a double white tuberous-rooted Begonia, named Octavia, exhibited by Messrs. Cannell & Sons, received a First Class Certificate. A number of exhibits were placed upon the tables for the inspection of the committee, which was altogether a very interesting meeting. Mr. J. P. Randall, of Roehampton, exhibited some very fine leaves of Tobacco grown by him. Two good stands of Chrysanthemums and Pompons set up in bunches with foliage, from Messrs. Cannell & Sons, of Swanley, attracted much attention, and contained many very good blooms, some of the most prominent being Black Douglas, a very dark crimson Pompon; Madame Rozain, an incurved Japanese, after the style of M. Freeman, with broad petals of a salmon and orange colour. Source d'Or, a bright orange, was also very attractive.

TRADE CATALOGUES RECEIVED.

CHARLES TURNER, Royal Nurseries, Slough.—Catalogue of Roses, Fruit Trees and Nursery Stock.

EWING & Co., Sea-View Nurseries, Havant.—Price List of Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

QUESTIONS AND ANSWERS.

CHRYSANTHEMUM AND PRIMULA.—S. A. S.: Both should be named before being exhibited, and you should endeavour to send them to one of the meetings of the Floral Committee of the Royal Horticultural Society, South Kensington, the next of which will be held on the 9th of November. Send an intimation to Mr. Barron, the secretary, a few days beforehand. If the Chrysanthemum is a good one, you should also show it at the National Chrysanthemum Society's exhibition in November. Write to Mr. W. Holmes, Frampton Park Nursery, Hackney.

SUNFLOWER SEEDS.—P. E.: By all means feed your poultry with the Sunflower seeds; the birds are very fond of them.

NAMES OF FRUITS.—J. C. M.: Pear, Marie Louise. Haarlem: 1, Duchess of Oldenburgh; 2, Worcester Pearmain; 3, Louise Bonne de Jersey. Q. R.: Comte de Flandres, dessert. G. E. P.: 1, Vicar of Winkfield; 2, Beurré de Caplaumont; 3, Holland Pippin. A. T. P.: 1, Cox's Orange Pippin; 2, Golden Reinette; 3, Cockle's Pippin. G. G.: 1, Duchesse d'Angoulême; 2, Pit-maston Duchess.

COMMUNICATIONS RECEIVED.—T. F.—C. H. M.—W. H., Styche—G. B.—A. O.—G. S. C.—W. P. R.—W. C.—J. N.—W. P.—W. C.—J. W. B.—T. E.—B. L.—W. E. S., Wales—Wahsardar.

LONDON SEED TRADE.

October 27th, 1886.

Messrs. HURST & SON, 152, Honndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance at to-day's market. Winter Tares and Rye neglected. Continental offers of Red and White Clover do not induce buyers to operate, and lower prices are looked for. Canary is in request, and has advanced 2s. per quarter. Hemp and Linseed unchanged. No change in values of Mustard, Rape or Blue Peas.

COVENT GARDEN MARKET.

October 28th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6	3 6	Peaches, per doz.	3 0	9 0
Cherries, $\frac{1}{2}$ sieve			Pine-apples, St.		
Currents, $\frac{1}{2}$ sieve			Michaels, each	2 6	8 0
Grapes, ... per lb.	0 6	2 0	Pine-apples, Eng., lb.	3 0	4 0
Kent Cobbs, 100 lbs. 55 0			Plums, $\frac{1}{2}$ sieve	0 9	2 0
Melons, ... each	1 0	2 0	Strawberries, .. per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces, .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, ... per doz.	2 0	2 6	Onions, per bushel ..	4 0	6 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English,			Radishes, per dozen ..	1 6	
per dozen	3 0	5 0	Small salading, punnet	0 4	
Celery, per bundle ..	1 6	2 6	Spinach, per strike ..	2 0	
Cucumbers, each	0 6	0 9	Tomatos, per lb.	0 9	
Endive, French, doz.	2 6	3 6	Turnips, ... per bun.	0 6	
Herbs, per bunch	0 2	0 4			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	4 0	6 0	Lilium longiflorum,		
Arum Lilies, 12 blms.	4 0	6 0	12 blooms	4 0	6 0
Azalea, 12 sprays	0 9	1 6	Liliums in variety,		
Bouvardias, per bun.	0 6	1 0	12 blooms	2 0	4 0
Camellias, 12 blooms	3 0	6 0	Marguerites, 12 bun...	3 0	6 0
Carnations, 12 blooms	1 0	3 0	Mignouette, 12 bun...	1 0	3 0
Chrysanthemums,			Parne Violets(French),		
12 blooms	1 0	4 0	per bunch	4 0	5 0
Chrysanthemums,			Pelargoniums, per 12		
12 bunches	4 0	8 0	sprays	0 9	1 0
Dahlias, 12 bunches	3 0	6 0	— scarlet, 12 sprays..	0 3	0 6
Daisies, common,			Primula, double, bun.	0 6	1 0
12 bunches	2 0	4 0	Pyrethrum, 12 bunchs.	2 0	4 0
Eucharis, per dozen..	4 0	6 0	Roses, ... 12 bunches	2 0	6 0
Forget-me-not Myo-			Roses (coloured)	0 9	1 0
sotis, 12 bunches ..	2 0	4 0	Roses, Tea per dozen	0 9	3 0
Gardenias, 12 blooms.	2 6	4 0	Stephanotis, 12 sprays	4 0	6 0
Gladioli, .. 12 sprays	1 0	2 0	Sweet Peas, doz. bch.		
Heliotropes, 12 sprays	0 6		Sweet Sultan, 12 bun.		
Lapageria, red,			Tropeolums	1 0	2 0
12 blooms	1 0	1 6	Tuberose, per dozen.	1 0	1 6
Lapageria, white,			Violets, .. 12 bunches	0 9	1 3
12 blooms	2 0	3 0	White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each..	1 6	7 6
Asters, per dozen....	4 0	8 0	Foliage Plants, vari-		
Balsams, ... per doz.			ous, each	2 0	10 6
Begonias, per dozen..	6 0	12 0	Fuchsia, per doz.	3 0	6 0
Bouvardia, per doz...	9 0	12 0	Gladioli, 12 pots		
Chrysanthemums, doz.	4 0	18 0	Hydrangea, .. per doz.		
Cyperus, per dozen ..	4 0	12 0	Liliums, ... per doz.		
Dracena term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignouette, per doz.	4 0	6 0
Erica gracilis, per doz.	12 0	18 0	Palms in variety, each	2 6	21 0
— hyemalis, per doz.	18 0	24 0	Pelargoniums, doz. ...		
— Regerminans, doz.	9 0	12 0	Pelargoniums, scarlet,		
Evergreens, in var.,			per dozen	3 0	6 0
per dozen	6 0	24 0	Petunias, per doz.		
Ferns, in var., doz. ...	4 0	18 0			

POTATO MARKET.

October 25th. The following were the ruling prices in the station yard at King's Cross during the week ending Saturday 23rd—

	Beds.	Bk. Lnd.	Lnclns.	Kents.	Yorks.
Magnums, gd. smpls.	45/-, 55/-	47/6, 50/-	60/-, 70/-	65/-, 75/-	75/-
Regents do. do.	55/-, 60/-	65/-, 70/-	75/-, 80/-	85/-, 90/-	90/-
Beauty of Hebron do.	65/-, 70/-	75/-, 80/-	85/-, 90/-	95/-, 100/-	100/-
Heroes do. do.	60/-, 65/-	70/-, 75/-	80/-, 85/-	90/-, 95/-	95/-
Celery do. do.	8/-, 10/-	10/-, 12/-	12/-, 14/-	15/-, 18/-	18/-
Turnips do. do.	35/-, 40/-	40/-, 45/-	45/-, 50/-	55/-, 60/-	60/-

During last week 470 trucks arrived at King's Cross, and over 500 trucks were emptied; 101 arrived this morning, and there are 356 trucks in stock. Early Rose and Champion are not quoted, there being none upon the market; Carrot trade very quiet at low rates. The season is very backward in consequence of the mild weather, but should cold weather set in a visible alteration in trade and prices will be noticed.

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COCOATINA,

Anti-Dyspeptic Cocoa or Chocolate Powder.

Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

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Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoas thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.

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ESTABLISHED 1785.

JOHN CRANSTON begs to announce that having purchased the business from "CRANSTON'S NURSERY AND SEED COMPANY, LIMITED," these old-established Nurseries will, on and after November 2nd, 1886, be carried on by him under the name of

JOHN CRANSTON & Co.,
KING'S ACRE.

Sept. 29th, 1886.

BULBS! CHEAP AND GOOD!

EARLY White Roman Hyacinths, 1s. 9d. per dozen. Early Paper White Narcissus, 1s. 3d. per dozen. Hyacinths, finest named, for pots or glasses, from 3s. per dozen; Hyacinths, 2nd size, named, in 12 fine varieties, 2s. 9d. per dozen; ditto, cheap mixed, 1s. 6d. per dozen; 10s. per 100. Tulips, mixed, single or double, 6d. per dozen; 3s. 6d. per 100. Crocuses, splendid mixed, 1s. 3d. per 100; separate colours, 1s. 6d. per 100. Narcissus poeticus, 4d. per dozen; 2s. 6d. per 100. Polyanthus Narcissus, choice mixed 1s. per dozen; 7s. per 100. Scilla sibirica, 6d. per dozen; 3s. 6d. per 100. Snowdrops, 2s. 3d. per 100; 4d. per dozen. For other Bulbs, see Catalogue, post free. Cash with order. All carriage free.

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NEW OR RARE DAFFODILS FOR POT CULTURE, FLOWER BEDS, BORDERS, &c.

	Per doz.	Each
BICOLOR EMPRESS, the largest and boldest flower of the two-coloured Daffodils	16 0	1 6
" GRANDIS, the largest, whitest, and most imbricated petalled of the two-coloured Daffodils	13 6	1 3
" HORSFIELDI, the largest and earliest of the two-coloured Daffodils	10 6	1 0
" DEAN HERBERT, large primrose petals, large, full yellow trumpet, handsome	21 0	2 0
" JAMES WALKER, large, sulphur-white, elegantly-imbicated petals, large yellow trumpet	21 0	2 0
" J. B. M. CAMM, large white petals, large gracefully-formed primrose trumpet	7 6	
" MICHAEL FOSTER, large sulphur-white petals, thick, stout, rich yellow trumpet	21 0	2 0
EMPEROR, the largest deep primrose-petalled Daffodil, with large, rich, full, yellow trumpet—a great beauty	25 0	2 6
EDWARD LEEDS, large, handsome, uniform, rich yellow petals and trumpet	5 6	0 6
KING UMBERTO, large light yellow petals, with a yellow bar down the centre of each, very large trumpet	10 6	1 0
HER MAJESTY, clear, soft yellow petals, elegantly expanded trumpet, beautifully serrated	13 6	1 3
JOHN NELSON, very distinct, large, uniform, full yellow trumpet Daffodil	10 6	
MINIMUS, the smallest of all Daffodils, petals and trumpet yellow, collected roots	5 6	0 6
MINOR (true), an elegant small Daffodil, petals and trumpet yellow, scarce	7 6	0 9
GOLDEN SPUR, large spreading full yellow petals, large-lobed rich yellow trumpet	10 6	1 0
SPURIUS YELLOW KING, larger rich yellow petals and trumpet, handsome Daffodil	6 6	0 8
SHIRLEY HIBBERD, light yellow petals, large deep yellow, elegantly-expanded trumpet	21 0	2 0
THOMAS MOORE, light yellow petals, long, narrow, elegantly lobed, full yellow trumpet	21 0	2 0
DR. HOGG, large white petals, large soft Primrose trumpet, with elegantly recurved brim	5 6	
F. W. BURBIDGE, large white petals, large sulphur-white, long-ribbed trumpet, elegantly gashed, beautiful	36 0	3 0
MINNIE WARREN, perianth and trumpet creamy white, an elegant small Daffodil	17 6	1 6
MRS. F. W. BURBIDGE, large white petals, long white trumpet, very distinct	5 6	
W. P. MILNE, petals and trumpet clear sulphur-yellow, very neat flower	3 6	
WILLIAM GOLDRING, snow-white, hooded petals, enveloping the elegant primrose trumpet	2 0	
CERNUUS PLENUS ELEGANTISSIMUS, the elegant double white trumpet Daffodil	21 0	2 0
QUEEN ANN'S DAFFODIL CAPAX PENUS, elegant lemon-coloured double flower	1 0	
INCOMPARABILIS AUTOCRAT, full yellow petals, large, expanded, yellow cup	5 6	0 6
" E. HART, petals and cup full, deep yellow	5 6	0 6
" FRANK MILES, very large yellow petals and cup	5 6	0 6
" C. J. BACKHOUSE, full yellow petals, long rich orange-scarlet cup, magnificent	5 6	
" FIGARO, large yellow petals, large spreading orange-scarlet stained cup	4 6	0 6
" TITAN, large yellow petals, large orange margined cup	7 6	0 9
" MRS. A. F. BARRON, yellow petals, bright orange-scarlet margined cup	10 6	1 0
" BEAUTY, large sulphur petals, barred yellow large cup, margined orange, splendid	7 6	
" JOHN BULL, large sulphur petals, large spreading yellow cup	4 6	0 6
" KING OF THE NETHERLANDS, large sulphur petals, very large spreading orange-stained cup, magnificent	10 6	
" QUEEN SOPHIA, very large sulphur petals, very large spreading frilled orange-scarlet cup, magnificent	10 6	
" ANNIE BADEN, sulphur petals, brim of cup stained orange, and elegantly contracted	4 6	0 6
" ALBERT VICTOR, large sulphur petals, large elegantly expanded cup	15 0	1 6
" BERTIE, broad sulphur-white petals, cup elegantly edged orange-scarlet	15 0	1 6

(Continued on p. 158.)

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B. S. WILLIAMS' **CHEAP BULBS**

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BEDS & BORDERS.

As supplied to the whole of the London Parks this season.

Special quotations and further particulars will be supplied on application.

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"QUALITY IS THE TEST OF CHEAPNESS."

SPLENDID CLIMBING ROSES in 7-in. pots, with two or three shoots, 8 ft. to 10 ft. long, 3s. 6d. each: Gloire de Dijon, Reine Marie Henriette, Celine Forestier, Cheshunt Hybrid, and Belle Lyonnaise.

SPLENDID CLIMBING ROSES in 7-in. pots, with one and two shoots, 6 ft. to 8 ft. long, 2s. 6d. each: Climbing Devonensis, Marechal Niel, Gloire de Dijon, W. A. Richardson, Reine Marie Henriette, and Cheshunt Hybrid.

WALTHAM CLIMBERS.—Nos. 1, 2 and 3, fine plants in 7-in. pots, with one and two shoots, 6 ft. to 7 ft. long, 3s. 6d. each. These are splendid red Roses in three shades, No. 1 being the lightest and No. 3 the darkest.

FINE CLIMBING ROSES in 5-in. pots, with one shoot, 3 ft. to 5 ft. long, 1s. each; Marechal Niel and Gloire de Dijon.

SPLENDID DWARF TEA ROSES in 7-in. pots, specially prepared for winter flowering, in about 100 varieties, including Niphetos, Perle des Jardins, Sunset, Madame Falcot, Isabella Sprunt, Lady Mary Fitzwilliam, Homer, Etoile de Lyon, Perle de Lyon, Mrs. Bosanquet, and Madame Lambard, 2s. 6d. and 3s. each, according to size. List on application.

Cash or reference with order from unknown correspondents. Plants may be returned at once if unsatisfactory.

The Liverpool Horticultural Co. (J. Cowan) Ltd.,
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CATALOGUE of fifty pages, containing full information as to colour, height, situation, time of flowering, &c., free on application.

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SPIREA JAPONICA, fine clumps.

LILY OF THE VALLEY, German crowns for forcing.

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National Chrysanthemum Society, Royal Aquarium, Westminster.

GRAND CHRYSANTHEMUM, FRUIT and VEGETABLE EXHIBITION, Wednesday and Thursday, November 10th and 11th. Schedules free on application to

Mr. WILLIAM HOLMES, Hon. Sec.,

Frampton Park Nurseries, Hackney.

The Floral Committee will meet on November 10th and 24th, and December 8th at 1.30 p.m.

Lewisham and District Floral Society.

CHRYSANTHEMUM SHOW on November 12th and 13th, 1886, at the Ladywell Public Baths, Lewisham. £5 offered for 48 Cut Blooms, 24 Japanese, and 24 incurved; also various other open prizes. Schedules of the Hon. Sec., Mr. HENRY DRAKE, 64, Linnes Grove, Lewisham.

BIRMINGHAM & MIDLAND COUNTIES CHRYSANTHEMUM, FRUIT AND FLORICULTURAL SOCIETY.—The Twenty-sixth Annual Exhibition of Chrysanthemums, Winter-flowering Plants and Fruits will be held in the Town Hall, Birmingham, on Wednesday and Thursday, November 24th and 25th, when, in addition to other liberal prizes, more than £50 will be offered for Cut Blooms of Chrysanthemums, including £10 first, £7 second, £4 third and £2 fourth prizes for forty-eight Blooms open to all England, entries close November 17th. Schedules, entry forms and all information can be had on application to the Secretary, J. HUGHES, Northwood Villas, Metchley Lane, Harborne, Birmingham.

Next Week's Engagements.

MONDAY, Nov. 8th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.—Sale of Nursery Stock at Lambourne End by Protheroe & Morris.

TUESDAY, Nov. 9th.—Meeting of Fruit and Floral Committees of the Royal Horticultural Society.—Sale of Nursery Stock at Maurice Young's Nursery, Milford, near Godalming, by Mr. J. C. Stevens.—Sale of Nursery Stock at the Royal Ascot Nursery by Protheroe & Morris (two days).

WEDNESDAY, Nov. 10th.—Sale of Plants, Roses, &c., at Protheroe & Morris's Rooms.

THURSDAY, Nov. 11th.—Sale of Nursery Stock at the American Nurseries, Leytonstone, by Protheroe & Morris (two days).—Great Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, Nov. 12th.—Sale of Established Orchids at Protheroe & Morris's Rooms.

SATURDAY, Nov. 13th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

For List of Chrysanthemum shows next week, see p. 156

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man.—BACON.

The Gardening World.

SATURDAY, NOVEMBER 6, 1886.

THE CHRYSANTHEMUM SEASON.—Already has the season of Chrysanthemum shows begun, and next week we shall be right into the thick of them. It seems hard to realise that such is the case, especially when we remember the sort of weather which has greeted some previous autumn shows; but here, amongst the marvels of a marvellous season, have we seen October go out without frost, leaving our tender flowers in the open still fresh and beautiful. Why, it is just possible, should no change take place, that we may see Dahlias competing even so late as the second week in November with the hardy Chrysanthemums for public favour; but that softness of temperature which has favoured the Dahlia has not been so acceptable for the harder flower, which does best in cooler times, although finding damp very undesirable.

Damp is such an enemy to the large show Chrysanthemum blooms that it must be kept down at all hazard; hence firing has been indispensable to maintain a dry atmosphere, whilst all the time the temperature was too high. We shall not be surprised to learn that many fine blooms have come too soon, and probably not a few growers are lamenting the anxiety shown early in putting plants under glass when the weather has shown that they would have been so much better outdoors. We see, so far, Chrysanthemums blooming beautifully outdoors, and fairly competing in brightness and beauty with the indoor flowers. Naturally, such a fact renders the sale of indoor blooms dull, as the quantity of flowers now at disposal is enormous. However that may be—and we very heartily condole with market growers—at least those who have Chrysanthemum gardens may enjoy their favourites to the utmost.

Some cottage gardens have been very beautiful so far, the plants blooming early and with wondrous freshness. Doubtless, the season, which has proved so acceptable to pot plants, has been not less generous to the outdoor ones. There is a general anticipation that flowers this year will be unusually good. Without doubt, growth has been unusually robust; but whether such growth will produce the best blooms remains to be seen. If it means big flowers, but rather thin than full, not only will they the earlier open, but the sooner decay. This is far from being the chief element in a good Chrysanthemum bloom, and if got at the expense of quality, nothing is gained, but something is lost. There is one thing from which comfort may be derived. So many of our exhibition growers have such a reserve of plants that there is good reason for hope that, come what may, they will be able to put in an appearance more or less respectably. Those whose plants are a little later than usual will probably benefit.

To us here in the south, who see the finest blooms ready quite early in the month, it is hard to realise that a couple of hundred or so of miles farther north, the fourth week of November, or even the first week in December is the more favourable. That fact shows how advantaged are those who have cool houses, as well as those with south aspects, in which to place their plants. We hear very much stress laid upon the importance of ripening the wood for the production of fine blooms; but it would seem as if so far north as Sheffield grand flowers can be produced, vying with our best southern blooms; and yet there, certainly, sun-heat must be very materially less than it is around London. Probably, human skill enables that drawback to be overcome so admirably.

SOUTH KENSINGTON SHOWS.—The series of flower, fruit and vegetable exhibitions held at South Kensington during the past season have been remarkably successful and encouraging, and have admirably served to bring together some of the best garden produce of the year. Evidence of that was amply afforded at the more recent shows, for Grapes, hardy fruits and vegetables were all first class. It is thus very evident that the prestige which for so many years has, in the minds of gardeners, attached to South Kensington—or, really, the Royal Horticultural Society's shows—still remains, and that prizes at these shows are held to be the blue ribands of the season.

What another year—and we will not look into the more distant future—may bring in connection with the Royal Horticultural Society and South Kensington shows we cannot at present conceive, for all is uncertain; still, there can be no doubt but that once there is a severance on the part of the society from South Kensington it will be a final one. Whether that severance will prove beneficial or otherwise it is utterly impossible to forecast; but this is

certain, we shall part with all the more recent delightful South Kensington associations with deep regret. Thanks to the great national exhibition held there, the various displays held under the auspices of the Royal Horticultural Society have been seen by myriads of intelligent flower-loving people from all parts of the kingdom—indeed, from all the world—and our products have given no room for criticism.

It has been very pleasant to see the South Kensington halls again and again so thickly peopled, especially after so many former years of gaunt and ghostly emptiness. If it be the fortune of the Royal Horticultural Society still to remain tenants at will of their old estate, and shows still continue, it is possible a worse fate may befall the society and its Fellows.

HIS ROYAL HIGHNESS THE PRINCE OF WALES has recently received from the Mikado of Japan the decoration of the Distinguished Order of the Chrysanthemum.

THE ninth spring show of the Preston and Fulwood Horticultural Society will be held in the new Public Hall, Preston, on March 17th and 18th, 1887.

MESSRS. SUTTON, of the Royal Berkshire Seed Establishment, Reading, have been awarded a Gold Medal for their fine display of seeds, grasses, models, &c., at the Edinburgh International Exhibition of 1886.

At the ceremony of opening HIGHGATE WOOD on Saturday last, the Lord Mayor and Lady Mayoress each planted a conifer in memory of the event.

WE regret to hear from Ghent that Mr. Aug. Van Geert is very ill.

THE proposed Sutton (Surrey) Chrysanthemum show will not be held as announced, the committee being unable to get a suitable place in which to hold the exhibition.

MR. ALBERT CAIRNS, formerly gardener and steward to Captain Thomas, Carlow, has been engaged as gardener and steward to—Close, Esq., Newtown Park House, Dublin.

A MEETING of the General Committee of the National Chrysanthemum Society was held on Monday evening last, the president, E. Sanderson, Esq., in the chair. The business transacted was of a purely routine character, and included the election of fourteen new members, bringing the role up to 374.

A CORRESPONDENT of the *The Buteman* states that he has seen in one of Messrs. Dobbie & Co.'s gardens at Rothesay, a monster Leek, which is worthy of putting on record. The blanched portion measured 12 ins. in length and 9 ins. in circumference; one of the outside leaves, slipped off and laid out flat, measured no less than 15 ins. in breadth and about 3 ft. in length. Dobbie's Champion was the variety.

THE seventh monthly meeting of the Preston and Fulwood Horticultural Society, will be held this (Saturday) evening, in the Large Room of the "Legs of Man" Hotel, when a discussion will take place on Mr. William Swan's paper, "AN EVENING AMONGST FERNS," read at the last meeting and recently published in these columns.

THE partnership subsisting between Mr. Johu Laing and Mr. J. R. Box, trading as JOHN LAING & CO., nurserymen, seedsmen and florists, at Stanstead Park, Forest Hill, was dissolved by mutual consent on the 30th ult. The business will in future be carried on under the same style and title by Mr. John Laing and his two sons, who have for some time been assisting in the business. Mr. Box, we understand, has taken a business at North End, Croydon.

THE founder of the *Journal of Horticulture*, Mr. G. W. Johnson, died at Croydon, on October 29th, aged eighty-four years. Mr. Johnson was a younger brother of Mr. Cuthbert W. Johnson, author of several valuable works on agriculture and other rural pursuits, and will himself be known to posterity as the author of the *Cottage Gardeners' Dictionary*, published in 1860. Two years later he brought out *The Science and Practice of Gardening*, and subsequently the *History of Gardening and British Ferns*. The first number of *The Cottage Gardener*, subsequently altered to *The Journal of Horticulture*, was issued on the 5th of October, 1848, and for thirty-two years its founder was closely identified with its management.

REPLYING to an address of welcome recently presented to him by the Royal Horticultural Society of Ireland, His Excellency the Marquis of Londonderry said:—"The science of horticulture has made great strides of recent years. This may be seen by a visit to the Botanical Gardens of Dublin, the possession of which must be a source of constant pleasure to the citizens of our metropolis. But I congratulate you most on the many improvements that are already apparent in the art of gardening in Ireland, which I do not doubt are largely owing to the endeavours of the Royal Horticultural Society. A few weeks since I had occasion to visit the beautiful People's Gardens in the Phoenix Park, where I had an opportunity of seeing what enjoyment it afforded to large numbers of all classes. I am confident that those who visit it will benefit much by what they see there, and will derive from it great assistance in their attempts to improve their own small gardens; for it is in this, no less than in greater aims of the science of horticulture, that we should endeavour to seek for improvement."

NOTES ON LILIES.

IN a note on our Lilies, written in July (p. 694 of vol. ii.), I proposed adding a few particulars later in the season. Lilies in the open may be considered over for the year, as only a few chance ones remain in flower. I will begin with what is usually considered the queen of Lilies, *L. auratum*, though some good judges consider *L. speciosum rubrum* in its best form, and others *L. candidum simplex*, have at least equal right to the title. *L. auratum* has, on the whole, succeeded well with us this season, though some beds were more cut than usual by spring frosts. *L. auratum rubro vittatum* was finer than we ever had it before; among our few plants, which have been in the open border since 1881, one had eight and the other seven flowers. This is a truly gorgeous Lily, with its broad stripe of crimson; but after some days, while the flower seems still fresh, the crimson turns to a dull stale claret colour, and then most of the beauty is gone.

The next finest of the family is *L. auratum platypetalum*, of which there appears to be two varieties, one, a variety known as *L. auratum macranthum*, being low-growing. The first *L. auratum platypetalum* exhibited were almost without spots, like *L. a. virginale*; but the species includes all varieties of colour up to pictum. Two small clumps of *L. a. macranthum* were most beautiful, and were much admired; a petal from one of these measured 3½ ins. broad. The bulbs should be planted wide enough apart to prevent their knocking against one another in high winds; ours were not so. Our two finest of the ordinary *L. auratum* both bloomed in the wood at the Weybridge cottage garden. One seemed to dwarf all the flowers about it, one of the petals measuring 7½ ins. long; it was, therefore, 15 ins. across the flower.

In another bed one grew to 9½ ft. in height, and yet was so well proportioned that it looked neither drawn up nor gawky. *L. pardalinum* and *L. californicum* were cut by spring frosts in some beds, and bloomed well in others a few yards off, where the frost-wind had not reached them. *L. speciosum, rubrum* and *album* were very fine, and so were *L. Leichtlinii* and *L. longiflorum albo-marginatum*, or, as I suppose, it ought to be called, *L. longiflorum foliis albo-marginatis*. *L. Szovitzianum*, in good soil, always does well; *L. Hansoni* were moderately good; *L. Kramerii* were fine, and seeded freely; *L. giganteum* bloomed well, but was not very tall; *L. cordifolium*, the Japanese dwarf form of *giganteum*, was cut down by spring frosts in our Wisley Wood, as it was not sheltered from the sun which came after them; in the orchard-house at Weybridge, in a pot, it had eight good flowers on a stem. *L. longiflorum* bloomed well in some places, best in shelter, but failed in others; *L. chalcedonicum* did not bloom well, but the bulbs are strong and healthy; they were in full sun, so I have moved them into a sheltered place; all the *L. marginatum* bloom well, and *L. superbum*. The question as to the relative merits of full sun or shade and shelter for Lilies, especially *L. auratum*, crops up from time to time in the different gardening papers; it is not an easy one to solve, as *L. auratum* often blooms thoroughly well in complete shade, and also in full sun. Rhododendron beds, as I have often before said, are the easiest places to grow it in, and the question of the necessity of sun to ripen the buds is settled by my friend Mr. McIntosh's Lilies, which, themselves or their children,

have thriven for more than a dozen years in the full shade of the Rhododendrons.

I believe the two great points to aim at are to prevent the *bulbs* getting too wet or the *roots* too dry, and especially to keep clear of many tree roots, which dry the soil as well as exhaust it. Rhododendrons keep their roots to themselves, and do not interfere with the Lilies, unless, indeed, they are grown very strong and very close. In our little field of *L. auratum*, in full sun, though with some shelter from wind by hedges, many hundreds bloomed well, some not more than 1 ft. high, with stems not thicker than tobacco-pipes, had two fine flowers; many had one. I have made no mention of Tiger Lilies, they always bloom well. I do not think the species without stem-bulbs, *L. tigrinum jucundum*, is sufficiently known and grown; it is a beautiful form for cutting.—George F. Wilson, Heatherbank, Weybridge Heath, November 1st.

in general outline it is a fair representation of flowers I have grown in past years of Mrs. Rundle, George Glenny, Mrs. Dixon, White Beverley, Mr. Bunn, Lady Hardinge, Mrs. Shipman, Golden Beverley, Princess Beatrice, and "that ilk," the variation being in size and colour according to variety; and referring to my memoranda, I find that the actual dimensions from the lower petals on one side to the lower petals on the other—not measuring the "guard" petals—were as follows:—Mr. Bunn, 9 ins.; Lady Harding, 9 ins.; Mrs. Shipman, 8½ ins.; Golden Beverley, 8¾ ins.; Mrs. Rundle, 8 ins.; Mrs. Dixon, 7 ins.; George Glenny, 7 ins.; and Princess Beatrice, 8 ins. It must be remembered that the foregoing were all solid and symmetrical flowers, requiring very little dressing, and comparatively no "pulling-up" when "cupped"; consequently, when staged, they were nearly as large as when growing.



CHRYSANTHEMUM BLOOM: SHOWING HOW TO MEASURE IT.

JUDGING CHRYSANTHEMUMS.

"A GARDENER" evidently misunderstands my meaning by the word "across"; I use it in the same sense as I should use it were I to tell your readers that it was ten miles "across" the Alps, or two miles "across" the Pennine Range; and if your readers interpret me as saying ten miles *through* the Alps, or two miles *through* the Pennine Range, then it is they who mislead themselves, and not I who mislead them. I observe that "A Gardener" charges me with having used the phrase "8 ins. or 9 ins. in diameter"; if he will carefully read over again what I stated on pp. 90 and 91, he will find that I have not anywhere made use of the word "diameter," and I intentionally avoided using it for the very reason that it is so misleading, although it has frequently been used in past years, and in the sense that I make use of the words "across" and "over."

I send you a reduced sketch, drawn from memory, of what I consider a perfect flower of Mrs. Rundle before it is cut off the plant, and before being "dressed"; and

I have no recollection of having seen blooms of Mrs. Rundle 5 ins. in diameter, and I certainly have never grown one that size; it is very rarely that one of the largest varieties is seen 6 ins. in diameter, without either measuring the guard petals or pulling out straight the properly incurved petals. If "A Gardener" can grow Mrs. Rundle 5 ins. in diameter, and proportionately deep, his agitation for "protection" on behalf of his "fancy" class is unnecessary, for Mrs. Rundles of those dimensions are *strong* enough to protect themselves.

The curved dotted line in the illustration shows the distance "over" and "across" a Chrysanthemum flower, and a straight line drawn underneath the bloom will show its horizontal diameter. I do not "oppose" a separate class for the so-called "fancy" kinds, but I repeat that on the ground of size alone a separate class, in my opinion, is not absolutely necessary. I hope I have now made myself clearly understood.—J. Udale, Elford, Tamworth.

THE AMERICAN BLIGHT.

EVERY Apple grower has frequently noticed knots or bunches of a downy or woolly substance on parts of the stems and branches of Apple trees, especially where any injury has been sustained, or where side shoots or branches have been pruned away in an unworkmanlike fashion, where the cuts have been delivered slanting upwards, instead of slanting downwards, so that the wet has rested at the bottom of the cut and caused decay. By this means cracks are formed, and gradually increase in width and depth. The edges of the outer layers of bark do not join together again, and a thin and tender tissue alone covers the exposed parts. Upon examination of the little groups of wool, it will be seen that they are composed of larvæ, having woolly or downy coverings, actively engaged in piercing the denuded surfaces with their suckers and extracting the sap, occasioning unhealthy and abnormal growths of tissue; extravasation of sap occurs, giving rise to excrescences and warty lumps, which afford shelter and food for the numerous generations of larvæ, until the whole branch is injuriously affected, and its vigour and fruitfulness are materially lessened, by means of the hindrance to the due circulation of the sap; other branches soon become infested, and the small stems, even to the fruit-bearing twigs, are attacked, and after a time they are covered with swellings, which check both leaf and blossom development, and in time cause both stem and twigs to decay. In not a few cases, Apple trees have died after a long and uninterrupted onslaught of these woolly aphides. In very many cases Apple trees might almost as well be dead, as their very life sap is being systematically exhausted by the constant suckings of myriads of larvæ.

It is far too common to find Apple trees in all the Apple-producing counties, whose branches are unsightly from warts and swellings, with the tops of their branches dead or decaying, and whose general appearance indicates extreme unhealthiness, due entirely to the unchecked influences of the woolly aphid. This state frequently is called "canker," and is attributed to over or injudicious pruning, or to unskilful pruning, or to something in the soil or subsoil that does not suit the trees. A little close observation demonstrates that it is quite different from canker, and is simply the effects of insects which have been permitted to increase and multiply for years.

It also very often happens that the bark, branches and small twigs of Apple trees in many orchards are so enveloped by lichenous and mossy parasites that the presence of the woolly aphides is unsuspected.

Young trees are seriously injured by these insects without any special wonder. Their bark is tender and easily pierced by the sharp beaks of the larvæ, and they cannot withstand their attacks so well or so long as old trees. I have seen trees of the sort known as Lord Suffield completely at a standstill, though they were only about sixteen years old, with their branches covered with swellings and swarming with larvæ; yet it was stated persistently that the cause of the evil was canker, and that the roots had got down to something that did not suit them. If a young tree is permitted to be much injured by the woolly aphid, it rarely recovers, and remains stunted, sickly and unfruitful. The Ribston Pippin is very liable to be attacked by this insect, as well as Cox's Orange Pippin, the Blenheim Orange, and other valuable kinds both for dessert and culinary use, whose skins are comparatively tender and not so cased in rugose layers of bark.

In the cider making districts of Devonshire, Gloucestershire, Herefordshire, Somersetshire, and Worcestershire, incalculable mischief is wrought in the Apple orchards by these insects, which increase and work unsuspected amid the lichens and mosses that clothe the branches, and the closely interlaced congeries of boughs and twigs. There is a record that the Apple trees in the Gloucestershire orchards were so attacked by the woolly aphid in 1810 that no cider was made in the county, and it was feared that this industry must be altogether abandoned.

Not only does the woolly aphid attack the trunks and branches of Apple trees, but it infests and injures their roots; also living upon them, and causing excrescences or swellings to form upon them. The injuries caused to old trees by the subterranean attack is not very apparent, though the constant action of series of generations of these insects must in time materially affect the health of the tree, and diminish

its constitutional vigour. It will, however, be easily understood that young trees are more liable to be seriously hurt than old well-established trees with large wide-reaching roots. Very frequently it happens that young Apple trees languish, and do so badly, that it is said that the locality is not suited for Apple growing; whereas, in fact, it is the action of the woolly aphides, both upon their roots or branches, which is occasioning the evil.

The woolly aphid belongs to the genus *Schizoneura* of the family Aphididae, called *Schizoneura* from the peculiar neurulation of their wings. It has the prefix *Lanigera* because the larvæ are covered with wool. It is not unfrequently confounded with the *Aphis mali* which infests the leaves and blossoms of Apple trees, though it is quite distinct in its formation, in its habits, and its actions. The latter insect is furnished with tubercles at the end of its body for the secretion of honey-dew. The *Aphis lanigera* is entirely without these appendages. The perfect winged viviparous insect makes its appearance in the late summer and has been seen as late as September. It is by no means common, as Mr. Buckton remarks, or being very minute it possibly escapes all but the closest observation. It was held by some American entomologists that it never acquired wings, but this is a mistake, as winged specimens have been found in Kentish orchards, and abundantly in France. From this female some oviparous females are produced which are without beaks or rostra, and therefore unable to feed. Mr. Buckton and Professor Riley agree as to this curious formation or malformation which is shared by the winged males. The life of both of the sexes is necessarily very brief. Only one egg is laid by each female and is placed under the bark or in crevices; this serves as a means of preserving the species when food fails, and to spread the plague of insects from tree to tree, though this is also continually brought about by the wind when the trees are pretty close together, which bears the down covered larvæ with its breezes.

Apple trees should be kept from lichens and mosses, which serve as a shelter for the woolly aphides as well as for many other kinds of injurious insects. Lichens and mosses can be killed by throwing quicklime up into the trees over the branches by means of scoops, like flour scoops, fixed to long poles. This should be done in damp weather, in a dripping November fog, and of course after the leaves have fallen. In a few days, if the operation has been thoroughly performed, the lichens and mosses turn rusty-coloured, and are washed away from the branches by the first heavy shower. These lichenous and mossy growths not only harbour insects of various kinds in various stages, but they also injure the trees by stopping up the pores of the rind and checking respiration. These parasites derive their sustenance from the air and do not feed upon their host as is very commonly supposed.

When young trees are attacked by woolly aphides they should be washed over with a mixture of soft soap and quassia, in the proportion of 15 lbs. to 20 lbs. of soft soap and 8 lbs. of quassia to 100 gallons of water. This may be put on with a whitewash brush or a large-sized paint brush, and a "spoke" brush may be used for the forks of the stem and branches. Syringing, with soft soap and quassia solutions by means of large garden engines like those used for washing Hop plants, is of some avail in the case of young trees, and especially those of an upright habit of growth. In the adoption of this process it is difficult to get at the insects on the upper parts of the branches. Still, if the pumps are worked well, and the hose directed so that a good deal of liquid falls upon them from above, their quarters will be made unpleasant to them. Where trees are large, and of wide-spreading habit of growth, syringing will not be of much benefit, and the operation requires to be very carefully carried out.

Paraffin oil, mixed in the proportion of two to three wine-glasses to a pail of water, has been found efficacious worked into the bark and branches with brushes, and, in some cases, put on with garden engines. The oil must be well incorporated with the water, and the mixture should be kept stirred. Vegetable and animal oils, as linseed, whale, and neat's-foot oil, have been applied with good results, chiefly to the stems and lower branches. A mixture of linseed oil and powdered sulphur is successfully used in America upon the trunks and lower limbs of the trees after they have been well scraped.

Infested trunks should be scraped and washed over

with lime wash, made with very quick lime. This will kill all the larvæ, and prevent migration from stems to roots. Hot lime thrown up by scoops in damp weather both removes lichens and mosses where these parasites are, and immediately destroys the larvæ of the woolly aphid. It need hardly be stated that where Apple trees have been long unpruned and neglected, and the small boughs are thickly intertwined, it is most imperative that pruning should be done gradually but thoroughly, for many obvious reasons, and mainly that it will be more easy to stamp out the woolly aphid. —Charles Whitehead, in "*Insects Injurious to Fruit Crops.*"

HOWICK HOUSE.

HOWICK HOUSE is situated about two miles from Prestou, and when it was the home of Mr. T. M. Shuttleworth was famous for its specimen stove and greenhouse plants. Recently it has become the property of E. G. Wrigley, Esq., and early in the present year Mr. Swan, late of Fallowfield, was engaged as gardener. With two names so closely identified with Orchids, it is not to be wondered at that this class of plants should find a home and shelter in the empty houses at Howick, where their actual wants are supplied, and every care and attention bestowed upon them. As will be gathered from the above remarks, the houses were not put up specially for Orchids; but after making some internal alterations in the way of staging and heating, they have been made to answer the purpose.

A roomy span-roofed house, that must have been the home of the "giants," if we may judge by the dimensions of the doors, contains the following, with some scores of other good things. Suspended from the roof in a basket is *Deudrobium formosum giganteum*, with six trusses of five flowers each, and about as many inches across. Large masses there are I am aware of that may give corresponding results, but for the space this plant occupies nothing can surpass it, in my opinion. A small plant of *D. Dearei* had eleven flowers, that will remain fresh from eight to ten weeks; *Cattleya Skinnerii* in front of the entrance has twenty-seven sheaths packed together in a very small compass. I recollect reading of a plant of this, 3 ft. in diameter, being exhibited by Mr. Turner, of Leicester, some years ago; I wonder if it is alive now, and what are its dimensions? *Cattleya bicolor* had fifty scapes, seven flowers on each, but all were rapidly fading. Near by is *C. Sanderianum* that had borne twenty-seven flowers, and *Lælia anceps* with eight spikes. Plants of *Vanda teres* are in good health, and flower freely. Several Australian species of *Dendrobies* are also in this house.

In another structure similar to the above I noticed on the centre stage two or three dozen *Cattleya Trianae* in 8-in. and 10-in. pots, with ten spathes on a plant, two with extra dark purple foliage characteristic of the variety. On the side tables are numerous specimens of *Cœlogyne cristata*, the largest 3 ft. in diameter; and the better variety, *C. c. Lemouiana*, is represented by four nice plants; other conspicuous plants are *Lælia autumnalis*, well-flowered; and *L. majalis* and *albida*, full of promise. In another compartment are numbers of *L. Perrinii*, in good form, with numerous scapes of five flowers each; also specimens of *C. Trianae* similar to those already referred to, which combined, contribute 300 sheaths; and amongst those that have flowered, Mr. Swan declares, are some of the choicest varieties he has ever seen. These will be succeeded by 500 scapes of *C. Mossiae* and scores of *Mendelii*, with other intermediate-flowering members of the family, providing flowers for inspection and cutting every week in the year; *Lælia elegans* is always in flower if others fail to provide a supply. In this house, in pans hung from the roof, are *Cattleya Sanderiana*, *C. aurea* and *C. Regnelli*, on a raft in a flat position; *C. Lawrenceanum* is represented by three healthy plants, one with four sheaths. Most of the *Cattleyas* have been potted during the present year, and the surface of the potting material is already covered with healthy roots, and in some instances have extended half-way down the outer side of the pots. They and their companions have been grown without shade, and the result has been satisfactory; but, as Mr. Swan remarked, it is doubtful if some things would not have been better with it, notably the *Deudrobies*, and others that are suspended from the roof, but grow on trees at home, the leaves of which provide a shade to screen them from the rays of the sun.

The cool house is on the north side of the garden wall, and is too much shaded by a lofty building in front, so much so, that light is intercepted; it is 36 ft. in length and 12 ft. in width, and the plants are arranged on a rising open wood-stage at the back and on a broad shelf in front. Specimen *Odontoglossum Alexandrae* in 8-in. pots occupy the upper part of the back stage, also *Oncidium macranthum*, which promises a fine display in its season; and as the house is pretty well filled, your readers will conclude that there are hundreds of other good things besides, but as they were not in flower I pass them over. In the East India house I noticed most of the varieties of *Phalænopsis* growing in teak baskets suspended from the roof, as also is *Cattleya superba*; in a shady corner is a collection of *Thunias*, and at the end, near the entrance, *Cypripedium Spicerianum* with twelve flowers, which Mr. Swan thinks much of.

A small span-roofed house has the centre stage filled with various sorts of *Pelargoniums*, single and double, in full flower, and the sides with extra good plants of *Cyclamens*, which, though of no particular strain, promise any amount of flowers to cut from. The Rose house contains a selection of Teas on the south side, with fine plants of *Cheshut Hybrid* and *Maréchal Niel* trained under the roof over the centre bed, which accommodates plants that do not object to shade. The conservatory, which is a simple structure attached to the mansion, has a stage or table a few feet wide along the front and ends, and is at the present time filled with *Chrysanthemums* just at their best. The plants are from 4 ft. to 5 ft. high, for if higher the blooms could not be inspected; each plant has about six large flowers that would pass muster at many an exhibition, and the foliage is clean and healthy. Some would consider them too early to be appreciated, but to Mr. Swan they are as serviceable now as at any time of the year, and as soon as their season is over he can, if he thinks fit, fill a structure twice as large with much choicer plants in flower. —W. P. R.

PLANTING TREES AND SHRUBS.

WE noticed last summer, during the prevalence of drought, that, in several cases shrubs had been planted upon raised mounds of earth, some of them heaps of gravel with soil thrown over them, with the result that the soil about the roots was very dry, and they presented to view a very doleful appearance. This is a mistake that is too often made, and people wonder why the plants die. Let planters avoid this error, and refrain from planting on raised banks or mounds, unless in very exceptional cases, such as low, damp, swampy spots. Really, unless it is in very wet seasons, very little of the fertilizing rain reaches the roots of trees planted on mounds, as the sloping sides of the mound throw off the water as it falls away from the roots of the trees to be wasted in the surrounding ground. Plants thus deprived of their fair share of moisture never thrive well, and in dry summers often die. If anyone will take the trouble to lift a tree in such a plight, the soil about the roots will be found to be quite dry and parched. And it is a good plan to scoop out a kind of shallow basin round young newly planted trees, by slightly elevating the soil at a little distance round the stem, thus enclosing it inwards towards the plant. In this way, the rain as it falls is directed towards instead of being conducted away from the roots. In planting raised banks for edges and screens, let what has been stated above be borne in mind, and let the top of the ridge in which the plants are set be hollowed a little, so as to incline the falling rain towards the roots.

When a tree is planted on a lawn, or any other grassy site, do not allow the herbage to come close up to its stem, but cut away a circle of the turf of larger or smaller diameter, according to the size of the tree. As a rule—of course, there are exceptions—the roots of a tree may be said to extend as far as the horizontal branches, and that should be—until a tree has grown large—the measure of the circle that is to be bared of turf, and left open to the beneficial influences of the air, rain, and sun. Then, in the case of trees planted in unturfed soil, similar care is necessary not to allow rank and tall weeds to grow within a certain radius of the stem. Many a young plantation has been ruined by the encroachment of luxuriant weeds, which monopolise the nutriment of the soil, prevent the access of rain and sunlight, and choke the foliage of the lower branches of the trees.

As a rule, trees—especially conifers—appear to dislike coarse manure about their roots; but decayed turf, rotten leaf-mould, and, indeed, any mixed refuse or rubbish, especially if of a different nature from the soil in which the plantation is being made, assist to form composts which greatly stimulate the growth of newly-planted trees. If a plantation be made in stony soil there is no necessity for removing the stones. To many trees they are beneficial rather than otherwise, and to very few indeed do they appear detrimental. Experiment has proved that the removal of stones from stony land impairs its fertility to a remarkable degree at least for some years.

Persons who buy trees rarely examine them closely to see they are what is required. In the purchase of grafted or budded trees, see that the union between the stock and the bud be properly effected. Sometimes—and this chiefly occurs among trees of continental growth—a slim graft is embedded in a thick bludgeon of a stock out of all proportion to it. Sometimes it is a vigorously-shooting species that is wedded to a slow-growing stock, which cannot furnish the quantity of sap required. In both cases failure, sooner or later, is the result. In the case of budded plants, it is the stock that is generally the most delicate part. Unless it is healthy and well stored with sap, the bud, however vigorous at first, will gradually decay.

In the case of choice and delicate trees and shrubs, do not as some do, from a mistaken feeling, select the lowest and most sheltered spots to plant them in. This is often done, however, in the case of plants liable to injury from the cold of our climate. Experience proves that in valleys and inclosures they suffer more from frosts than in more elevated and open situations. The protection required by plants that are affected by our climatic conditions, is rather the screening of them from the bitterness of our north-east winds in spring, than shutting them out from healthy summer breezes, in closely secluded nooks and places. Such plants are stimulated into early growth in spring, and late growth in autumn, and, in both cases, the tender sappy shoots are unable to resist frost. In more open and exposed situations the growth is shorter, but the wood of the shoots is better ripened, and, therefore, better able to withstand cold and exposure.

GARDENING NOTES FROM SCOTLAND.

Storing Strawberries.—The forcing of these will now be claiming attention by those who have means to meet their requirements, others will reserve their stock for a few weeks to come, as very early forcing is not now so fashionable as it once was. What is of the greatest importance at present, is the storing of the pots, to keep the plants in the best of health till they are wanted during the forcing season. For the sake of system and convenience, we would put them in consecutive lots, which could be removed under glass, either to frames and pits to start them with gentle bottom heat, or to shelves near the glass in a mild temperature also. We notice that many extensive growers force only one or two kinds, and we think such a practice a wise one; where plants have to be planted out after being forced, they are not so likely to get mixed when the kinds grown are few. For some weeks past drizzly weather has prevailed, mild enough, but not favourable to ripening the crowns of the plants; in the north, such weather is more adverse to success than in the south, as in the former maturation is much later. Opinions vary as to the best method of harvesting the plants—were we to put them where we liked and employ what means of protection we considered best, full south would be the position, the pots plunged in ashes to the brims, and frames placed over them on which lights could be placed at pleasure; but coddling the plants is productive of much evil. Few can spare glass protection for Strawberries, and, therefore, adopt that means of protection which circumstances allow; a cool orchard house would suit, or a framework of stakes and rods, to throw mats or canvas over during severe weather. Snow, when melting, is better thrown off, and water should never remain about the plants. The stacking of the pots on their sides—bottom to bottom—and Fern, straw, hay or ashes packed between the pots, leaving the plants exposed, answers fairly well if

the plants are not allowed to become dry, as happens occasionally after a dry winter, and when the sun comes out bright in February. We have seen large numbers of pots placed against a wall sloping outwards at bottom; the chief object is to keep the roots healthy and intact till fruit is ripened. In case of a sudden change of weather, it would now be well to take steps towards the storing of Strawberries in pots.

The Forcing of Roots such as Asparagus, Chicory, Sea Kale and Rhubarb, may soon have attention. Asparagus with well-developed crowns may be lifted, cleared of a large portion of the soil, and packed on a gentle hot-bed of leaves, tan, well-sweated manure, or any other safe heat. A little soil above and below the roots, with a watering to make the whole fairly moist, are the chief wants of the roots at present. Top-heat should not be very high (55° to 60° is sufficient), otherwise lanky produce would be the result. It is difficult in northern parts to get roots and crowns matured early enough to begin forcing from the middle of October to the first of November, but early positions and light sandy soil does much to hasten ripening; with ourselves, the tops are yet almost green.

Chicory is not so generally cultivated as it deserves; it is so wholesome, and when blanched white makes up for the absence of Lettuce or Endive. The lifting of roots, as many as may be required to give a fortnight's supply or thereabouts, and the placing of them in dark close quarters, closely together, where air and light are excluded, covered with soil and the tops uppermost, are their chief wants. Watering is not absolutely necessary at first, but an application of tepid water, say 75° or 80°, will warm the soil and start upward growth from the crowns, which are fit for use when 4 ins. to 6 ins. long. A few roots may be taken in every few weeks; if they are strong a continuous supply can be had for a number of weeks from the same roots.

Sea Kale is forced in a great variety of ways, many still preferring to cover the crowns with warm leaves, or a mixture of leaves and manure; pots with covers are first placed, then the fermenting material over all. It must be carefully watched, as when over-heating takes place, the crowns are quickly destroyed. Roots placed closely together in soil, as described for Chicory, in close dark structures of any kind, will soon sprout into growth and give supplies. Boxes with warm manure in them, or placed in a warm position and filled with roots is a simple method of raising Sea Kale. Numerous are the ways of forcing Sea Kale, but blanching thoroughly must always be kept in mind. Rhubarb may be forced in the same manner, and it generally receives similar treatment, but heat and moisture, with the addition of air, improves it; Prince Albert is a good early kind.—*M. T.*

Quality of Grapes, &c.—It might be considered inconsistent with the ordinary rules of courtesy were I to omit any reference to the well-meant remarks of "Fair Play," at p. 135; please, therefore, permit me to say that I should be sorry indeed to put the case as he suggests, or, as he says, "supposes." The exhibition to which "Fair Play" refers was altogether an excellent one, and well worthy of the men whose high-class exhibits represented their "horticultural" skill so well. The collection referred to contained some excellent produce, quite different to what I am "supposed" to represent them; and, as far as my memory serves me, many items in the second prize lot of this class were of special merit, and such as one would expect from the exhibitor, who has so often distinguished himself as a cultivator, and given such tangible proof of his ability to the world by often tabling produce of such excellence, as to remove him above all quibbling or opinions enveloped in ambiguity.

There are opinions retained by "Fair Play" which are foreign to our own, and he has made remarks which we cannot endorse; but with the last six lines of his letter we heartily agree. We have had two communications sent us bearing on this subject, but will let them rest, as it is far from our wish to place irrelevant matter where it should not exist.—*M. T.*

Scottish Horticultural Association.—At a largely attended ordinary meeting of this association, held at 5, St. Andrew Square, Edinburgh, on Tuesday night, Mr. Alexander Milne, president, in the chair—Mr. William E. Dixon, associate of the Botanical Society, read a paper on the Eucalyptus, or gum tree.

It was, he said, indigenous to Australia, and from it were derived timber, paper, medicines, &c. About 200 distinct species were known, and a large number of varieties also; Mr. Dixon described many of these, and produced specimens of the branches, flowers, &c. It was, he added, discovered more than a century ago, but only a limited number were found suitable for the British climate. Mr. A. Laing, Salisbury Green, Edinburgh, also contributed a paper, the subject being "Hardy Shrubs suitable for forcing." At the outset, he said, the ever-increasing demand for a constant supply of flowers throughout the year, either for cutting or for the decoration of conservatories and mansions, has led gardeners and growers for the market to press into service a good many hardy flowers and flowering shrubs that are capable of being forced into bloom, when flowers out of doors are scarce, or not to be had at all. The rest of the paper treated of such plants, and pointed out how they might be grown. Both contributions were discussed, and votes of thanks were awarded to the contributors.

It was intimated by the President that various gentlemen in Edinburgh, including Mr. M'Ewan, M.P., and Mr. Robert Wallace, M.P., had given donations towards the fund for the promotion of the association's first Chrysanthemum show, to be held in Edinburgh in December. Amongst specimens sent for exhibition at the meeting were a new Chrysanthemum, named Mrs. John Laing, from Mr. Rushton, Clerwood, Corstorphine; a splendid lot of Chrysanthemum blooms from Mr. James Carruthers, Hillwood, Corstorphine; a collection of early-flowering Chrysanthemums from Messrs. Methven and Sons; and a new seedling Grape from Mr. Fowler, gardener to the Earl of Stair, at Castle Kennedy, Stranraer.

THE AMATEURS' GARDEN.

THE FRUIT GARDEN.

If it is intended to add any fruit trees to the garden, or if it be desirable to transplant any of those already in the collection, the present is an excellent time for the operation, or as soon as the leaves have fallen. Avoid very wet weather, however, if possible, as when the soil is in a sodden state, it is often forced into a muddy condition, that, in the case of heavy clay land, is most injurious to fruit tree roots, as they are, perhaps, crushed into a roughly dug hole, and the wet earth crammed over them, crippling their action and resulting in stunted and imperfect growth, from which, probably, the trees never recover. In the planting of all kinds of fruit trees, it must be remembered that too much care cannot be exercised in spreading out the roots evenly; and if the soil at the time of planting be either too wet or too dry, it is very hurtful to the trees.

When preparing the sites for trees, make holes sufficiently large to admit all the roots without crowding, spreading them so that they radiate regularly from the trunk of the tree at a moderate depth below the surface. It is a bad plan to place the roots of trees very deep when planting, as they have always sufficient tendency to take a downward direction, but the depth at which the roots are to be placed must be determined in a great measure by the character of the soil; in heavy land they must be only covered a few inches in depth, but in light land they can be safely—indeed preferably—placed much deeper.

The object is to keep the roots under the control of the cultivator; as while this is done it is comparatively easy to restrain excessive luxuriance and preserve a healthy fruitful balance of root and branch growth. Whenever it has been noted that trees against walls or elsewhere are too vigorous and unfruitful, one of the best antidotes is to lift and root-prune them, re-laying the roots as advised in the general planting. Amateurs occasionally fall into the error of resorting to hard pruning in the case of trees that make too strong a growth, under the impression that by removing so much wood the trees will be weakened. The result is quite the reverse if the roots are left untended or checked, and the following season the growth is more gross and less fruitful than before. Inducing a fruitful habit when trees have been long neglected can only be effected gradually, but much may be done in one season if the work is judiciously performed in the manner indicated.—*Scolytus.*

PLANTS FOR SPRING GARDENING.

Who is there among us having a plot of garden—however small it may be—that cannot, in some way or other, embrace at least a few of the many floral beauties of early spring? The answer, I think, is clear, and in the course of a few brief practical remarks, I will endeavour to make the way equally obvious. There is no department, probably, in outdoor gardening calculated to provide such an unrivalled display of flowers, which, for the greater part, are so overflowing with loveliness, so inimitable in effect and yet possessed of that innocent and unassuming beauty which finds so many admirers; and more than this, the great majority of the plants which I shall include under this head are such as are most readily increased, either by division or by seeds, or, perhaps, both; and it is these facts in particular, that must eventually make spring gardening as universally adopted as the present annual system of summer bedding.

With the vast amount of material at disposal, put to judicious use, and at the same time making use of the right plants, by which I mean such as will not interfere with the summer arrangements, there is no further excuse for the many bare and unseemly barren beds, which too often in large gardens, as well as small, make gloomier still the dull dark days of approaching winter. For are not surfaces of greenery even more becoming and life-like, to say the least, than the too often sombre look of the upturned sod? Still I know full well that spring gardening has its advantages and disadvantages. The former, in my humble opinion, are in a great majority, and which I shall endeavour to faithfully represent to your readers; but being a lover of fair play, I see no reason why the latter should not be overhauled in its turn, that we may endeavour to discover, if possible, their cause and cure.

Where any certain plant or plants—or, taking it as a whole, spring gardening—is spoken of in disparaging terms, it has been my invariable experience that the wrong material has been employed, or that the bedding-out had hardly been complete when the plants should really be expected in bloom. No good results can ever accrue if work be not done at its proper time, is my dictum in such a case as this; and again, this or that plant “flowers much too late to be of service to me for spring bedding,” and here I always remark, in response to the latter statement, “By all means avoid it.” This should be done for two reasons; first, because there is abundance to select from, and second, nothing is more disappointing than to have a bed just as you require it for the summer occupants to be really at its best, and which may, had it been planted six weeks earlier, or another variety chosen in its stead, have made a marked feature among the other occupants of the spring garden. Therefore, the first consideration of all who would engage for the first time in spring bedding arrangements, should be early planting; second, a rigid selection of plants that are strictly spring-flowering; thirdly, a judicious arrangement of colour, which, if carefully blended, will leave you as the result a garden wrapt in perfect harmony throughout.

But now for a brief enumeration of those plants calculated, at the least trouble and expense, to make our gardens gay with the beauties of spring, the advent of which we all look forward to with smiling faces. Few plants then, perhaps, are more popular than the

DOUBLE DAISIES,

Which are among the very simplest to manage, and, at the same time, indispensable in all gardening arrangements, owing to their adaptability for lines, for masses, or for belting a ribbon-border. It is too late now to give advice respecting the management of these plants, which should have been planted out singly in rows as soon as they had done their work of flowering in spring, so that by the time they were wanted again they would be forthcoming in strong established plants, likely to produce an abundance of flowers in their season. Common-place plants though these be, it must be borne in mind that they are greatly assisted by a generous treatment, as, indeed, are all such plants if the best results are to be attained. Planted thickly together, these constitute a very showy, and, at the same time, one of the most floriferous, groups among spring flowers. The principal colours are represented in pure white, of which Snowflake and The Bride are excellent kinds; while in crimson we have the old double and Rob Roy as the best, and conspicua and

rubens form two other good kinds in the high-coloured section. The pink kinds best known to me are The Crown and prolifera, both excellent, large-flowered and equally profuse as any of their race. Lastly, among the Daisies, I would note the variegated form known as aucubæfolia, so very distinct from all else in its golden mottled leaves. It is very effective when in good form, and in those places where it thrives with the general freedom of this group, it should be encouraged to its fullest extent. It may be well to add that there are many really good forms of double Daisies only known locally, and which might well be sought out and brought to the front.

WALLFLOWERS.

For another plant for spring beds let us take the Wallflower, whose ever welcome fragrance is enjoyed by all. This may be gleaned by the immense breadths which are to be found of this plant in the neighbourhood of some provincial towns, grown either for plants for bedding purposes, or for their fragrant spikes of flowers, which find so ready a sale in early spring in most of our markets. Few plants are more easily raised from seed, and by making a selection annually, and saving only those of dwarf, bushy and compact habit, as well as with free-flowering qualities, you may, in time, have a strain equal to any in existence. Seed sown in June or July of the present year should, if duly transplanted in good soil, be in strong bushy plants fit for immediate transferring to the beds in which they are destined to flower. Of dark varieties, Tom Thumb is very dwarf, freely flowered and compact. Harbinger is somewhat too tall, and better suited for the back rows. Of yellows I know no strain to equal the Belvoir Castle, a rich telling golden self of sterling merit. It brightens any garden in early spring; and always has a freshness about it, so desirable among these plants, grown as it is at Belvoir, where it abounds in quantity, and where the strain is kept remarkably true, owing to the continuous outlook which is kept up for *rogues*, which are very rarely seen among Mr. Ingram's plants.

While among the Wallflower family, I would call especial attention to two worthies, which, though beautifully adapted for spring beds, very rarely find their way into them. I refer to Cheiranthus alpinus and C. Marshalli, the former having lemon-yellow or sulphur-coloured flowers, and the latter rich deep orange. These two very rarely enter into any bedding arrangement of spring, and it would be difficult to find two better suited. Both are dwarf—not more than 8 ins. high—and possess the same bushy habit, which, in the case of the first named, is really compact tufts or cushions smothered with its pleasing flowers. These not only deserve encouragement, but should find their way into those gardens in particular where this class of gardening is made a leading feature.—J.

(To be continued.)

CHRYSANTHEMUMS ROUND LIVERPOOL.

THE season has now arrived for our Autumn Queen to hold her annual levées, so that a few words respecting Her Majesty's present appearance may not be unacceptable. It is a momentous question to growers whether she will answer the expectations that have been formed of her, and I regret to say the majority of the admirers who pay her court in this district are giving vent to expressions the reverse of approval. The flowers of many varieties are wanting in size and depth, and, what is more to be deplored, are “damping off,” which in some cases has almost ruined the hopes of the cultivators.

The collection of Sir Thomas Edwards Moss, Bart., is a large, and I believe a satisfactory one at Otterspool. Comte de Germiny exceeds its diameter by its depth; Elaine, Boule d'Or, Princess Beatrice and Inner Temple, are especially noticeable. Of new varieties Maiden's Blush and Mons. N. Davis are promising, the flowers being somewhat early for this district, but are well timed to sustain the reputation of the grower, Mr. D. Lindsay.

Although not an exhibitor, Mr. Thomas White, gardener to R. Rankin, Esq., Fulwood Park, has amongst a well-grown lot Madame Feral and Salteri, two new varieties of a very pleasing colour, the former especially promising to be an acquisition. At West Derby, under careful shading, Mr. F. Roberts, gardener to W. D. Holt, Esq., has the earlier flowers of the later varieties, such as Princess of Wales, Mrs. Heale,

Jardin des Plantes, &c., arranged close to the glass, so as to get the benefit of all the light possible. Yellow Dragon, Peter the Great, and Hero of Stoke Newington, with those named above, are promising to finish well. Mr. J. Wilson, gardener to J. E. Reynolds, Esq., has some fine flowers, both for exhibition and for general decoration.

At Camp Hill, as in former years, we had the pleasure of inspecting a large collection, including many fine flowers, such as of M. Freeman, a new variety, of a most pleasing light rosy violet colour, and of a size that will give it a position on the exhibition table; and Cullingfordi, a variety held in high favour here, and deservedly so for its splendid colour. Mr. J. Jellicoe complains loudly of the damp, many of his finest flowers being lost, although the plants are arranged in light airy houses. Soleil Levant, Princess of Wales, and Nil Desperandum are in strong form. At Aymestrey Court, though but a small number are grown, H. J. Robinson, Esq. has some extra fine flowers—Madame de Sevin, 6½ ins. in diameter and nearly as deep; M. Harman Payne, large; and E. Dale, fine. Mr. A. Eaton, the gardener, has a splendid variety of Odontoglossum graude, with flowers 6 ins. across.—W.

WATERING WINTER-FLOWERING PLANTS.

VIGILANCE is always necessary in plant growing and more especially during winter. Presuming that all tender plants, such as Bouvardias, Pelargoniums, Begonias, Fuchsias and all other rapid growing kinds are safely housed, one of the most important things is the watering, as in the proper watering of plants depends to a material degree a successful crop of flowers. Yet watering, as a rule, is done in a careless, slipshod manner, on the principal of what is sauce for the goose is also sauce for the gander. This is much to be regretted, for, depend upon it, if a man knows not how to water a plant he never can grow one. It is a notorious fact that the perfection to which Roses have been brought is in a great measure due to a better understanding as to watering. Important, however, as watering is with all its vital bearings, there is no rule which can be implicitly followed in all localities alike, as where soil is particularly light and sandy, plants require a great deal more water than where the soil is heavy and tenacious, so that “how to water” is not only a study, but it requires experience and forethought to carry it out so as to obtain the best results.

One thing should always be borne in mind. When a plant is dry it should be well and thoroughly watered, and repeated as often as the plant becomes dry. I have seen it advised and recommended to water cutting-benches every morning—Carnation-houses twice a week by one authority, and by another not oftener than twice a month. I have seen it stated that Roses should be syringed every day and watered twice a week, all of which, I have no doubt, were recommended in good faith, from the fact that such treatment had been successful with those who recommended it. How many are there who could implicitly follow any written instructions and make a success? Transfer the very best growers of either cut flowers or plants from the east to the west, or *vice versa*, or to a place where the component parts of the soil are entirely different, and they would have to go through a season of new experience combined with more or less failures. The young men who are now being instructed in the mysteries of the craft would do well to study the watering of plants as being a primary question; let them be made to know the difference between watering a plant twice a day, when it only requires it twice a week, and the watering of a plant once in three days, when it should be well watered every day. Crippled flowers, imperfect development and weak colouring nine times out of ten is from this cause, rather than from slight variations in temperature. Once more let me repeat, that if you do not know how to water you do not know how to grow.—John Thorpe, in *American Florist*.

RASPBERRIES IN NOVEMBER.—It may interest some of your readers to hear that I have this week gathered several bunches of ripe Raspberries in my garden. The berries were nearly equal in size and quality to those gathered in the summer; there are also a quantity of the leaves still on. The variety is the Filbasket, which does better with me than any other sort.—William Pinny, Harlstone, Northampton.

OAKHOLME, SHEFFIELD.

THE beautiful residence of Thomas Wilson, Esq. is situated in the western suburbs of Sheffield, on a commanding eminence overlooking the Porter Valley, and within a few minutes' walk of the Sheffield Botanical Garden. Oakholme is one of the noted plant-growing establishments of the district, and for beauty of situation, neatness of the appointments, perfect order and high-class cultivation, has a charm for the visitors that is all its own. The closely shaven lawn, bordering the carriage drive leading up to the mansion, is dotted with choice Conifers and other trees, and on the western front is a level plateau, which comprises the flower garden, a prettily designed series of beds, planted out in the carpet-bedding style, bright and effective, and devoid of the flatness that usually characterises this style of decoration.

North of the mansion is a very handsome range of plant houses, the whole being of attractive design, admirably constructed and perfect in every detail. Entering the range from the rear, the visitor passes through a Fernery, planted in the natural style with choice Ferns and large-leaved Begonias, &c., into a three-quarter-span-roofed structure containing a very healthy and well-managed collection of Indian Azaleas. Another step or two and we are in the Camellia house, which contains a beautiful lot of dark leathery-leaved Camellias, a choice assortment of hybrid greenhouse Rhododendrons, which are much appreciated, being always in bloom, and one of the finest specimens of *Rhododendron Veitchii* that it has ever been our good fortune to see. The plant is trained against the back wall, and covers a space of 120 ft. super. It is in perfect health, and when in flower must be worth going a long journey to see. Leading out of the Camellia house is the structure devoted to cool Orchids, the collection of which is very fine; these, like all the other plants in Mr. Hannah's charge, plainly showing that they have the loving care of a master hand. The plants are all in robust vigorous health, and the *Odontoglossums* in particular gave promise when we saw them a few weeks ago, of a grand show of bloom. Plenty of air, plenty of water, and the most scrupulous cleanliness, seemed to be the leading features of Mr. Hannah's treatment.

Returning to the front of the Camellia house, which forms the western end of the straight range, we get a view through the various divisions to the other end, and, certainly, anything more pleasing could scarcely be desired or realised. Next to the Camellia house comes a small Orchid house, containing some beautiful specimens of *Odontoglossum vexillarium*, *O. Alexandræ* and *O. Pescatorei*, all choice varieties, mixed with *Gloxinias*, *Eucharis*, &c.—a bright little floral picture. The central division comes next, and overhead, strained below the roof and the length of the compartment, are eight wires, clothed with red and white *Lapagerias*, from which the blossoms were depending in the utmost profusion, forming festoons of exquisite beauty. On the floor beneath were handsome specimens of *Camellias*, *Phormium tenax variegata*, and other handsome-flowering and fine-foliaged subjects; from whatever point

of view it may be seen, the interior of this house is charmingly pretty. Next in order is a small stove, with some showy varieties of *Hibiscus* on the back wall. On conveniently placed shelves were some fine *Calanthes*; and on the staging below among a pretty lot of small handsome-leaved decorative plants, we noted some pretty seedling *Crotons* raised between *C. Weismannia* and *C. Veitchii*. The next division contains another set of Orchids, a select gathering of *Dendrobies*, *Phalenopsis*, *Vandas*, *Saccolabiums*, *Cypripediums*, &c., intermixed sparingly with fine-foliaged plants, and every specimen a model of neatness and good health. To this succeeds another stove, the end house of the range, of which we give an interior view. Here hanging from the cross ties were beautiful specimens of



PLANT STOVE AT OAKHOLME, SHEFFIELD.

Nepenthes Hookeriana and other species; while on the side stages were specimens, large, medium, or small-sized, and all perfect in form and development, of *Crotons*, *Dracenas*, *Palms*, *Cycads*, *Phyllotænium Lindeni*, *Pandanads*, *Adiantum Farleyense*, *Anthuriums*, *Alocasias*, *Marantas*, *Ixoras*, &c., the whole forming a casket as it were of the most beautiful of nature's gems.

The whole of the houses are models of good taste in design, admirable as plant-growing structures, and perfect in the arrangement of their contents. Overcrowding is studiously avoided; every specimen, large or small, has space to grow and to show off its individual beauty; and every plant, we may say, was as perfect as a clever cultivator could get it. To a gentleman like Mr. Wilson—who loves his plants and likes to see them in a high state of perfection—this is the system to follow, grow only the best of their kind and give them all room to do justice to themselves.

A considerable collection of *Chrysanthemums* and other subjects are grown in the small kitchen garden, and remarkably well grown too, but we think we have said enough to show that both Mr. Wilson and his accomplished gardener have much reason to be proud of their very beautiful collection.

ZONAL PELARGONIUMS FOR WINTER-FLOWERING.

PROBABLY few things are more attractive at this season of the year than a good batch of *Pelargoniums*, arranged in a house with their different colours well blended together; common though this class of plants appears to be, they are none the less appreciated for

the numerous new shades of colour obtained during the last few years, and most people still regard the *Pelargonium* as one of the most useful and easily grown plants in cultivation. During the dull months of winter a nice show of flowers can always be had, provided a light dry house is allotted to them, and a little fire-heat is available. Some people prefer autumn-struck cuttings, others strike at the beginning of the year. I prefer plants struck late in the autumn, and kept gently moving through the winter in small pots in a light position, as I think these make shorter jointed and finer growths than those struck in the spring. They may be shifted as early as is convenient in the spring (March being a good month for the operation) into 6-in. pots, using a good sandy loam and potting very firmly; the cooler they are kept the better, and as the days get warmer, gradually harden them off, so as to admit of their being plunged out of doors in their summer quarters as early as possible. A sunny position is most essential to their making a short and sturdy growth, and by plunging them in ashes, watering will be greatly reduced when the pots get filled with roots. Any strong or tall growths may be stopped, the object being to keep the plants dwarf and bushy.

When the pots get filled with roots they may be assisted with a little manure water, and an occasional drop of soot water will help to rid the pots of worms, and also benefit the foliage. It will be found advisable to

raise the pots occasionally, as, if they are plunged on the bare ground, they often root through the bottom of the pots, and, if not lifted occasionally, when taken inside the foliage is liable to fall. All blooms must be removed as soon as they appear, until about the middle of September, when all others may be allowed to remain, and assisted well with manure water. As soon as the cold weather approaches, arrangements must be made for housing, the lightest and airiest position being afforded them. A moist atmosphere will be most beneficial for a few days until they are in flower, when the house must be kept more dry and airy.

As the dull weather comes on, care must be taken to avoid the damp, and all decaying petals kept carefully removed from the trusses. The double-flowered varieties will need special attention, as they quickly damp off if decayed portions of the flowers are allowed to remain. A temperature of 50° to 55° will be found to suit them best, and on dull damp days a little fire-heat may be

applied with advantage. With this treatment a nice show of flowers may be kept up all through the winter, and, as the plants get past flowering, they may be stored away in frames, and planted out in borders at the bedding season.

Plants, if cut down when flowering is done, and placed in a Vinery to break, and afterwards taken out and repotted in the same sized pots, will be found to amply repay for the trouble. It will be necessary to afford them a nice position, and to give them every encouragement, and they will again yield a good show of flowers in a short time. If large specimens are wanted, they may be potted on again as needed, and will make large plants by the autumn. I, however, prefer plants in small pots, struck annually, as they are more useful for decorating purposes; in fact, they may be used for almost anything. It is almost useless to attempt to give a list of varieties; I will, however, mention a few that may be relied on as good sorts for winter work.

Double-flowered Varieties.—White Wonderful, Alba perfecta, Amelia Baltet, Souvenir de Carpeux, Vesta, Madame Thibaut, Emile Lemoine, Wonderful, Madame Maurice Aubery, Comtesse H. de Choiseul, Général Farre, Lucy Lemoine.

Single-flowered Varieties.—Eureka, White Vesuvius, Empress of Germany, Henry Jacoby, John Gibbons, Mrs. Leavers, Master Christine, Hebe, Vesuvius, Lucy Bosworth, Edith Pearson, Dr. John Denny.—*Wales.*

STOKE-HOLES AND HEATING BY HOT WATER.

I AM very glad to see that your correspondent, "Hortus," has brought up the question of the stoke-hole in last week's impression. This, in conjunction with the broader question of heating glasshouses by hot water, is one well worthy of discussion in the columns of THE GARDENING WORLD, and I hope it may be taken up in earnest by someone having full opportunities of thoroughly testing the subject. The reason for this is, that having taken part in a discussion on the question some years ago, in which I held, along with others, the opinion expressed by the originator, that a continuous rise in the flow-pipe throughout its whole length, was not only unnecessary but an evil, so much irrelevant matter was introduced that the discussion was stopped.

Hot-water engineers have a theory that it is almost, if not quite, necessary to sink the boiler by excavating a deep stoke-hole, in order to have the rise of the flow-pipe on a slow gradient up to its extreme length, which is its highest point. This continual rise they hold is the best, if not the only way of ensuring perfect circulation in the pipes. This is theory, and it is held on their part that what may be correct in theory must also be correct in practice. But all practical men, that is, the men who have the work to perform, not those who hold the theory, know what a nuisance these deep stoke-holes are in many cases, leaving the expense of them out of the case altogether. In the progress of the discussion referred to, it was proved on several points that the engineers were wrong in both theory and practice, and, so far as it went, the consensus of opinion and practice was decidedly against them. Instances were then given of the different apparatus working on the same principle as that quoted by "Hortus," and which were giving entire satisfaction to those who had them in use, and their evidence completely upset that put forward in defence of the continuous rise in the flow.

I hoped at the time when the different systems of boilers and fittings were on their trial at the late exhibition at Liverpool, that some attention would have been given to this point by the judges, but if any notice has been paid to it I have not yet seen any mention of it. Considering the importance of the principle, and the expense and annoyance very often incident to these deep stoke-holes, I should, for one, be pleased to see the matter set at rest.—*R. Stevens, Paston.*

I QUITE agree with the remarks of your correspondent "Hortus," at p. 133. I am sure it would be a great relief if some means could be found for dispensing with deep stoke-holes. I, for one, am troubled with one which is 11 ft. below the ground level, and until lately we had to stand on two bricks to get to the fire. At the present time water is running in through the wall

as though it were a sieve; but we are not quite so much troubled in getting to fire-up now, as I had a well sunk in the floor and a pump put in, which lands the water outside to be carried off by a drain. "Hortus" speaks of stepping over his shoe-tops into these water-traps; I can tell him of a worse case than that. When an apprentice, I was going round my fires one cold winter night, and stepped very nearly up to my arm-pits in a stoke-hole, and got such a fright I shall never forget; it cooled my courage, I can tell you. The stoke-hole in question was built by a Cheshire firm of horticultural builders, and I hope they will not forget to put a drain to the next one they make.—*T. J. D.*

I was much pleased to see the reference to stoke-holes made by "Hortus" in your last issue, and hope to see more correspondence on the subject. He refers to a boiler, fixed on the ground level, heating 200 ft. of piping from 2 ft. to 3 ft. below it. Well, if this answers in one place, why not in others, and why should we have inconveniently deep stoke-holes at all? We have some pipes fixed where the flow-pipe has to fall 3 ft. to pass under a walk to some pits, and rise again 1 ft. inside the pit, and it works well; but the return-pipe has a slight fall to the boiler.—*V. J.*

MUSHROOM CULTURE.*

IN the culture of the Mushroom some are successful and some are not, at times failing to produce them even in Mushroom houses erected purposely for their culture, whilst many gardeners and amateurs, with very restricted accommodation at hand, obtain good supplies all the year round. I have grown Mushrooms for several years, adopting several plans, but with the simple plan I work upon now I rarely have a failure. The only accommodation I now have for cultivating Mushrooms is underneath a stage in a cool greenhouse without the aid of heat from hot-water pipes. The house is 20 ft. long by 14 ft. wide, span-roofed, with a path through the centre. Underneath one side of the stage are six divisions for six beds, each 3 ft. long by 4½ ft. wide, and with a depth of 18 ins., a single brick wall dividing the beds.

Wooden shutters are used in front, and moveable board divisions from the stage above the beds, so that manure can be easily got in and out. Three large zinc pans, each 6½ ft. long by 4½ ft. wide, with a hole at one corner for the water to pass away when watering the plants, prevents any dripping of water on to the Mushroom beds. Manure is gathered every morning from our stables, and the droppings and short straw placed under an open shed, care being taken to prevent its heating itself into too dry a state; and when sufficient is obtained for a bed, it is turned over every day for a week, and when it has lost all its deleterious fermentation and the heat is on the decline, it is put into any of the beds which require making up, and two or three days after, the spawn is put in and 2 in. of good soil put on the top, and in six weeks we are cutting a good supply from these newly made beds.

With regard to beating the soil hard, as some recommend, I give it only a moderate firmness, as I well remember failures from excessive treading and failure of the spawn to germinate. I spawn when the beds register a heat of about 80°, for it is a great mistake to spawn a bed with the heat over 100°, and from this cause failures frequently arise. I have found so constantly that my Mushrooms are firmer in the flesh, tenderer and more juicy, grown under such conditions as I have indicated, than when grown with fire-heat. With the plan I adopt, and making a new bed directly one gives out, I keep up a good supply for a small family, and the heat from the manure of the new bed penetrates the wall on either side, and gives renewed vigour to the other beds. I seldom water, but if I do, I use water from 80° to 90° in temperature with a good-sized piece of salt dissolved in it. Just a word or two with regard to the enemies we have to deal with in Mushroom culture. I have used as a simple remedy for catching woodlice, a rotten piece of wood placed close to the side of the bed, giving just sufficient space for the woodlice to harbour taking it out each morning and clearing off the woodlice. I made up, on August 22nd, two beds, each 3 ft. long and 4½ ft. wide, and I began cutting the last week in September, and these

* Extract from a paper read by Mr. J. Crooke, at a meeting of the Birmingham and Midland Counties Gardeners' Mutual Improvement Association, on October 20th.

beds have already produced over 50 lbs. of fine Mushrooms.

My chief object to-night is to show what can be done on so small a scale, and I recommend the culture of the Mushroom to all present, as a more appreciated vegetable cannot well be sent into the house for an employer's use. I just wish to say before I sit down that I have recently obtained much valuable information from a practical treatise on the culture of the Mushroom, written by Mr. Wright. It can be obtained at a cost of 1s., and this indispensable guide, under the name of *Mushrooms for the Million*, will be a friend to all. An interesting discussion followed, in which Messrs. Bick, Jinks, Wood, Wheeler, Jones, Harris and Spinks took part, the last-named gentleman describing the method of cultivation practised in France.

THE TOADS IN COUNCIL.

A somewhat hypercritical correspondent writes:—Mr. Worthington Smith does not suggest what the urgent business may be under discussion by the four reptilian worthies, illustrated in THE GARDENING WORLD for October 16th, but it has struck me that possibly the gentleman at the bottom has just been dispatched on a "mission" to Kew, to see how the "authorities" are getting on in the introduction of economics in the practical branch of that much-landed establishment. Possibly the upper toad (if feeble-minded enough) is advocating the establishment of hereditary life presidencies over all scientific societies and national institutions; perhaps he also wishes (judging from the expression of his countenance) to establish new orders of companionship of Turveydrop, Pecksniff and Lazarus, with suitable "decorations" for each order. But no proper toad would suffer himself to be decorated in any way, or by any one, or tied with a rosette of any sort, like a brainless Michaelmas goose, or an inferior Christmas pig in a butcher's shop. If the two toads on the right and left are unmitigated scientific unworthies (which it is clear they are not), they may be advocating the prepayment of professional professors for work which will never be done, and the money endowment of some scientific "ring." It would be cruel to suggest that they may be thinking of the establishment of a Kew Royal Mutual Back-scratching Society, all new members to be near relatives (blood or professional) of "the old stagers."

If the toad on the right is a sensible toad, he is possibly objecting to the luncheon skirmishing proclivities of certain fashionable pseudo-scientific societies, and to scientific "rings" and scientific wire-pulling of all sorts; and he possibly thinks that Professor Huxley ought not to have had room for "considerable reason to complain that too frequently those who have obtained grants through the committee make no report of the work done to the society, but leave information on that head to reach us as it may, through the publications in which the results obtained by the grantee are made known"; and that *Nature* (Nov. 26, 1885, p. 74) ought not to have had room to say "professional devotion and a dash of impudence are quite as frequently the passport to the 'professional eminence' of an expert as scientific ability." What does it all mean?

GARDENING MISCELLANY.

The Madresfield Court Grape.—Evidently the disorder from which this particular Grape is suffering has become chronic or is fast approaching that unenviable condition, else, may I ask why this annual discussion about its cracking propensity? No matter what variety it may be, someone will be found bold enough to champion its cause, and this particular one evidently does not lack supporters, albeit its vagaries are of the most grievous kind. One had better imagine than attempt to describe (when a particular stage has been arrived at in the culture of what I may safely be permitted to term, this spoilt child of a Grape) the look of consternation on the visage of the cultivator as he walks through his Vineries and perceives his crop which he has so carefully nursed, spoilt by the dreaded cracking of the tender skin. Now this Grape has been in commerce, as far as my memory serves me, something like twenty years,

and, although I must admit it has a musky flavour—so much sought after in Grapes—yet I am by no means so certain whether it has not been considerably overrated; in fact, I assert, that had one half the care been bestowed on its compeer, Muscat Hambro', Madresfield would never have held its own, and much consequent annoyance to both employer and employed would have been averted. I maintain, that when worked on a suitable stock, Muscat Hambro' can be grown equally as meritorious as the Madresfield, added to which there is no fear of cracking, and I am quite certain it is of even better flavour; and yet because it was subject to shanking, it was discarded by most growers, when there can be but little doubt the roots of the Vine upon which it was worked were in an unsatisfactory condition. While men know how fickle is the Madresfield, and how great a risk they run in advocating its being planted as a permanent Vine, so long do they deserve, or rather court, failure. I was acquainted with the late Mr. W. Cox, the raiser of Madresfield, and when walking through the Vineries with him, remarked on the crop, "Why, you are not able to grow your own Grape!" Once at Garston, when Mr. Meredith was at his best, I saw Madresfield really good; but then it must be borne in mind the roots of the Vine were inside, and, consequently, under complete control, and had a structure to itself. Where one can cultivate it in this way, all well and good; but I consider it wantonness on the part of any man to plant it as permanent in a mixed Vinery, as so many do. A great friend of Mr. Cox once remarked to him, shortly after he had disposed of the stock for distribution, "Ah! William, my boy, that Vine will do you more good than any one else"; a remark fully justified in my opinion, so many and so complete are the failures in its cultivation. I previously alluded to the cracking having become chronic; I am led to this conclusion by the season at which the controversy opens. Rheumatic patients generally dread the approach of autumn, and, consequently, take precautions; so also do the advocates of this particular Grape, by lauding its qualities, so bolster it up, that it survives another planting season by the help of their pens; but the sooner it is discarded for more reliable kinds the better, in my opinion, for all concerned.—*Vitis*.

Chrysanthemum (Pyrethrum) uliginosum.—This very showy perennial attains a height of 6 ft., but is not so profuse a bloomer as *Leucanthemum maximum*. I have, however, hit upon a plan of securing this showy plant at about 3 ft. high, at which height it is far more suitable for many beds than at its usual height. It is very simple, and is done by cutting the plants down to within 9 ins. of the ground in the first or second week in June, after which just pinch the top out of the foremost of the after-breaks to make them bush out. I treated the whole of mine this way this season, with the result of a snow-white mass of flowers, barely 3 ft. high.—*J.*

Cotoneaster frigida.—This is a useful tree and is extensively grown in the Darley Dale nursery. It is very ornamental for planting in shrubberies; the berries are left alone by birds as long as most plants of its kind. Large bushes, 12 ft. high, are loaded with berries in this neighbourhood, having an intense bright red at Christmas, the large branches and clusters of berries being fine for church decoration.—*G. B., Hopton*.

Mr. James Upton's Nursery at Irlam.—Some time last summer your pages contained a description of a garden at Irlam, that of Messrs. Upton & Sons, and a few weeks ago, business calling me that way, I called to see the fine young Palms grown there. The houses are, as your correspondent "N. J. D." described them, very simply built structures; but they are literally crowded with crops, such as Cucumbers, Tomatos, Palms, Ferns, &c., &c. The son, Mr. James Upton, who has been the leading man in the firm for some time, has the whole of the glass structures in his own hands now, and seems determined to excel as a cultivator. I was sorry not to find the Rose trees formerly described, as they have all been cut out and the space utilized for growing a handsome and prolific kind of Cucumber. In another house were some grand Tomatos, some of which weighed 14 ozs., and were of fine flavour. The Cucumber may be heard of again, as it is a good paying kind; Mr. Upton had been cutting from the same plants since March last, and I

should think there were at least 500 good specimen fruits hanging late in September. I hope our young friend will meet with success in his efforts to grow well and cheaply specialties which he takes in hand.—*One on the Road*.

Richardia (Calla) Æthiopica.—Why is this termed the Lily of the Nile? One would suppose it was a native of Egypt, but its home is the Cape of Good Hope. It is an excellent plant for a window, where its beautiful white porcelain-like spathe and its golden spadix become conspicuous objects. I can grow these plants well in a cold house, but I have not yet succeeded in blooming them; I am afraid that my chance of doing so this autumn and coming winter is a slender one. It is all but aquatic by nature, and, therefore, it is a plant needing a liberal and continuous supply of water. "Keep the saucer always half full of water," says one authority, "and the plant will grow vigorously, each succeeding leaf being larger and taller than its predecessor." This is good advice for a plant grown in a window or greenhouse from which frost can be excluded; but let no one attempt it during winter if the frost is in danger of reaching the water and changing it into ice. Thousands of spathes of this beautiful plant are grown for market purposes, and huge bunches of them can now be seen in the windows of the flower-shops. The growers plant their Trumpet Lilies, as the *Richardia* is termed, out of doors in early summer, and the plants are greatly benefited thereby. It is sometimes called the Hoon-flower, from the shape of its large white calyx.—*R. D.*

Damp on Plants.—In cold houses that are within reach of the London fogs, damp is beginning to settle upon the leaves of the plants, and they should be gone over occasionally, that the cause of decay may be removed. While the present mild open weather continues, air may be freely given, but as soon as the mists begin to rise, close the house and exclude as much of it as possible. Some daily attention is now necessary, and watering should be done with care.

The Fall of the Leaf.—Already the leaves are lying ankle-deep in woodland ways, and those that remain on the trees are brown, russety brown, yellow, golden or brown red. Soon the deciduous trees will all be bare of leaves; an autumn frost would send them down like rain. What is the cause of this phenomenon in vegetable life? Dr. Lindley has lucidly explained it in his *Theory of Horticulture*:—"In the course of time a leaf becomes incapable of performing its functions; its passages are choked up by the deposit of sedimentary matter; there is no longer any communication between the parenchyma—the pith or pulp of plants—and that of the rind, or between its veins and the wood or liver. It changes colour, ceases to decompose carbonic acid, absorbs oxygen instead, gets into a morbid condition and dies; it is then thrown off. This phenomena, which we call the *fall of the leaf*, is going on the whole year round, except mid-winter, in some plant or the other. Those which lose the whole of their leaves at the approach of winter, and are called deciduous, begin, in fact, to cast their leaves within a few weeks of the commencement of their vernal growth; but the mass of their foliage is not rejected until late in the season. Those, on the other hand, which are named evergreens, part with their leaves much more slowly, retain them in health at a time when the leaves of other plants are perishing, and do not cast them till even spring has commenced, when other trees are leafing, or even later. In the latter class the functions of the leaves are going on all the winter, although languidly; they are constantly attracting sap from the earth through the spongelets, and are therefore in a state of slow but continual winter growth."

Bouvardia Triomphe de Nancy.—This is a fine new double variety, which I saw at Messrs. Veitch & Son's Nursery, at Chelsea, a few days ago. It has the bright red colour of *B. elegans* and the foliage of *B. Vreelandii*. I think it is one of Mons. Victor Lemoine's novelties—a continental horticulturist to whom we are indebted for so many good things. This new form will prove an excellent companion to the other double varieties in cultivation. Among single varieties I noticed Priory Beauty; this has pale pink flowers, and they are very pretty indeed, and it is also exceedingly free blooming. Up to this time *B. longiflora flammea* has been the best of this colour; but it

has to give place to Priory Beauty. Maiden Blush, a delicate-flowered variety, is very free and pretty also, and with Priory Beauty should find a place in a collection.—*R. D.*

Hydrangea rosea.—Two years ago we imported this plant from Messrs. Veitch, of London. It grew well, propagated easily, and we soon had lots of it. I grow it and other kinds in pots, and winter them in a 3 ft. deep cold frame. Last May, for convenience sake as well as show, I planted out a lot of Thomas Hogg and rosea that were all about the same size, and had been grown, wintered and otherwise treated alike. Rosea came into bloom about the middle of June, and was in perfection about the end of the month; Thomas Hogg did not come into flower till rosea was past its best. Many who saw and admired these plants of rosea in bloom bespoke plants of it, a fact which is surely a high recommendation. For my own part, I regard it as one of the finest of the genus. But like most tinted Hydrangeas, it does not confine itself to one shade of colour. At Hallock & Thorpe's last spring, I saw several that had flowers of a bluish cast; others rose with white eye, and so on. Mr. Ferguson, of Philadelphia, told me he also imported it, and raised and sold a lot of plants, but is disappointed with it. I am sorry for this, for really I believe *Hydrangea rosea* has come to stay.—*Wm. Falconer, in American Florist*.

Bean Ne Plus Ultra (Cooling's).—"A. D." asks for further information, and for details, as to the colour of the seeds of the dwarf French Bean Ne Plus Ultra, noted by me in a former issue. The seeds, when mature, will average over $\frac{1}{2}$ in. in length; shape oblong or slightly curved, and not so very full at the sides; dun-coloured, and not in any way speckled, as are most other dwarf and runner Beans. Judging by its seed alone, it is a dwarf, of which there are unmistakably distinct types, although known under the same name, which is unfortunate, as it causes much confusion. "A. D.'s" remarks upon the poverty of invention shown in finding names I thoroughly agree with. I suppose, as a rule, it is the result of ignorance of the existence of another variety bearing the same name. I may mention that this particular variety was sent out by Messrs. Cooling, of Bath; and at the Chiswick trials, in 1877, it gained the only First Class Certificate awarded by the Royal Horticultural Society, when nearly 200 varieties of Beans were grown.—*B. L.*

Judging Chrysanthemums.—I am indebted to "A. D." for his courteous replies, and agree with him in the opinion as to the undesirability of such a case as he quotes on p. 132; but I do not think it is either necessary or desirable that such stands should be disqualified. It has frequently been my duty to assist in making awards in somewhat similar cases, and I have every reason to think that we succeeded in giving general satisfaction. I know numerous artisans who prefer the three forms of Mrs. Rundle to any number of more strongly-marked varieties we could give them; and so long as Mrs. Rundle, George Gleny and Mrs. Dixon retain their well-known distinct shades of colour, I fail to see why these very numerous growers and exhibitors should be compelled to grow something they do not like so well, in order to be able to compete in classes for "threes" and "sixes." "A. D." says, "If the term 'kinds' signify, in all cases," &c.; it is the ambiguity frequently involved in these terms, and often their transposition, that creates the misunderstandings and confusion. That good schedules are fairly clear and concise I am fully aware; but there are many that are not so, and it was to those I applied my former remarks.—*J. Udale*.

Iris stylosa.—Some lovely blooms of this most beautiful winter-flowering species have reached us from Mr. W. B. Hartland's garden, at Temple Hill, Cork, where a mass of plants in bloom now have a very pleasing effect. Its light blue flowers, with yellow blotches, are so pretty, that no garden of hardy plants should be without it.

Chrysanthemum Notes.—Amongst some of the admirers and growers of this deservedly popular and very numerous class, abbreviated names of a somewhat barbaric character are employed—a sort of slang nomenclature, which, to my mind, is an innovation by no means of a complimentary description; in fact, a gross insult to the dignity of so much worth and beauty. I have attended floral meetings when the Chrysan-

themum has been the subject of discussion, in the course of which A speaks of them as "Chryses," B as "Mums," and the Japanese varieties are described as "Japs," all of which ignominious appellations and abbreviations are at once preposterous, and, to many that I am acquainted with, most contemptible; and I opine, should this kind of slang nomenclature be tolerated, it will be advisable for some of the promoters to issue a new or revised floral dictionary, in which we then might find such alterations and abbreviations as these—Carnations, "Cars."; Picotees, "Pics."; Pansies, "Pans."; Polyanthus, "Pollys."; Primroses, "Prims."; Delphiniums, "Delphs."; Cinerarias, "Cins."; Calceolarias, "Calcies."; Gloxinias, "Gloxs."; Tropæolums, "Trops."; Pentstemons, "Pents."; Salvias, "Sals."; Minulus, "Mims."; Camellias, "Cams.," &c., &c. Should some enterprising advocate for this sort of thing be desirous of simplifying plant names, it might suit a certain class; but I very much question if such an arrangement would be very gracefully received by the more *élite* of floral associations.—*George Fry, Lewisham.*

The Garston Nursery.—The accounts of places of note that appear in your paper are usually so interesting and accurate, that I feel it a duty to point out a slight misstatement that appeared in your issue of the 23rd inst., relative to Mr. Joseph Meredith, late of the Vineyard, Garston, near Liverpool. The Vineyard in question is not forty years old, nor quite thirty, and Mr. Meredith did not commence there as a Cucumber grower. Mr. Joseph Meredith (who will, I am sure, be proud of the flattering notice which you gave) commenced on a field at Garston about 1858, and erected in that year a dwelling house, four permanent Vineries, two forcing pits with Vines turned out of pots for early fruiting, one house for miscellaneous plants, and one pit for Cucumbers.—*Wm. A. Aldridge, 15, Meadow Bank, Altrincham.*

All the Year Round Lettuce.—Permit us to correct an error in the article upon Lettuces in your last issue. "All the Year Round Cabbage Lettuce," was sent out by us, and not by Messrs. F. & A. Dickson & Sons, Chester.—*Dickson, Brown & Tait, 43, 45, Corporation Street, Manchester.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—The varieties of *Cœlogyne cristata*, and other *Cœlogyne*s of like habit, having now completed their bulbs, will be benefited by being kept a little cooler and drier than they have been, in order to prepare them for flowering; it is not necessary to remove them into another house, but simply to alter their position in the house they are in. These plants are strictly evergreen, and require a fair supply of water in order to keep them plump, even although they are not actively growing. Care must be taken to put *C. pandurata*, *C. Lowii*, *C. Dayana* and others of that section, either in the warmest house, or in a part of the intermediate house where they will get a good amount of heat, and not stand any chance of being subjected to sudden variations of temperature; as these Bornean *Cœlogyne*s are very quickly injured by anything like cold.

The same remarks apply to the Bornean *Cypripedium*s, and other varieties from hot countries, and, therefore, *C. Stonei*, *C. Lowii*, *C. Haynaldianum*, *C. lævigatum* must not be kept with the green-leaved *Selenipedium* section, of which *C. longifolium* and *C. Sedeni* are representatives, as these last-named do not require nearly so much heat; although, in consequence of a certain resemblance in habit, it is a common thing to see them grown together in collections. Information as to where plants come from is now so easily acquired, that it forms one of the best guides as to the treatment that the grower can possibly study, and at this season it is well to give the subject some consideration and determine at once, as to which of the plants are likely to be susceptible to injury from cold, and put them where they will be safe.

THE TEMPERATURES FOR THE MONTH of November should be:—Warm house, East Indian, 65° to 70° by day, 60° at night; *Cattleya* or intermediate house, 60° to 65° by day, 55° at night; cool or *Odontoglossum* house, 55° to 60° by day, 50° at night.—*James O'Brien.*

Pescatoreas and Bolleas.—Three fine flowers from G. Neville Wyatt, Esq., Lake House, Cheltenham,

prove that Mr. Simcoe, his grower, has completely mastered these difficult plants. The flowers are between 3 ins. and 4 ins. across, and very fine in substance; they are *Pescatorea Lehmanni*, purplish violet, with white lines in the petals; *P. Klabochozum*, white, with violet tips; and *Bollea Lalindei*, a beautiful blue, of various tints.

Orchids in Flower.—The following Orchids are in flower in Messrs. John Laing & Co.'s nurseries, Forest Hill, S.E.

<i>Cattleya Dowiana aurea</i> , an extra fine variety	<i>Odontoglossum Alexandræ</i> ,, constrictum ,, <i>Pescatorei</i> ,, <i>Roetzlii</i> ,, <i>Pescatorei</i> with 5 branches
,, <i>Harrisoniæ</i>	,, <i>Oncidium crispum</i>
,, violacea	,, flexuosum
,, <i>Loddigesii</i>	,, <i>Jonesianum</i> , some very finely spotted
,, <i>maxima Backhousii</i>	,, varieties
<i>Cypripedium barbatum</i>	,, <i>Marshallianum</i>
,, <i>Harrisianum</i>	,, <i>orientalis</i>
,, insigne	,, <i>ornithorrhynchum</i>
,, <i>Lawrenceanum</i>	,, <i>Papillio</i>
,, <i>Schlimii</i>	,, <i>prætextum</i>
,, <i>Sedeni</i>	,, <i>tigrinum</i>
,, <i>Spicerianum</i>	,, <i>varicosum</i>
<i>Dendrobium Dearei</i>	,, <i>Rogersii</i>
,, <i>formosum</i>	,, <i>Pleioine lagenaria</i>
,, <i>giganteum</i> , several extra fine varieties	,, <i>Pilumna fragrans</i>
<i>Epidendrum vitellinum</i>	,, <i>Stanhopea aurea</i>
<i>Lælia autumnalis</i>	,, <i>Scuticaria Steeli</i> , extra fine varieties.
<i>Lycaste Skinneri</i>	
<i>Miltonia Clowesii</i>	
<i>Maxillaria venusta</i>	

Amateur Orchid Cultivation.—Is there any chance of the following Orchids being successfully grown in an Orchid house kept up to 60° at night now, later on 50° to 55°? I could get the temperature lower by opening the windows, but am afraid of cold draughts, and I also have several *Cattleyas*, &c. in it; I have also a warm greenhouse where I grow ordinary greenhouse plants, and frames. Would any of them do better in the frames, well covered up in winter, or would some do better in a frame in summer and a house in winter? I have the following sorts in the house mentioned, but am afraid there is too much heat for some:—*Odontoglossum Alexandræ*, *O. Cervantesi*, *O. Pescatorei*, *O.*

cirrhosum, *O. citrosum*, *O. Rossi majus*, *O. grande*, *O. Insleayi*, *Cattleya citrina*, *C. Eldorado*, *C. marginata*, *Cymbidium eburneum*, *Epidendrum vitellinum majus*, *Lælia anceps*, *L. Dayana*, *L. majalis*, *Lycaste Skinneri*, *L. aromatica*, *Masdevallia ignea*, *Maxillaria grandiflora*, *Oncidium crispum*, *O. macranthum* and *Sophronites grandiflora*.—*A. N.* [All those you name may be grown successfully in the warmest house you describe, and certainly better there than in any of the other places; you need not give more than a reasonable amount of ventilation, but bring all the small-growing varieties as near the glass of the roof as possible and do not stint them for water, at the same time continually watch for and remove insects, which are so liable to come when plants are kept rather warm. Your greenhouse may be of use to put those in which are wanting to harden their mature bulbs; but by moving the plants about, your one Orchid house ought to answer well if you keep the night temperature down as much as possible.—*Ed.*]

FLORICULTURE.

AURICULAS.—The balmy open autumn weather appears to be keeping Auriculas growing much longer than usual; with the warm and occasionally bright sunny weather we have had drying winds, and watering had to be attended to, and given with greater freedom than is customary at this season of the year. The plants dried so quickly, that I found it necessary to immerse them in water, to make sure that the soil was moistened to the centre of the ball. But, despite their activity, I have been troubled with but very few autumn trusses of bloom—fewer than is usual. I give the plants plenty of air, a current of air passes through the house, and the plants look as healthy as one can desire. Green-fly has troubled me but very little also. I shall now only give water where it is absolutely required, and allow the plants to gradually subside to their winter's rest. For the past two months seedling double varieties have been opening almost daily, and I have flowered a few extremely pretty things; I have some 200 more to flower in spring together with some seedling, show, and Alpine varieties of choice strains. The Auricula house or frame should now be kept well ventilated, decaying leaves removed and the surface soil kept stirred, taking care not to injure any of the delicate roots that may be spreading in it.—*R. D.*

REVISED LIST OF CHRYSANTHEMUM SHOWS, 1886.

DATE.	NAME OF SOCIETY.	NAME AND ADDRESS OF SECRETARY.
November 8	Surrey, at Peckham Rye	G. R. Johnson, 13, Autill Road, Tottenham.
,, 8, 9, 10.....	Lambeth	T. F. Davison, 9, Union Square, S.E.
,, 9	St. Neots	William Ratchelous, St. Neots.
,, 9, 10	Kingston and Surbiton	T. Jackson, Fyfe Road, Kingston.
,, 10, 11	National Chrysanthemum	W. Holmes, Frampton Park Nurseries, Hackney.
,, 10, 11	Bath	B. Pearson, 14, Wilson Street, Bath.
,, 10, 11	Croydon	A. C. Roffey, Church Road, Croydon.
,, 11	St. Peter's, Hammersmith	T. Finch, Mulberry Cottage, West End, Hammersmith
,, 11, 12	Bury St. Edmund's	Peter Grieve, Orchard Street, Bury St. Edmund's.
,, 11, 12	Richmond	J. H. Ford, 22, George Street, Richmond.
,, 11, 12	Portsmouth	
,, 12	Reading	W. Smith, 97, London Street, Reading.
,, 12, 13	Finchley	C. H. Mobbs, The Lodge, Elm Grange, Church End, Finchley.
,, 12, 13	Huddersfield	
,, 12, 13	Lewisham and District	Henry Drake, 64, Limes Grove, Lewisham.
,, 12, 13	Canterbury	
,, 15, 16	Sheffield and Hallamshire	E. Austiu, Dorset Street, Sheffield.
,, 16	Yeovil	W. T. Maynard, Yeovil.
,, 16, 17	Watford	C. R. Humbert, Watford.
,, 16, 17	Southgate	G. James, Chase Side, Southgate.
,, 16, 17	Winchester	R. Porter & J. B. Colson, 45, Jury Street, Winchester.
,, 16, 17	Brighton	
,, 17	Dublin	Ambrose Balfe, Westland Row, Dublin.
,, 16, 17	Putney	
,, 17	Luton, Beds	J. Gardner, 5, Regent Street, Luton.
,, 17	Chelmsford and Essex	W. Duffield, Chelmsford.
,, 17, 18	Hampstead	J. E. Anderson, The Conservatory, Belsize Park Gardens, N.W.
,, 17, 18	Bristol	
,, 17, 18, 19 ...	York	Jno. Lazenby, Spurricgate, York.
,, 18	Hitchin	
,, 18	Chiswick	
,, 18	Taunton	
,, 18, 19	Hull and East Riding	R. Falconer Jameson, Queen's Dock, Hull.
,, 19, 20	Sheffield and West Riding	W. K. Woodcock, Oakbrook Gardens, Sheffield.
,, 20	Kettering	
,, 20	Ramsbottom	R. Markland, 57, Bolton Street, Ramsbottom.
,, 22, 23	Leeds	
,, 23, 24	Liverpool	E. Bridge, Tarbock Road, Liverpool.
,, 24	Clonmel, Ireland	Thomas Phelan, Spring Gardens, Clonmel.
,, 24, 25	Birmingham	J. Hughes, Northwood Villas, Metchley Lane, Harborne.
,, 25	Colchester and East Essex	J. C. Quilter, 5, Head Street, Colchester.
December, 7 8	Edinburgh	

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The weather experienced lately has been anything but favourable in this department, dull heavy mists prevailing, so conducive to damping, unless great precautions are taken. In the greenhouses let the pipes be well warmed after breakfast, and good ventilation be given at the same time, so that damp may be driven out, and close the valves in good time, so that the pipes may become cool before night, closing the front and lower ventilators before the air becomes too damp. Where the structures are continuous, opening of the doors through the range will afford a good circulation, with a slight top ventilation; as before advised, avoid unnecessary damp as much as possible.

Greenhouses may now be kept quite gay with *Ericas*, *Salvias*, *Callas*, *Primulas* and the like; these all thrive best in a buoyant atmosphere, as above referred to. *Chrysanthemums* will now shortly be at their best, and a complete mass of bloom they will be, the season, in my opinion, having particularly suited them; the foliage remains of that dark green colour denoting health, consequently, flowers are bound to be good alike in texture and colour; and if only the weather will continue as propitious as to-day, the greatest gourmand can be gratified by the display, so wonderful an advance has there been in the production of newer varieties.

It is now time that the stock of *Eucharis amazonica* should be placed in position for the winter; probably it has been kept in some special house if the stock is of considerable extent, and in that case the house would be better occupied if filled with plants for forcing; at any rate, any good heated pit will admirably suit for the storing of the *Eucharis*. A firm ash bottom is best for the pots to stand upon, as but little water need be given for a rather lengthened period; extreme dryness at the roots causing a loss of the foliage must, of course, be avoided, at the same time, for successful flowering, the "rest" should be as complete as possible. Upon fine days a damping through the coarse rose over the entire foliage will be beneficial.

Allow me to add, before storing examine the under-side of the foliage, and be satisfied that no mealy bug or scale are ensconced there, or endless trouble will be caused when the young foliage appears, when the plants are started. If it is found necessary to start any for a mid-winter supply of flowers, let the pots be plunged in bottom heat, giving water sparingly until growth is well started, when more may be given and also stronger bottom heat. Where home-grown *Lily of the Valley* are used for forcing, no time should be lost in potting up the crowns, by so doing, the soil thoroughly settles before being forced; the same remark applies to *Spiræas*, *Dielytras*, *Solomon's Seal* and kindred subjects, the whole of which we have attended to, and they are placed under cover until required for use. A few pots of *Roman Hyacinths* should now be introduced to heat for bouquet work.

THE FORCING HOUSES.

Affairs in this department must be regulated with the greatest forethought, as any undue amount of forcing upon almost every subject will militate against success. So far, nothing can be said to have properly gone to rest; consequently, the greater caution is necessary in re-starting them into active growth again—in fact, where it is attempted, the majority of plants will go blind. Even the earliest *Hyacinths*, *Tulips* and *Narcissus* will fail to put up their flowers if too much heat is employed for the present, and above all, let a low night temperature prevail. A good batch of *Rhubarb-roots* may now be lifted and placed in any dry shed for a week or ten days before placing them in the Mushroom-house, and they will, at this period of the year, be found to start much more readily than if introduced directly from the square. As previously advised, we always rely upon seedling roots for forcing purposes, and find them more suitable.

Let the pruning, painting and cleansing be carried on in the succession Vineries, as more time can now be spared; presently, work will come in abundantly, causing pressure which ought not to be if affairs are properly regulated. In the *Cucumber-houses* let a night temperature of 65° be kept, with a rise of 16° by

day, always, for a few hours at mid-day, admitting air and closing in good time. Keep a sharp look-out for fly; train the laterals thinly over the surface of the trellis, that the foliage may be fully developed, as upon this, in a very great measure, depends success.

THE KITCHEN GARDEN.

The planting of trees on the walls having been completed, and the trees, in many instances, having shed their foliage, we have started nailing. While the weather keeps so open, this work can be carried on rapidly; and if a second hand can be utilised all the better, as too much haste cannot be made to get the work completed. The Pears will first receive attention, and for these, wherever practicable, we use fair-sized tarred twine in preference to shreds, as these ties will last four or five years without renewing. Let all long or unsightly spurs be cut sharply back to encourage new growth nearer to the rod; but of course this must be done piecemeal, or the crop will be sacrificed. Also be cautious that the young growths are not nailed too tightly, or canker may ensue.

Scarlet Runners are now past their best, so they will be removed as the ground between is cropped with Savoys, and they need the light. We are making good blanks in the pricked-out Lettuce, so as to secure a full plant, as nothing looks worse than blanks. Endive we continue to tie up according to demand, and we shall also now place hoops over some of the beds, so as to be ready in case of frosts, which we may surely expect, and which will, in our opinion, cause much damage on account of the season, so far having been so open, that it behoves one to be on the alert. As so much wet weather prevailed, and the Strawberries for forcing had finished growing, we thought it advisable to house them. We have, consequently, had them all placed in the north pits, where, if necessary, the lights can be put on to shelter them.—*Walter Child, Croome Court.*

CHRYSANTHEMUM SHOWS.

Ealing, Acton and Hanwell.—*Nov. 2nd and 3rd.*—"A very pretty show," was the impression left on our minds, as we walked through the Lyric Hall, at Ealing, on the above date. This society treats its supporters to two shows annually, viz., a summer show in July, and an autumn show in November. On this occasion, the *Chrysanthemum* exhibition fell a little short of what we have seen in previous years, owing to the adverse character of the season; still, a very bright and cheerful show was afforded, and visitors appeared to be very much pleased.

The principal class was for a group of plants arranged for effect, and here Mr. James Wigmore, gardener to F. Hicks, Esq., Oakhurst, Ealing, was first with a very bright and effective group; the quality of the flowers, made up of incurved and Japanese, being good throughout. C. A. Daw, Esq., Hounfield, Ealing (Mr. J. Baird, gardener), was a good second; and two other prizes were awarded. The other classes for plants were not quite so well represented as we have seen them at Ealing; possibly, the character of the season had something to do with it. The best three specimens of incurved *Chrysanthemums* came from Mr. W. Wright, gardener to G. P. Greenfield, Esq., The Spring, Hanwell; Mr. Chadwick, gardener to E. M. Nelson, Esq., J.P., Hanger Hill House, Ealing, being second; and these exhibitors had the same positions in the class for three specimen Pompons. Mr. Wright had the best specimen plant of a Japanese variety, Mr. Chadwick being second; in the class for a specimen other than Pompon, the same exhibitors were also first and second.

The display of cut blooms was highly creditable to the locality. The best twelve blooms of incurved came from Mr. H. Davis, gardener to H. G. Lake, Esq., Fairlawn House, Chiswick, his leading flowers being *Queen of England*, *Empress of India*, *Golden Empress*, Mr. Corbay, Jeanne d'Arc, Lord Wolseley, Prince Alfred, Alfred Salter and Mr. Bunn; second, E. B. Ridger, Esq., Orchardene, Ealing (Mr. C. Long, gardener); third, Mrs. Murrell, Ealing (Mr. Collyer, gardener). In the class for the best nine blooms of incurved *Chrysanthemums*, the first prize was the Silver Medal of the National *Chrysanthemum* Society; this was awarded to Mr. Wilson, gardener to W. Lindell, Esq., Ealing, for a very good lot; Mr. A. Wright, The Gardens, Devonhurst, Ealing, being second. In the class for six blooms of incurved

varieties, Mr. W. Murrell, Ealing (gardener, Mr. W. H. Collyer), was a good first, and Mr. C. Long second. Mr. Wilson had the best three blooms; Mr. G. Fulford, gardener to J. Boosey, Esq., Hill House, Acton, being second.

Japanese Chrysanthemums were in fine form, and they were numerous also. There were eight collections of cut blooms, the best coming from Mr. C. Long, who had a grand lot of blooms, comprising *Simon Delaux*, *Elaine*, *Thunberg*, *Mdlle. C. Audigier*, *Mdlle. Lacroix*, *Criterion*, &c.; second, Henry Smith, Esq., Chiswick (Mr. A. Stanton, gardener). Mr. J. Hudson had the best six *Japanese* blooms; Mr. T. Wilson being second. They were also well shown in the class for three blooms. *Pompon* varieties made a capital display; and reflexed and *Anemone-flowered* varieties were highly creditable. The premier bloom of incurved was *Empress of India*, shown by Mr. H. Davis; the premier bloom of *Japanese* was *Elaine*, shown by Mr. C. Long.

Cut flowers in six bunches made an excellent display; Mr. J. Hudson being first, and Mr. Wilson, second. Mr. Hudson also had a large box of blooms, not for competition, and Mr. G. Weedon, St. John's Nursery, Mattock Lane, the same.

Fruit was well represented by *Grapes*, *Apples* and *Pears*, the former were good, and the latter numerous and very fine. Vegetables were remarkably good; *Potatoes*, a leading feature. Special prizes were offered by Messrs. Sutton & Sons, of Reading, for four dishes of *Potatoes*, and there were seventeen competitors, which was very satisfactory, for the competition was exceedingly keen. Amongst the special prizes were two volumes of *THE GARDENING WORLD*; one was awarded to Mr. W. Wright, The Gardens, The Spring, Hanwell, as the gardener taking the greatest number of first prizes; and Mr. W. Weal, Hanger Vale Cottage, Ealing, as the cottager taking the greatest number of first prizes.

Highgate.—*Nov. 3rd and 4th.*—This young society, which embraces the district of Highgate, Finchley and Hornsey, has much reason to be proud of the progress it has made; inasmuch, as while last year the Northfield Hall, Highgate, sufficed to hold all the subjects sent for exhibition, this year a large tent had to be requisitioned in order to find room for all the contributions sent in. It was a capital show, and the arrangements made for staging, and for the comfort of visitors were most satisfactorily carried out by the secretary, Mr. H. Barnby, and an able assistant, Mr. Thomas Bevan.

The groups of *Chrysanthemums*, covering a space of 60 sq. ft., were an admirable feature, and in this competition the highest honours fell to Mr. Brooks, gardener to W. Reynolds, Esq., The Grove, Highgate; the second and third prizes going to Mr. Witty, the Cemetery, Highgate; and Mr. Britain, gardener, Caen Wood Towers. For specimen plants, Mr. Theobald, gardener to A. Goslett, Esq., West Hill, was first with six *Japanese*; Mr. J. Brooks, first with six incurved varieties; and also first in the corresponding class for Pompons. The cut-flower classes were all well contested, and a fine lot of blooms were staged. The leading prizes were awarded as follows:—For thirty-six blooms, equal numbers of incurved and *Japanese* varieties, first, Mr. Calvert, gardener to G. Kent, Esq., Southwood; for twenty-four incurved, first, Mr. Calvert, again; for twelve *Japanese*, first, Mr. Britain; for twenty-four *Japanese*, first, Mr. Theobald; for six *Japanese*, first, Mr. Turk; prize given by W. Morley, Esq., for twenty-four *Japanese*, first, Mr. J. Brooks; Messrs. Cutbush & Son's prizes for twenty-four incurved or *Japanese*, first, Mr. W. Theobald. Other special prizes were Mr. B. S. Williams', for six table plants, won by Mr. B. Calvert; and Mr. Shelton's, for dinner-table decorations, won by Mr. Wilkinson, gardener to W. W. Webster, Esq., Highgate Hill.

Miscellaneous contributions were sent by Mr. B. S. Williams, an attractive group of plants; Messrs. W. Cutbush & Son, a showy group of berried and fine-foliaged plants; Mr. W. E. Boyce, cut blooms of new varieties of *Chrysanthemums*, including the beautiful pale rose seedling Pompon, from President, named Mrs. Mardlin. There was also a fair show of *Apples*, *Pears* and *Grapes*.

QUESTIONS AND ANSWERS.

LEAF SOIL.—*E. H.*: Oak and Beech leaves undoubtedly make the best leaf soil, but the Elm leaves need not be burnt. They can be used the same as others, with manure for making hot-beds, &c., and thus be more profitably utilised than by burning them.

LÆLIA ANCEPS.—*R. R. Ford*: A very fine variety in the way of *Barkeriana*.

NAMES OF PLANTS.—*W. R.*: 1, *Oncidium aurosum*; 2, *Æschynanthus grandiflorus*; 3, *Anthericum lineare variegata*. *G. W.*: *Acineta Barkeri*, and *Odontoglossum Lindleyanum*. *Wahsdarb*: The scraps sent were too small to recognise with any degree of certainty, but they are probably: 1, *Abies numidica*; 2, *Abies lasiocarpa*; 3, *Pernettya mucronata*, quite correct; 4, *Abies canadensis*; 5, *Abies Albertiana*. *W. Robinson, Uxwater*: *Cattleya Harrisonæ*.

NAMES OF FRUITS.—N. H. P.: 1, Madotte; 2, Fondante de Charmeuse; 3, Beurré Bretonneau (?); 4, Beurré d'Anjou. The Apple may be Bridgewater Pippin, but is certainly not Cornish Gilliflower. W. E., S. Wales: Apples, 1, Margil; 2, King of the Pippins; 3, not recognised. Pears: 1, not recognised; 2, Marie Louise. J. Williams, Tamworth: 1, Brown Beurré; 2, Beurré Rance; 3, Beurré d'Amanlis; 4, Bezi de Mai; 5, Catillac.

COMMUNICATIONS RECEIVED.—D. J. N.—R. G. W.—T. J.—T. M.—J. D. (many thanks)—E. M.—J. N.—J. G. C.—W. C.—W. H.—G. R. J.—E. A.—A. F., Croydon—Mr. Pigott (Pears next week).

TRADE CATALOGUES RECEIVED.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham.—Ornamental Trees and Shrubs, Fruit Trees, Roses, Florists' Flowers and Herbaceous Plants.

JOHN HAYWARD, The Nurseries, Cheadle, near Manchester.—Roses, Fruit Trees, Trees and Shrubs, &c.

EDWIN MURRELL, Portland Nurseries, Abbey Foregate, Shrewsbury.—Roses, Fruit Trees, Conifers, Forest Trees, &c.

W. DRUMMOND & SONS, Stirling, N.B.—Forest, Ornamental and Fruit Trees, Roses, Conifers, &c.

R. H. VERTEGANS, Chad Valley Nurseries, Birmingham.—New and Rare desirable Fruits, Plants, &c.

LONDON SEED TRADE.

November 3rd, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report Clover Seeds neglected with good supplies of French and American Red at very moderate figures. White Clover is firm. No change in Alsike or Trefoil. Sainfoin is remarkably cheap, and of good quality, but finds no buyers. Winter Tares and Rye unchanged. Spring Tares neglected. Canary firm with a fair demand. Hemp, Linseed and Blue Peas unchanged.

COVENT GARDEN MARKET.

November 4th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 6	3 6	Peaches, per doz.		
Cherries, ½ sieve			Pine-apples, St.		
Currents, ½ sieve			Michaels, each	2 6	8 0
Grapes, per lb.	0 6	2 0	Pine-apples, Eng., lb.	1 6	2 6
Kent Cobbs, 100 lbs.	65 0		Plums, ½ sieve	0 9	2 0
Melons, each	1 0	2 0	Strawberries, per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel	4 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	1 6	2 0
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinauch, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatoes, per lb.	0 9	
Potatoes, Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.			Turnips, per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches			Lilium longiflorum, 12 blooms	4 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Liliums in variety, 12 blooms	2 0	4 0
Azalea, 12 sprays	0 9	1 6	Mignonette, 12 bun.	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Parma Violets (Freuch), per bunch	4 0	5 0
Camellias, 12 blooms	3 0	6 0	Pelargoniums, per 12 sprays	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	— scarlet, 12 sprays	0 3	0 6
Chrysanthemums, 12 bunches	4 0	8 0	Primula, double, bun.	0 6	1 0
Dahlias, 12 bunches	3 0	6 0	— single, 12 bun.	4 0	6 0
Daisies, common, 12 bunches	2 0	4 0	Pyrethrum, 12 bunches	2 0	4 0
Eucharis, per dozen	4 0	6 0	Roses, 12 bunches	2 0	6 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses (coloured)	0 9	1 0
Gardenias, 12 blooms	2 6	4 0	Roses, Tea per dozen	0 9	3 0
Gladioli, 12 sprays	1 0	2 0	Stephanotis, 12 sprays	4 0	6 0
Heliotropes, 12 sprays	0 6	1 0	Sweet Peas, doz. bch.		
Lapageria, red, 12 blooms	1 0	1 6	Sweet Sultan, 12 bun.		
Lapageria, white, 12 blooms	2 0	4 0	Tropeolums	1 0	2 0
Marguerites, 12 bun.	3 0	6 0	Tuberose, per dozen	1 0	1 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 6
Asters, per dozen			Foliage Plants, various, each	2 0	10 6
Balsams, per doz.			Fuchsia, per doz.		
Begonias, per dozen	6 0	12 0	Gladioli, 12 pots		
Bouvardia, per doz.	9 0	12 6	Hydrangea, per doz.		
Chrysanthemums, doz.	4 0	18 0	Liliums, per doz.		
Cyperus, per dozen	4 0	12 0	Marguerites, per doz.	6 0	9 0
Dracena term., doz.	30 0	60 0	Mignonette, per doz.	4 0	6 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Erica gracilis, per doz.	12 0	18 0	Pelargoniums, doz.		
— hyemalis, per doz.	18 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
— Regerminans, doz.	9 0	12 0	Petunias, per doz.		
— various, per doz.	8 0	24 0	Primulasinensis, p. doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums, per doz.	9 0	12 0
Ferns, in var., doz.	4 0	18 0			

POTATO MARKET.

November 1st.—The ruling prices at King's Cross during the week ending Saturday, 30th ult., were as follows:—

	Beds.	Bk. Lud.	Lnclns.	Kents.	Yorks.
Magnums, gd. smpls.	50/-, 55/-	55/-, 57/6	65/-, 70/-	75/-, 80/-	77/6, 85/-
Regents do.	..	..	55/-, 60/-	75/-, 80/-	80/-, 85/-
Beauty of Hebron do.	65/-, 70/-	..	60/-, 70/-	85/-, 90/-	..
Heroes do.	..	..	60/-, 65/-	..	..
Celery do.	..	..	10/-, 12/-	..	..
Turnips do.	..	..	35/-, 40/-	..	45/-, 50/-

During last week 554 trucks arrived at King's Cross, and 561 were emptied; 62 arrived this morning, and the stock is now down to 337. Prices upon the week's sale show an upward tendency, a rise of 5s. per ton, for good samples, having taken place. For common stuff trade is quiet. Very best samples are scarce, and go off rapidly at high prices. Trade has not yet assumed the usual busy appearance at this time of the year, as it should do; but all that is wanted is cold, frosty weather.

CARTER'S CHEAP BULBS.

WHY SEND to HOLLAND for BULBS, when better quality can be obtained in England at lower prices? Note the contents and compare Carter's Box, as follows, with others.

CARTER'S BOX of 1,000 BULBS for a Guinea.

Sent, packing and carriage free, to any railway station in England and Wales on receipt of Cheque or Postal Order for 20s., comprises the following bulbs of choice quality:—

12 named Hyacinths	100 Pheasant's-eye Narcissus
24 mixed Hyacinths, in three colours	50 Daffodils
25 sweet-scented Jonquils	50 Blue Crocus
50 mixed Double Tulips	50 White Crocus
50 mixed Single Tulips	100 Yellow Crocus
100 Snowdrops	25 Tritelia uniflora
100 Scilla caupaulata	50 Winter Aconites
100 Scilla sibirica, blue	50 Star of Bethlehem
50 mixed Spanish Iris	8 mixed Ixias
	6 mixed Sparaxis.

Half the Box, 11s., carriage free; One Quarter, 7s., carriage free.

For full particulars of other Boxes, ranging from 5s. upwards, see

Carter's Illustrated Catalogue of Bulbs, GRATIS AND POST FREE.

Seedsman by Royal Warrants to H.M. the Queen, and His Royal Highness the Prince of Wales.
237, HIGH HOLBORN, LONDON, W.C.

SCHWEITZER'S

COCOATINA,

Anti-Dyspeptic Cocoa or Chocolate Powder.

Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoas thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.

Cocoatina possesses remarkable sustaining properties, and is specially adapted for early Breakfast.

In tins, at 1s. 6d., 3s., 5s. 6d., &c., by Chemists and Grocers.

Sole Proprietors: H. SCHWEITZER & CO., 10, Adam Street, Strand, London, W.C.

Clapton Nursery, London, and Bush Hill Park Nursery, Enfield.

HUGH LOW, & Co.

Invite inspection of the stock in these Nurseries—immense in extent, fine in quality, moderate in price—comprising Azaleas, Camellias, Cyclamen, Coniferae, Epacris, Eriacae, Ferns, Fruit Trees, Grape Vines, Greenhouse and Decorative Plants, Hardy Shrubs, ORCHIDS, Palms, Pelargoniums, Roses, Stove and Soft-wooded Plants, Tree Carnations, &c., &c.

Autumn Trade List on application.

274,600 SUPERFICIAL FEET OF GLASS.

SPECIAL CULTURE OF FRUIT TREES and ROSES.

A large and Select Stock is now offered for Sale. The Illustrated and Descriptive Catalogue of Fruits post free.

The Descriptive Catalogue of Roses post free.

THOMAS RIVERS & SON, THE NURSERIES, SAWBRIDGEWORTH, HERTS.

NEW CLEMATIS, "BEAUTY OF WORCESTER."

RICHARD SMITH & Co. are now booking orders for this charming novelty for delivery in September. For description and figure see GARDENING WORLD, July 3rd. Price, 5s. each.

Special quotation to the Trade on application.

St. John's Nurseries, WORCESTER.

QUINCE—THE MISSOURI MAMMOTH, only Quince endorsed by the Missouri Valley Horticultural Society as adapted to the West, \$2 each. Prince Albert, \$1. Meach's Prolific, \$75 per 100. Reliable Salesmen always wanted on salary or commission.—MID-CONTINENTAL NURSERIES, Kansas City, Mo.

BARR'S BEAUTIFUL HARDY DAFFODILS.

NEW OR RARE DAFFODILS.

FOR POT CULTURE, FLOWER BEDS, BORDERS, &c.

(Continued from p. 147.)

Per doz. Each

INCOMPARABILIS MRS. SYME, short sulphur petals, large spreading yellow cup .. 7 6 0 9

PRINCESS MARY, creamy white imbricated petals, large expanded orange-scarlet cup .. 17 6 1 6

SEMI-PARTITUS, pale primrose petals, sulphur cup deeply lobed .. 2 0

DOVE, snow-white petals, cup yellow .. 7 6 0 9

MARY ANDERSON, pure white, cup bright orange-scarlet .. 7 6 0 9

QUEEN BESS, large pure white petals, large expanded distinct cup .. 21 0 2 0

STELLA, large white petals, large yellow cup .. per 100, 18s. 6d. 2 6 0 3

BARRI CONSPICUUS, broad-spreading petals, short orange-scarlet cup—the most beautiful of Daffodils .. 21 0 2 0

GOLDEN GEM, full yellow petals, cup yellow, edged orange .. 5 6 0 6

ORPHEE, petals sulphur, cup yellow, edged orange .. 10 6 1 0

JOHN STEVENSON, sulphur-white petals, large spreading yellow cup .. 6 6 0 8

VIVIAN, sulphur petals, yellow cup, very elegant .. 10 6 1 0

WILLIAM INGRAM, white petals, elegant primrose cup, stained rich orange-scarlet .. 15 0 1 6

LEEDSI (the EUCHARIS DAFFODIL), pure white, fragrant .. 7 6 0 9

AMABILIS, large pure white petals, long white cup .. per 100, 50s. 7 6 0 9

ALBION, large pure white petals, lemon cup .. 10 6 1 0

ARSINOE, pure white petals, canary-yellow cup .. 10 6 1 0

BEATRICE, pure white petals, white cup—the most elegant of white Daffodils .. 5 6

DUCHESSE OF BRABANT, white petals, canary cup .. 7 6 0 9

DUCHESSE OF WESTMINSTER, large handsome white petals, long canary cup, tinged orange—magnificent .. 21 0

ELEGANS, large drooping shouldered flower, long primrose cup, stained apricot .. 5 6

FANNY MASON, white petals, canary cup .. 10 6 1 0

FLORA, white petals, orange stained cup .. 21 0 2 0

GEM, pure white petals, remarkably fine form, elegant white cup .. 3 6

IANTHE, white petals, canary-yellow cup .. 10 6 1 0

KATHERINE SPURRELL, pure white broad imbricated petals, large canary cup .. 3 6

MRS. LANGTRY, large broad petals, large white handsome cup—splendid .. 10 6

MINNIE HUME, large white petals, large spreading elegant white cup .. 3 6

MARIA MAGDALINE DE GRAAFF, white petals, elegantly suffused orange cup, usually two-flowered, very distinct .. 5 6

SUPERBUS, large pure white-hooded flower, white cup .. 15 0 1 6

HUME'S CONCOLOR, petals and cup uniform yellow, a very remarkable distinct hybrid Daffodil .. 21 0 2 0

GIANT, sulphur petals, large yellow trumpet, flower very large, most distinct .. 21 0 2 0

BACKHOUSE, very distinct hybrid, long straight yellow cup, nearly equal in length to the spreading white elegant petals .. 5 6

WOLLEY DOD, large spreading primrose petals, short deep yellow trumpet, distinct and handsome .. 21 0

MONTANUS, elegant drooping white flower and white cup .. 21 0 2 0

NELSONI MAJOR, large white petals, long yellow cup, usually suffused orange .. 15 0 1 6

PULCHELLUS, the flower is campanulate, petals imbricated and white, cup yellow, very beautiful .. 21 0 2 0

WILLIAM BACKHOUSE, large white petals and pure yellow cup, handsome .. 21 0 2 0

TRIDYMU DUKE OF ALBANY, petals sulphur-white, orange-coloured cup, two or three-flowered, very distinct .. 5 6

DUCHESSE OF ALBANY, petals sulphur-white, yellow cup, two to three-flowered .. 5 6

JUNCIFOLIUS, a slender neat yellow flower, with elegant Rush-like foliage, charming in pots .. 3 6 0 4

RUPICOLA, slender, neat, and full yellow, a graceful species, charming in pots .. 10 6 1 0

TRIANDRUS ALBUS (Angels' Tears), elegant white flowers, three to six on a stem, extremely beautiful pot plant .. 5 6 0 6

QUEEN ANN'S DOUBLE JONQUIL, rich full yellow, resembling a small double Rose .. 7 6 0 9

BURBIDGE BOZ, the yellow Poet's Daffodil .. 3 6 0 4

DANDY, white petals, yellow plated cup .. 4 6 0 6

ETHEL, the Primrose Poet's Daffodil .. 7 6 0 9

FALSTAFF, petals white, cup lemon, margined orange .. 5 6 0 6

JOHN BAIN, large white petals, citron cup .. 5 6 0 6

MARY, white petals, large expanded suffused orange cup .. 4 6 0 6

ROBIN HOOD, white petals, orange-stained lemon cup .. 4 6 0 6

POETICUS ORNATUS, the broad-petalled flat saffroned rimmed early-flowering Poet's Daffodil, most valuable .. per 100, 12s. 6d. 2 0 0 3

GRANDIFLORUS, pure white, very large petals, cup suffused crimson .. 5 6

POETARUM, saffron cupped, broad white-petalled Poet's Daffodil .. 7 6 0 9

TRIPODALIS, the scarlet-rimmed reflexed Poet's Daffodil .. 9 6 0 9

OF THE PYRENEES, flowers variable in size from 1½ ins. to 4 ins., a very interesting group, and very decorative in the borders .. per 100, 18s. 2 6 0 3

GARDENIA FLOWERED, full double, handsome flowered, large roots, per 100, 7s. 6d. 1 6 0 3

GRACILIS, a graceful yellow May-flowering Daffodil .. 3 6 0 4

JONQUILLA MINOR, an elegant, rich, full yellow, small-flowered species .. 6 0 6

SCHIZANTHUS ORIENTALIS, an elegant three to four-flowered Daffodil, with elegantly-lobed cup .. 2 6 0 3

BARR & SON, 12, King Street, Covent Garden, W.C.

BARR'S BEAUTIFUL HARDY DAFFODILS.

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BARR'S NEW OR RARE HARDY DAFFODILS

for Pot Culture, Flower Beds, Borders, &c.;

for Descriptive List of Varieties, see Advertisement, "The GARDENING WORLD," November 6th; or, send for B. & S.'s Illustrated DAFFODIL CATALOGUE, free on application.

These beautiful New Daffodils surpass all other spring flowers, whether for in or outdoor decoration, and as cut flowers they vie with the Orchid and the Rose. In the London Spring Flower Shows for twenty years Barr's Daffodils have occupied a leading position, and are now the most favoured flowers of spring.

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These surpass in beauty and effect all other spring flowers for Beds, Masses in Flower Borders, Shrubberies, and to Naturalise in Grass, beside Streams, Lakes, Ponds, or for Pot Culture. As a Cut Flower the Daffodil is prized beyond all others. Its culture is simple, growing in all soils and situations; no amount of frost will injure bulb or flower. Grown three in a pot, they should be treated like the Hyacinth; or if forced for cut flowers, plant in common boxes about 9 ins. by 15 ins. and 4 ins. deep; the bulbs planted close together, the boxes or pots placed out of doors and covered with ashes or Cocoa fibre, and there left till the top of the bulb has grown about an inch. The boxes may then be placed under glass as required. A warm moist atmosphere ensures the best results, but an unheated greenhouse might be kept gay with these charming flowers from January to May.

	Per 100. doz.	s. d. s. d.
CHOICE MIXED DAFFODILS for naturalisation or for Shrubberies ... per 1000, 42s.	5 6	1 6
PINE MIXED DAFFODILS for naturalisation or for shrubberies ... per 1000, 30s.	4 6	1 0
GREAT NONSUCH DAFFODILS, mixed varieties, valuable for naturalisation and cutting, ... per 1000, 63s.	7 6	1 3
second-sized bulbs ... per 1000, 30s.	4 6	0 9
LENT LILIES OF ENGLAND, petals white, trumpet yellow, valuable Daffodil for naturalisation ... per 1000, 25s.	3 0	0 6
second-sized bulbs ... per 1000, 15s.	2 6	0 4
GARLAND LILIES OF SCOTLAND, petals white, trumpet yellow, valuable Daffodils for naturalisation ... per 1000, 42s.	5 6	1 0
second-sized bulbs ... per 1000, 21s.	3 0	0 6

Trumpet Daffodils.

LARGE YELLOW HOOP PETTICOAT, very beautiful ...	12 6	2 0
ABSCISSUS, petals sulphur-yellow, long narrow trumpet ...	21 0	3 6
EDWARD LEEDS, large, handsome, rich, uniform yellow petals and trumpet ...	30 0	5 6
MAJOR, uniform rich yellow petals and trumpet ...	15 0	2 6
second-sized bulbs ...	10 6	1 6
OBVALLARIS (Tenby Daffodil), very early flowering, uniform yellow petal and trumpet ...	12 6	2 0
extra-sized bulbs ...	17 6	2 6
RUGLOBUS, primrose petals, large yellow trumpet ...	25 0	3 6
SPURIUS, rich full yellow petals and trumpet, large flowered ...	15 0	2 6
second-sized bulbs ...	10 6	1 6
SPURIUS YELLOW KING (Ard Righ), large rich yellow petals and trumpet ...	40 0	6 6
BICOLOR HORSFIELDI, large and early; petals white, trumpet yellow ...	7 6	5 6
second-sized roots ...	13 6	7 6
white, trumpet yellow ...	13 6	7 6
CAMBRICUS, sulphur-white petals, yellow trumpet ...	15 0	2 6
PRINCEPS, sulphur-white petals, very large yellow trumpet ...	12 6	2 6
second-sized bulbs ...	10 6	1 6
PALLIDUS PRÆCOX, a great beauty; uniform pale sulphur petals and trumpet ...	15 0	2 6
TELAMONIUS PLENUS, strong flowering bulbs of the large double Daffodil ...	7 6	1 3
very large bulbs ...	10 6	1 6

Chalice Cup-shaped Great Nonsuch Daffodils.

	Per doz.	Each.	s. d. s. d.
CONCOLOR, petals and cup yellow, large flower... 21	0	3 6	
second-sized flowering bulbs 12	6	2 6	
EDWARD HART, full yellow petals and cup ... 30	0	5 6	
second-sized flowering bulbs 21	0	3 0	
FRANK MILES, very large flower, yellow petals and cup ... 30	0	5 6	
second-sized flowering bulbs 21	0	3 0	
FIGARO, yellow petals, large orange-stained cup.. 30	0	5 6	
second-sized flowering bulbs 15	0	2 6	
FAIRY, yellow petals, cup elegantly edged orange 12	6	2 0	
second-sized flowering bulbs 8	6	1 6	
GLOW, yellow petals, cup margined orange ... 10	6	1 6	
second-sized flowering bulbs 7	6	1 3	
SUNLIGHT, yellow petals, cup stained orange ... 10	6	1 6	
second-sized flowering bulbs 7	6	1 3	
SULPHUREUS, sulphur petals, cup yellow ... 10	6	1 6	
second-sized flowering bulbs 7	6	1 3	
ASTREA, sulphur petals, yellow cup ... 10	6	1 6	
second-sized flowering bulbs 7	6	1 3	
JOHN BULL, sulphur petals, cup yellow, large and spreading ... 25	0	4 6	
second-sized flowering bulbs 15	6	2 6	
LONGSHANKS, sulphur petals, large yellow cup 21	0	3 6	
second-sized roots 12	6	2 6	
SANCHO, sulphur petals, yellow cup, tinged orange ... 10	6	1 6	
second-sized bulbs 7	6	1 3	
ALBIDUS, sulphur-white petals, yellow cup ... 10	6	1 6	
second-sized bulbs 7	6	1 3	
ANNIE BADEN, sulphur-white petals, elegant cup 25	0	4 6	
second-sized bulbs 12	0	2 6	
CYNOSURE, primrose-petal, long orange-stained cup ... 21	0	3 6	
second-sized bulbs 12	6	2 6	
LORENZO, self primrose petal, yellow cup ... 30	0	5 6	
second-sized bulbs 21	0	3 6	
STELLA, large white petals, large yellow cup ... 18	6	2 6	
second-sized bulbs 10	6	1 6	
BARRI, GOLDEN MARY, yellow petals and cup. 7	6	1 3	
second-sized bulbs 5	6	1 0	
„ SULPHUREUS, primrose petals, yellow cup 15	0	2 6	
second-sized bulbs 7	6	1 6	
„ ADA, sulphur-white petals, yellow cup ... 21	0	3 6	
second-sized bulbs 10	6	1 6	
„ JOHN STEVENSON, sulphur-white petals, large spreading yellow cup ... 40	0	4 6	
second-sized bulbs 21	0	3 6	

Eucharis-flowered Daffodils.

LEEDSI AMABILIS, large white petals, long white cup ... 40	0	7 6	
second-sized bulbs 21	0	3 6	
„ DUCHESS OF BRABANT, white petals, canary cup ... 40	0	7 6	
second-sized bulbs 21	0	3 6	

Sundry Daffodils.

HUME'S SULPHUR, a fine hybrid, sulphur-white petals, yellow cup ... 15	0	2 6	
second-sized bulbs 10	6	1 6	
MACLEAYI, a miniature bicolor, white and yellow ... 15	0	2 6	
second-sized roots 10	6	1 6	
ODORUS, large, self, yellow, handsome Jonquil, with six-lobed cup ... 10	6	1 6	
second-sized bulbs 5	6	1 0	
„ REGULOSUS, large, self, yellow, handsome Jonquil, with straight cup ... 10	6	1 6	
second-sized roots 5	6	1 0	
BUTTER AND EGGS, large double yellow, with orange nectary ... 6	6	1 0	
second-sized bulbs 4	6	0 9	
EGGS AND BACON, large double white with orange nectary ... 12	6	2 6	
second-sized bulbs 7	6	1 3	
CODLINS AND CREAM, large double white with sulphur nectary ... 35	0	5 6	
second-sized bulbs 21	0	3 6	

Burbidge's Daffodil.

BURBIDGE'S early-flowering POETICUS, white petals, scarlet-stained cup ... 12	6	2 0	
second-sized bulbs 7	6	1 3	
„ YELLOW POETICUS BOZ ... 21	0	3 6	
second-sized bulbs 15	0	2 6	
„ early-flowering WHITE POETICUS DANDY ... 21	0	3 6	
second-sized bulbs 10	6	1 6	
„ early-flowering WHITE POETICUS MARY, large suffused orange cup ... 25	0	4 6	
second-sized bulbs 12	6	2 6	
„ early-flowering WHITE POETICUS ROBIN HOOD ... 25	0	4 6	
second-sized bulbs 12	6	2 6	

Poet's-flowered Daffodil.

POETICUS ANGUSTIFOLIUS, early-flowering Poet's Daffodil ... 10	6	1 6	
second-sized bulbs 8	6	1 6	
„ ORNATUS, the broad-petalled Poet's early-flowering Daffodil ... 12	6	2 0	
second-sized bulbs 8	6	1 6	
POETICUS OF GARDENS, large white petals, orange rim cup ... 5	6	1 0	
smaller roots 3	6	0 6	
GARDENIA-FLOWERED DOUBLE WHITE DAFFODIL ... 7	6	1 6	
smaller bulbs 5	6	1 0	
PRIMROSE PEERLESS DAFFODIL, per 1000, 30s. 3	6	0 6	
THE TRIPLE-GASHED DAFFODIL ... 15	0	2 6	
second-sized roots 10	6	1 6	

Selections from the foregoing Daffodils, 3s. 6d. to 105s.

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Just Published.

OUR SPECIAL IRIS LIST, No. 85, containing all that is best and most beautiful, offering great advantages to the purchasers.—NEW PLANT & BULB COMPANY, Lion Walk, Colchester.

CHRISTMAS FERNS.—21 different, rare, large-rooted, evergreen hardy Irish Ferns for 2s. 6d., free; 12 for 2s. 12 large trumpet Captain Nelson Daffodil bulbs for 2s. 6d., free; 6 for 1s. 6d. Eighteen-page List on the Ferns and Flora of Ireland for 2d.—P. O'KELLY, Fernist, Glenarra House, Ballyvaughan, Co. Clare.

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HELLEBORUS NIGER, extra large English clumps.
LILIUM AURATUM } From Japan.
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SPIRÆA JAPONICA, fine clumps.
LILY OF THE VALLEY, German crowns for forcing.
Special low offers on application to
WATKINS & SIMPSON, Seed and Bulb Merchants, Exeter Street, Strand, London W.C.

PRESTON and FULWOOD HORTICULTURAL SOCIETY. President, EDWARD GARLICK, Esq., J.P.; treasurer, JAS. B. DIXON, Esq.

NOTICE TO INTENDING EXHIBITORS.

THE NINTH GREAT SPRING FLOWER SHOW AND FLORAL FETE will be held in the New Public Hall, Preston, on Thursday and Friday, the 17th and 18th days of March next, when Prizes amounting to One Hundred Pounds will be offered for Roses, Azaleas, Foliage Plants, Hyacinths, Tulips, Narcissus and other spring-flowering Bulbs and Plants. Schedules of Prizes and other information may be had from JOHN ATHERTON, Hon. Secretary, Fern Bank, Cadley.

Royal Botanical and Horticultural Society of Manchester.

EXHIBITION OF CHRYSANTHEMUMS in the Town Hall, Manchester, on the 23rd and 24th inst. For Schedules apply to the undersigned, BRUCE FINDLAY, Royal Botanical Gardens, Manchester.

Next Week's Engagements.

MONDAY, Nov. 15th.—Bulb Sale at Stevens' and Protheroe & Morris's Rooms.—Sale at Bigg's Nursery, Lewisham.

TUESDAY, Nov. 16th.—Sale of Bulbs, Roses, &c., at the City Auction Rooms, and Sales at Cooper's Nursery, Brox and Pennett's Nursery, Tottenham, all by Protheroe & Morris.

WEDNESDAY, Nov. 17th.—Sale of Roses, Fruit Trees, &c. at Stevens' Rooms.—Sale of Plants at Protheroe & Morris's Rooms, and Greenhouse Plants at Harold Wood, by Protheroe & Morris.

THURSDAY, Nov. 18th.—Sale of Flowering Orchids at Stevens' Rooms.—Sale of Bulbs, &c., at Protheroe & Morris's Rooms.—Sale at Laxton's Nursery, Gifford, Sandy, by Messrs. Protheroe & Morris.

FRIDAY, Nov. 19th.—Sale of Imported and Established Orchids at Protheroe & Morris's Rooms.—Sale of Plants at the Mead Child's Hill, by Protheroe & Morris.

SATURDAY, Nov. 20th.—Sale of Bulbs, Roses, Fruit Trees, &c., at Stevens' Rooms.

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man.—BACON.

The Gardening World.

SATURDAY, NOVEMBER 13, 1886.

CHRYSANTHEMUM MONOGRAPHICUM.—The appearance in the world of literature of yet another book devoted to the Chrysanthemum may be accepted as an additional indication, were such evidence needed, to show that the grand autumn flower, whose annual festival we may be said to be celebrating during the present month, has an infinitude of enthusiastic worshippers. There is a prevailing impression

that the Rose is the queen of flowers, but we are of the opinion that the more modern Chrysanthemum has the largest number of followers, and runs the Rose very hard indeed in the race for honours. There are two things in favour of the latter flower: first, it comes in at a time when other flowers are scarce, the Rose, on the other hand, blooming when flowers are abundant; and, second, whilst but the few can grow Roses fit for exhibition, the thousands can produce really good Chrysanthemum blooms; indeed, even in towns and other populous places where Roses would die, or exist only miserably, the Chrysanthemum thrives well, blooms finely, and serves to bring beauty and sweetness into courts and alleys where the Rose is rarely or never seen.

We have no other such a democratic flower as is the Chrysanthemum; it is literally everybody's, hence it is so popular. No other flower has so many shows specially devoted to it; and even the Rose, varied as its forms and characters are, cannot compete with the Chrysanthemum in variety of form. Of all the beautiful flowers found in gardens now, none more thoroughly accentuate the wondrous progress made by florists during the past twenty years than Chrysanthemums do; a honest retrospect must show that this progress has been marvellous. We should be ready to assert that such relative progress during the ensuing twenty years was impossible, and it is, most probably, because the flower has been virtually built up, and now seems only to offer room for variation and perfecting. Still, there will be comparative wonders ere twenty more years have elapsed; but it is unfortunate that we have, on paper, scarcely any record of the development of the Chrysanthemum pictorially. Essays and books have been written, more or less good; the last one specially being devoted absolutely to the practical work of cultivation and of exhibition, but none seem to grasp the great fact that the flower now demands a special monograph or literature to itself. It is true that in the past a constituency of subscribers could hardly have been found which would have made the publication of a special Chrysanthemum magazine or quarterly profitable. That difficulty hardly now exists, because there are not less than 100,000 really enthusiastic Chrysanthemum growers in the kingdom, the majority of whom are so deeply imbued with love for their pet flowers, that they would, probably, support any serial, whether of a monographical form or otherwise, which was devoted solely to it.

Here is opened an opportunity for the National Chrysanthemum Society, if it is anxious to merit its comprehensive title, or to display its power and usefulness. Let it provide an editor who possesses literary capacity, and turn out, say, quarterly, a finely illustrated number of the desired work, with ample description and cultural notes, and, without doubt, a sufficient number of the Chrysanthemum-growers would subscribe to it to make such publication a success. Books, whether cheap or dear, emanating solely from private sources, would be necessarily deficient in that broadness and fullness, as well as of impartiality, which would be found in a publication issued from some public source. How much we should all like to treasure faithfully executed portraits of the best flower of the day; not merely for their own sakes, but also as enabling some contrast to be made between the best of to-day and those of some ten years hence. As to cultural detail, that may, perhaps, have been already a little overdone, especially when ample opportunity has been offered throughout the gardening press for the publication of the best methods of the best growers.

We are disposed to think that few plants are more easily grown than are Chrysanthemums; few need less of that anxious attention demanded

by many other florists' flowers; few, perhaps, the sooner force upon the attention of the most ignorant of growers the obvious methods to ensure success. We have a wondrous number of shows open to Chrysanthemums, but we have other uses for the flower than in merely furnishing public exhibitions. The plants are amongst our most valuable home-decorative material, and as cut blooms decorate our houses, or are useful as well as beautiful in many domestic ways. All these things combined lend special interest to the flower, and its popularity is of the greatest. We, therefore, think that it merits a monograph, and a really good one too. Who will undertake the production of so interesting a work, and do it well?

WE regret to hear that MR. GEORGE GIBBS, senior partner of the old-established firm of Thomas Gibbs & Co., seed merchants, of 24, Down Street, Piccadilly, died suddenly on Monday morning last. The deceased gentleman was writing a letter in his office, when he left his seat, immediately staggered and fell, and died shortly after being removed to his private residence.

THE annual Chrysanthemum show promoted by the Royal Botanical and Horticultural Society of Manchester will be held in the Town Hall on the 23rd and 24th inst.

DURING January and February next, Dr. T. L. W. Thudicum will deliver a series of lectures on the DISEASES OF PLANTS, with special reference to Agriculture and Forestry, at the Society of Arts.

OLD time visitors to the late Mr. John Salter's famous Versailles Nursery at Hammersmith, will regret to hear of the death of his widow recently at Pembroke Road, Earl's Court, Kensington, in her 86th year.

WE regret to record the death, on October 29th, at Warwick Road, Kensington, of the wife of Mr. John Lee, formerly of the Royal Vineyard Nurseries, Hammersmith.

MR. PETER BLAIR, son of Mr. Blair, of Shrubland Park, succeeds the late Mr. Z. Stevens at Trentham.

THE Rose would seem to be growing in popular favour in India, judging from the fact that the publishers of *The Indian Gardener* announce the early publication of "Roses and How to Grow Them"—the most complete work on Rose culture yet published in that country.

WE are pleased to hear that the veteran PHILIP FROST, of Dropmore, who has recently been suffering from a sharp attack of bronchitis, is now somewhat better.

AT the last meeting of Belgian horticulturalists held at Ghent, Certificates of Merit were awarded to M. Hye-Leyen, for *Cypripedium euryandrum*; to M. Arthur de Smet, for *C. argus* var. *nigro maculatum*; and to Messrs. Vervaeke & Co., for *Phalaenopsis Lowii*.

THE *Mark Lane Express* of Monday, November 1st, contains a portrait of Mr. Martin Hope Sutton, of Reading, and an appreciative notice of his career.

THE Paris correspondent of the *Daily News* states that the harvest of the State Apple gardens in the Paris Luxembourg Park was finished on Saturday. One-third is divided between the Prefect of the Seine and the President of the Republic, who have the finest Apples for their official dinners. Another third is sent to the Military Hospital of Val de Grace, and the rest is sold. The orchard at the corner of the Luxembourg Gardens is kept for supplying grafts to gardeners. One of the most productive of the State orchards is at Versailles.

CHRYSANTHEMUM SHOWS NEXT WEEK.

Monday:—Sheffield and Hallamshire (two days).

Tuesday:—Yeovil, Watford (two days); Southgate (two days); Winchester (two days); Brighton (two days); Putney (two days).

Wednesday:—Dublin, Luton, Chelmsford, Hampstead (two days); Bristol (two days); York (three days).

Thursday:—Hitchin, Chiswick, Taunton, Hull (two days).

Friday:—Sheffield and West Riding (two days).

Saturday:—Kettering and Ramsbottom.

DALLAM TOWER, MILNTHORPE.

THIS interesting establishment has long been under the management and supervision of the present excellent gardener, Mr. S. Sarpie. A few weeks ago I had an opportunity of walking through the grounds and houses, and was much pleased with all that came under my notice. The trees in the park were just putting on the tints of autumn—the varying shades of brown, red and yellow adding much to the beauty of the scene—whilst against these colours, the sombre and dark green of the Coniferae was very effective. Among the latter I noticed a capital *Araucaria imbricata*, nearly 50 ft. high; this was of a fine and distinct habit of growth; *Cryptomeria japonica*, 50 ft.; *Cupressus macrocarpa*, 40 ft.; *Wellingtonia gigantea* of similar dimensions; *Cupressus Lawsoniana erecta viridis*, 30 ft. high, a splendid specimen; *Cedrus atlantica*, 30 ft., &c.

The houses were full of very useful and healthy plants: *Crotons* and *Dracaenas* for house decoration, many *Dendrobium nobile* in baskets for winter and spring bloom; one large specimen was nearly 4 ft. through. *D. crassinode* and *Wardianum* had made healthy and stout bulbs, and ere long will be swelling the bloom buds; some good *D. thyrsiflorum* were grown with the stove plants and had made grand bulbs. On the shelves in the Pine stoves and Croton house were numerous pots and pans of *Calanthes* that had made up some capital bulbs, and were pushing many stout spikes. *Bouvardias*, *Euphorbias*, *Poinsettias* and *Gardenias* are numerous and healthy, and with a good batch of Chrysanthemums will make a capital display for some time to come.

At the lower part of the kitchen garden is a water-course some 6 ft. or 8 ft. wide, with perpendicular sides made up with square stone sets. Here in the joints and crevices of these stone walls are to be seen some thousands of plants of *Asplenium trichomanes*, with some plants of *Ceterach officinarum* growing amongst them; this was to me one of the prettiest and most interesting sights I saw during a short ramble in the neighbourhood of Milnthorpe, Kendal and Windermere. So far as I could gather, the plants were self-sown, and by the continual springing up of fresh seedlings, numerous additions were made every season. I could not see that there was much variation in the form, scarcely any having assumed the crested form which is now so eagerly sought after.—W. S.

"INVINCIBLE" TREE-GUARD.

MR. G. S. COLE, The Dean, Cirencester, has invented a new form of tree guard, which he has named "The Invincible," and of which the accompanying is an illustration. The object of the inventor has been the production of a tree guard combining the greatest amount of strength and durability with the minimum of cost, and giving the least amount of trouble in fixing or removing. The guard is constructed on the principle of the bicycle wheel, the tension of the wire giving strength. Hence the lightness of the structure, which means, of course, less iron, less labour in the making, and a less surface of iron to be kept tarred. The inventor claims for it that it is particularly adapted for fruit trees, and being cheap can be highly recommended for use in deer parks, pleasure grounds, &c. The guards are made to protect a tree 16 ins. in diameter, and being open at the bottom, stock can feed close up to the tree without being able to touch it, thereby preventing the accumulation of grass or weeds, which is not only unsightly, but injurious to the tree. So many of the ordinary forms of tree guards are such eyesores in gardens, parks and pleasure grounds, that many will doubtless welcome the introduction of this neat and serviceable article.

CHRYSANTHEMUM SHOWS.

The National Society.—Nov. 10th and 11th.—The managers of the National Chrysanthemum Society have no reason to regret the steps they have taken to give the society a wider range of operations, nor have they cause to feel other than gratified with the progress the society is making. Its last annual gathering at the Westminster Aquarium was an unqualified success, the exhibition, on the whole, being much more extensive than any that have preceded it, and, generally speaking, the various productions staged were of a high order of merit. This year the society had the use

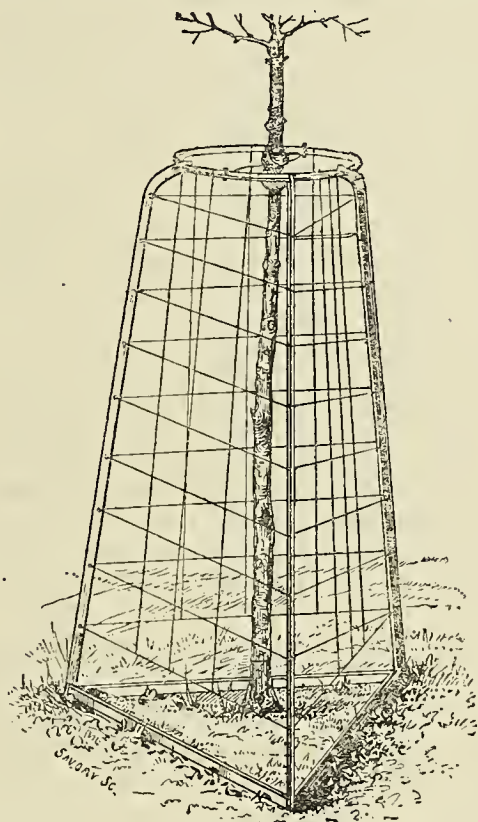
of St. Stevens' Hall, and well it was that such was the case, or there would have been little room left for visitors in the main building. The fruits and vegetables and the bulk of the cut blooms were staged in the new hall, only the specimen plants, the cut blooms of Japanese varieties and some miscellaneous exhibits being staged, as before, in the Aquarium proper. The specimen plants were unusually good, the first-prize half-dozen Pompons especially claiming high praise; and the number of blooms staged more than compensated for the loss of most of the best incurved blooms in many collections. The arrangements made by Mr. Holmes, the indefatigable honorary secretary, assisted by a small band of willing workers from among the general committee, left nothing that the most critical of "Mum" enthusiasts could desire, and all that was wanted to put everybody in good humour was a little more genial weather. As it was, in this respect, the elements could hardly have been more unfavourable.

For a group of plants effectively arranged, Japanese varieties only, the competition for honours lay between Mr. George Edwards, of Balham, Mr. J. Townshend, of Putney, and Mr. W. Brown, of Richmond; and the judges correctly awarded the prizes in the order named, Mr. G. Edwards especially having a fine assortment of high-quality flowers. Mr. Townshend had some extra fine blooms; but, generally, his collection was not so even as the first-named. With a group of plants, from which the popular Japanese varieties were excluded, Mr. G. Stevens, of Putney, won the first prize easily, showing a collection of an admirable character, flowers and foliage alike being first-rate. Mr. Townshend again came in second; and the third award went to Mr. J. H. Witty, Highgate Cemetery, both showing well. The class for nine trained specimens brought out some beautifully-developed plants, notably a fine group from Mr. Monk, gardener to W. Fowler, Esq., Leytonstone, which secured the highest award. His plants were of good size, inclining to the pyramidal form, and perfect in flowers and foliage. His sorts were Geo. Rundle, Dr. Sharpe, John Salter, Geo. Glenny, Prince of Wales, Princess of Wales, Chevalier Domage, &c. The second and third prizes were awarded to Mr. R. Bass, gardener to Miss A. Cotton, Davis Lane, Walthamstow, and Mr. W. J. Weston, gardener to D. Martineau, Esq., South Road, Clapham Park; but this decision was questioned, many being of the opinion that they should have been reversed; and, certainly, though somewhat stiff and flatly trained, the last-named had the best quality blooms. The decision in the class for four trained standards was also questioned: Mr. Mitchell, gardener to Mrs. Arbutnot, Boyden Place, Bexley, was awarded the first prize for beautifully-flowered heads on clean stems, some 3 ft. high, of Bertier Rendatler, Margot, G. Glenny, and Bouquet Fait; and Mr. Moore, gardener to W. C. Pickersgill, Esq., Blenden Hall, Bexley, was placed second with similar-sized plants, exceedingly neat and well done, but more sparingly flowered, so, on the whole, there was not much room for complaint. The third prize went to Mr. Gilbey, gardener, The Cazenoves, Upper Clapton. For six trained Japanese, Mr. Monk was again first with a very well-bloomed set; and equally praiseworthy were the succeeding collections from Mr. R. Bass, and Messrs. G. Drain & Son, Southgate Grove, De Beauvoir Town. In the Pompon class no mistake was possible, so far ahead were the half-dozen grand specimens shown by Mr. R. E. Reeve, gardener, Hadley House, Hadley Green, Barnet. The plants measured about 5 ft. over, and were superbly bloomed, the varieties being Marguerite de Coi, lilac Anemone; Fanny, crimson; Sœur Melanie, white; Lilac Cedo Nulli; Golden Cedo Nulli; and Rose Andromeda, rose-pink.

In the cut bloom section, the leading classes were for forty-eight incurved, and the same number of Japanese blooms respectively; and for size, brilliancy of colours, and general attractiveness the latter undoubtedly took the palm. There were eight competitors, and than the best collections, no finer have been seen. Mr. Gibson, gardener to J. Wormald, Esq., Morden Park, Mitcham, came in first, with a marvellously fine lot of blooms, large in size, well matched, bright and fresh, and including such fine sorts as Madame C. Audiguier, Baron de Prailly, Grandiflora, Mdle. Lacroix, Japonais, Comte de Beauregard, Valle d'Andore, L'Adorable, M. Astorg, Jeanne Delaux, Elaine, Maiden's Blush, Madame Clemeuce Audiguier, Thunberg, Roseum

pictum, Criterion, M. Brunet, Boule d'Or, and Glorionum. Mr. J. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, was a very good second, showing a remarkably beautiful lot of blooms; and Mr. J. Bettsworth, gardener, Burton Grange, Cheshunt, was third, also showing an extra fine lot.

In the corresponding class for incurved varieties, in which there was also a good competition, Mr. Gibson was again awarded the first prize, with a collection of singularly perfect blooms, many points ahead of his competitors; but on its being subsequently discovered that he had four blooms of Golden Queen in his stand, whereas the schedule stipulated that no more than three blooms of any one variety should be staged, he had, perforce, to be disqualified, to the general regret of all, for it was plainly seen that the unfortunate occurrence was the result of undue haste in staging, and not from any intent to deceive. He had a remarkably fine lot of blooms, and could have won had he placed in his stand the poorest bloom he had in his garden. His flowers of Golden Queen, Empress of India, Princess of Wales, Queen of England, Prince of Wales, Golden Empress, James Salter, Hero of Stoke Newington, Jeanne d'Arc, Barbara, Lord Wolseley, Princess Beatrice, Refulgens and Jardin des Plantes, were superbly finished examples. The disqualification caused the first prize to be awarded to Messrs. W. & G. Drover, Fareham, Hants, who before were second, and who



"INVINCIBLE" TREE GUARD.

staged a very good neat and well-balanced lot of blooms. The second prize went to J. R. Wildman, Esq., Oaklands, Grove Road, Clapham Park, and the third to Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham. For 24 incurved varieties, in a good class, Mr. Wildman beat the president, E. Sanderson, Esq., who has generally been invincible in this class, but who has lost heavily this year by damp. The third prize went to Mr. W. R. Strong, Wellington College, Wokingham. In a good class for eighteen incurved varieties, confined to exhibitors who have not won a leading prize with a larger number of blooms at any previous show, Mr. J. Martin, gardener to C. N. Kidd, Esq., West Hill House, Dartford, staged a very neat and good lot of blooms, and secured first honours; closely following him coming Mr. J. Horsefield, Heytesbury, with a fine lot of blooms, but a little more uneven in size; Mr. J. Mitchell was a good third, with a dozen blooms of remarkably good quality. Mr. J. Doughty, gardener to Mrs. Tomlin, Angley Park, Cranbrook, secured a first prize; Mr. Shoesmith, gardener, Saltwood Rectory, Hythe, coming in second; and Mr. J. Gore, gardener, Glenleigh, Hastings, third. In the class for a dozen reflexed blooms, superb specimens of Cloth of Gold, Garibaldi, Peach Christine, Felicity, Golden Christine, Dr. Sharpe, Phidias, and the glorious dark crimson Cullingfordii were shown by Mr. Fred. Moore, and were placed first; a good second being Mr. Wills, gardener, The Firs, Basset, South-

ampton; and Mr. J. Gore third. With a dozen Pompons, the last-named exhibitor easily beat his rivals for first honours. In the classes confined to Metropolitan growers, the leading exhibitors were Mr. G. Langdon, gardener, Brook House, Clapton; Mr. S. Gilbey; Mr. R. Whibley, Bethlehem Hospital, Southwark; and Mr. W. Davey, gardener, Cedar House, Stamford Hill.

The Floral Committee of the Society held a meeting on Wednesday, and being the opening day of their great exhibition they had a busy afternoon. The list of blooms produced to the committee for their awards, far exceeded anything presented to them before, and as a result, a large number of First Class Certificates were awarded to some grand and attractive blooms, and we regret that want of space prevents us giving a more detailed list of them. The following First Class Certificates were awarded:—To Messrs. Cannell, of Swanley, for La France, Eynesford Gem, Ratapail and Citrius. To Mr. Wm. Holmes for Coquette de Castille. To Mr. N. Davis, of Camberwell, for Edouard Audiguier, Roi de Japonaise, Snowstorm (a very effective white Japanese flower), Souvenir d'Angèle, Amiel, Crocus, Chadonnet, La Marguerite (a very fine large Anemone, after the colour of Beaute de Jardin), Scapin, (a very pretty Pompon), Malins, and Sans Pareil, a very effective red and gold hybrid Pompon). To Messrs. John Laing & Co., Forest Hill, for Mons. Vivian Morel, a creamy white Japanese; Crocus and Scapin were also shown in good form by this firm, and also received First Class Certificates. To Mr. Sullivan, for Alpha, a very fine Japanese. To Mr. H. J. Jones, of Lewisham, for Mrs. H. J. Jones, a very fine golden sport from Ethel, having the exact growth and habit of the parent plant; and to Messrs. Veitch & Sons, Chelsea, for Souvenir d'Angèle Amiel, Mdle. Paule Dutour and Mons. Vivian Morel.

Messrs. H. Cannell & Sons staged a very fine collection of new and good varieties, mainly of the reflexed and decorative sections, and set up in their usual inimitable manner. Mr. W. Holmes staged a capital group of dwarf plants, exceedingly well bloomed, and concerning which we must reserve further observations till our next. Mr. W. E. Boyce also had a stand of new varieties, the pretty Pompon Mrs. Mardlin, and two of Mr. Cullingford's seedlings, Freemason, a buff coloured hybrid Japanese, and Sun in Splendour, a bronze-yellow Japanese of much promise.

The prizes offered for fruit brought out a good competition in various classes, and the produce staged lent additional interest to the exhibition. For a collection of Grapes, of which seven lots were staged, Mr. J. Harvey, gardener to J. Waters, Esq., Ticehurst, Sussex, came in first with good bunches of Barbarossa, Gros Colmar and Black Alicante. With a splendidly developed sample of Gros Colmar, and smaller samples of five other sorts, Mr. J. H. Goodacre, Elvaston, came in second; and Mr. Allen, gardener to Lord Suffield, Gunton Hall, Norfolk, was a good third, with nice bunches of Gros Maroc, Black Morocco, and Muscat of Alexandria, &c. A special Cultural Commendation was awarded to Mr. Goodacre, for the Gros Colmars. For three bunches of White Grapes, Mr. Roberts, Gunnersbury, was easily first, with very perfect specimens of Muscat of Alexandria; second and third, with the same variety, being Mr. Chalk, Westwood, Salisbury, and Mr. A. Smith, gardener, Warren Hill, Loughton. In the corresponding class for black Grapes, Mr. Harvey again came in first, with fine tapering bunches of Gros Colmar. The dessert and culinary Apple classes brought out some very fine fruits. In the former, Mr. G. Duncan, gardener, Waruham Court, Horsham, showed very fine samples of King of the Pippins, Ribston Pippin, Golden Reinette, Cox's Orange Pippin, Blenheim Orange and Court Pendu Plat, and secured first honours; while, with culinary varieties, Mr. McKenzie, gardener, Linton Park, Maidstone, likewise came in first, with singularly fine examples of Loddington Seedling, Gloria Mundi, Warner's King, Emperor Alexander, Cox's Pomona and Waltham Abbey Seedling. The Pear class was also a good one, and here Mr. Allen, Gunton, secured the highest award with splendid specimens of Beurré Diel, Beurré Bosc, Glou Morceau, Marie Louise, and Marie Louise d'Uccle.

There were two classes for vegetables, both for six distinct kinds, the prizes being offered by Messrs. Suttou & Sons and Messrs. Webb & Sons. In the former competition, Mr. C. J. Waite, gardener, Glen-

hurst, Esher, secured the highest award with well-grown Intermediate Carrots, Autumn Giant Cauliflowers, Snowdrop Potatos, Reading Perfection Tomatos, Ronsham Park Onions, and Sutton's Prizetaker Leeks. Mr. J. May, Northaw House, Barnet, second; Mr. Miller, Rood Ashton, third; Mr. S. Haines, Coleshill, fourth; and Mr. T. A. Beckett, Amersham, fifth. In the Messrs. Webb's competition, Mr. S. Haines took the lead, followed by Mr. May again second, and Mr. T. A. Beckett third. Several prizes were also awarded for Potatos, and to this section Messrs. Sutton & Sons contributed an extensive collection of leading varieties.

Kingston and Surbiton.—*Nov. 9th and 10th.*—The show of this society was held in the Drill Hall, Kingston, and was in every way a decided success, this year's exhibition being superior to any of those held previously. The superb specimens were marvels of horticultural skill, such fine plants never having been seen before at Kingston. The cut flower classes were exceedingly strong, the entries numerous and competition very keen. The Japanese, recurved and Anemone flowered varieties were quite up to the usual standard, but there was a noticeable falling off in the quality of the incurved flowers.

The fourth Champion Challenge Vase, value 25 guineas, and £5 for the first prize, brought eight competitors. This is the first heat for the new Vase, which must be won twice before it becomes the property of any competitor. Mr. Gibson, gardener to J. Wormald, Esq., Morden Park, was the fortunate winner, and his blooms, especially of the Japanese sorts, were wonderfully fine. The following were the forty-eight Japanese:—Comtesse Beauregard, Elaine, M. Burnet, L'Adorable Jeanne Délaux or F. A. Davis, Boule d'Or, Maiden's Blush, Criterion, Astorg, Triomphe de la Rue des Châlets, Alba striata, Golden Dragon, Japonnaise, Mdlle. Lacroix, Val de Andore, Comte de Germiny, Grandiflora, Fernand Féral, Meg Merrilies, Duchess of Albany, Thunberg, Madame Clemence Audiguier; these were good, and it would be difficult to say which flower was the best. The incurved sorts were Empress of India, Yellow Perfection, Nil Desperandum, Jardin des Plantes, White Venus, Golden Empress, Hero of Stoke Newington, Barbara, Princess Beatrice, Lord Wolseley, Queen of England, Princess of Wales, Jean d'Arc, Golden Eagle, Cherub, Lady Hardinge, Golden Queen, John Salter, Nonpareil, Refulgens, Mabel Wood, Princess Teck and Alfred Salter, a nice lot, but smaller than we usually see them. The second prize went to Mr. E. Coombe, gardener to W. Furze, Esq., Teddington; third, Messrs. W. & G. Drover, of Fareham; fourth, Mr. Beckett, Juniper Hill, Dorking.

In the class for twelve incurved and twelve Japanese, open to the Kingston district, the Silver Cup was won by Mr. Smith, gardener to J. F. Schwann, Esq., with a nice lot of good, clean flowers; second, Mr. King, gardener to Mrs. Few, Esher; and third, Mr. E. Coombe; all showing well.

For a group of miscellaneous plants arranged for effect, 100 sq. ft., a nice arrangement, light and tasteful, Mr. G. Tittell, gardener to R. W. Greave, Esq., was easily first: Mr. Trussler, gardener to W. Shand, Esq., Old Malden, being second; and Mr. Cawte, gardener to J. P. Robinson, Esq., Esher, third. The best collection of Chrysanthemums, in pots, 50 sq. ft., was nicely arranged, and the quality of the flowers were good. There were four entries, and the first prize was awarded to Mr. W. Smith, gardener to J. T. Schwann, Esq.; second, Mr. Orchard, gardener to W. Middleton Campbell, Esq.; third, Mr. Pitcher, gardener to Mrs. Dunnage; fourth, Mr. Loni. These were a creditable lot, and made a fine display. The class for six specimens of incurved varieties brought out as good a lot of plants as we have seen, being well bloomed, nicely trained, and over 5 ft. through: first, Mr. George King, gardener to Mrs. Few, Esher, for the following:—Mr. G. Glenny, Lady Hardinge, Mr. Dixon, John Salter, Mrs. Haliburton and Prince of Wales; second, Mr. C. Beckett; third, Mr. Trussler. For three specimens, Mr. Cawte, gardener to J. P. Robinson, Esq., was first, as also for a single specimen; and for three standards, Mr. Beckett was first. With three specimens of Japanese, a well-flowered lot, Mr. Cawte was an easy first, and the same exhibitor was also first for six Pompons; while for three, Mr. Reid, Oatlands Park, was first; and for three standards, a good lot from Mr. Beckett was first.

Cut blooms, twenty-four incurved: these were a good lot of flowers, and the premier prize was awarded, after

a very keen competition, to Mr. Coombes, gardener to W. Furze, Esq.; second, Mr. Woodgate, Warren House, Kingston; third, Mr. C. Lane, Mayfield, Cheam. Twelve incurved: first, Mr. Cawte; second, Mr. Thorne, gardener to A. E. Flood, Esq., Walton-on-Thames; third, Mr. Carter, gardener to Alderman Evans, Ewell. Six incurved, first, Mr. C. Slade, gardener to Lady Bowater; second, Mr. Trussler; third, Mr. G. Holden, gardener to Mrs. Izoa, Esher. Six incurved, one variety: Golden Empress supplied the winner, fine blooms from Mr. Munro, Cambridge House, Twickenham, coming in first; second and third, Mr. Carpenter and Mr. Carter, both showing Jean d'Arc.

The class for twenty-four Japanese sorts, brought together a marvellous display of fine flowers. Mr. J. King secured the first award, with fine blooms of the following: Madame C. Audignier, Flamme de Pmch, Elaine, Garnet, Mons. Astorg, Criterion, Baron de Prailly, Yellow Dragon, Arlequin, Marguerite Marrouch, Meg Merrilies, Bronze Dragon, Val d'Andorre, Triomphe de la Rue des Châlets, Balmorean, Comte de Germiny, F. A. Davis, Japonnaise, Joseph Mahood, John Laing, Mons. Lacroix, Soleil Levant, Boule d'Or and Mons. Buruet; second, Mr. Child, gardener to Mr. Slade; third, Mr. Munroe; fourth, Mr. Lane. Twelve Japanese: A fine lot from Mr. W. Smith was first; second, Mr. Holden; third, Mr. Duncan, Hornham Court; fourth, Mr. Hunt, gardener to Sir Robert Carden. Six Japanese, one variety: Japonnaise, from Mr. King, was first; second, Madame C. Audiguier, from Mr. Slade; third, F. A. Davis, from Mr. Carpenter. The reflexed flowers were grand; for twelve nice even blooms, Mr. Carpenter, gardener to J. C. Abbott, Esq., was first; second, Mr. Coombe; third, Mr. A. Carter. Twelve Anemones: wonderful flowers from Mr. Gibson, were easily first; second, Mr. Slade; third, Mr. Carpenter. Twelve Japanese Anemones: first, Mr. Childs; second, Mr. Carpenter. Twelve bunches Pompons: first, Mr. Clarke. Twelve bunches Anemone Pompons: First, Mr. E. Coombe.

A Certificate of Merit was awarded to Mr. Ralph Brocklehurst, Liverpool, for a sport from Meg Merrilies, a fine bright primrose-yellow, good and distinct, and named after the exhibitor; also to a reflexed seedling, named Amy Furze, a flower of fine form and substance, of pinkish buff colour. Table plants were chosen in great quantities, and they were also good. For nine: Mr. Carter, gardener to Alderman Evans, was first; second, Mr. Smith, gardener to J. F. Schwann, Esq.; third, Mr. Waite, Glenhurst, Esher. Six table plants: first, Mr. Trussler; second, Mr. Holden; third, Mr. Reid. These were all good, light and graceful. Six berried plants in pots: a nice lot of fruited plants of Capsicum Princess of Wales, from Mr. Holden, were first; for the same variety Mr. King was second. Primula and Cyclamen were not up to the usual standard.

The quality of the Fruits shown was fair. For three bunches of black Grapes: a good Alicante from Mr. Griffin, gardener to Miss Chrystys, were first; second, Mr. Smith; and third, Mr. Docherell, gardener to J. W. Palmer, Esq., Reading. Three bunches white: good Muscat of Alexandria, from Mr. Docherell, were first; second, Mr. Smith; third, Mr. Bates. These were all fairly good. Apples were only second-rate after what we have seen this season, and the same remark applies to the Pears. Messrs. Thomson & Son, Clovenfords, N.B., showed a basket of Gros Colmar Grapes, wonderful berries of fine colour, fed with their celebrated manure. Messrs. Hooper, Twickenham, showed a nice lot of good Tree Carnations, in pots, full of flower. The amateurs and cottagers showed in admirable form, the entries being fully up to the average, and the quality superior to that of former years.

Havant.—*Nov. 3rd and 4th.*—The third exhibition of this progressive society was held in the Town Hall, Havant, on the above dates, and was in every way a decided success. The entries, which were far in excess of the previous years, and the active interest taken in the society by amateurs in the district, speaks well for the future of the society. The show was beautifully arranged, the quality of the various exhibits good; the competition was strong, and in many classes very keen, and we were glad to see the show so well patronised. The groups arranged for effect were very good. The first prize fell to Mr. A. Payne, gardener to Mrs. E.

Smith; the second to Mr. W. Roberts, gardener to E. R. Longcroft, Esq., and the third to Mr. J. Agate, nurseryman, Havant. For eight specimen plants, Mr. Penfold, gardener to Sir F. Fitz-Wygram, Lea Park, was an easy first, his plants being well grown, nicely trained and well-flowered. The same exhibitor took most of the leading prizes for cut flowers, with good examples of those popular varieties most often seen at exhibitions. This exhibitor secured first for twenty-four blooms (twelve Japanese, and twelve incurved), first for twelve Japanese, first for twelve incurved, first for twelve reflexed, and first for twelve Anemones. The classes for cut flowers were well filled, and the quality good.

For six table plants there were some half-dozen competitors, and seldom have we seen a finer lot of plants suitable for that purpose than those seen here. The first prize went to Mr. W. Moseley, gardener to J. Taplin, Esq., Havant. Primulas and Solanums were well shown, the first prize for the former going to Mr. C. Hoskins, Stanstead Park Gardens; while Mr. Kingshott, gardener to Mr. Hodgkinson, secured first for the latter.

In the fruit classes Mr. Penfold secured both the first prizes for black and white Grapes, and for a collection of Apples, Mr. Fuller, gardener to Sir J. Clarke Jervoise, was first with a good lot of well-coloured fruits; while the first for a collection of Pears, went to Mr. Roberts, gardener to E. R. Longcroft, Esq. The vegetables exhibited were superb, some grand collections being staged. Mr. Fuller was first for eight varieties; and Mr. Suter for four. The cottagers also showed well in the vegetable classes, some fine examples of good cultivation being staged, and reflecting great credit upon the exhibitors. Special prizes were offered for collections of salads by Col. Sandeman, and by Messrs. Sutton & Sons for collections of vegetables shown by cottagers. In the former some admirable collections were staged, and the first prize, after a sharp competition, was awarded to Mr. E. Smith; while that for vegetables, Mr. C. Bullock secured.

Crystal Palace.—*5th and 6th Nov.*—This show is always looked upon by the lovers of the Autumn Queen as an event of the season, and this year was no exception to the rule. One reason, perhaps, why this exhibition is so attractive, is because Mr. Head had so much room at his disposal wherewith to show off the exhibits, particularly in the classes for groups of which there were no less than thirteen entries. The cut blooms were well arranged upon tables in the centre of the eastern transept, with the groups arranged on either side facing the tables. In the great class for forty-eight blooms—twenty-four incurved and twenty-four Japanese—there were twelve exhibitors making a grand display of colour as you enter the exhibition. Mr. C. Gibson, gardener to S. Wormald, Esq., of Morden Park, Mitcham, carried off the first honours with some well-finished blooms, and the arrangement of the colours was excellent. Amongst the most prominent were to be seen Val d'Andorre, Grandiflora, Jeanne Délaux, Maiden's Blush, Boule d'Or, Duchess of Albany (Jackson's) and Mdlle. La Croix; in the incurved boards were Empress of India, Golden Empress of India, Jeanne d'Arc, Princess of Wales and Lord Wolseley. Messrs. W. & G. Drover, of Fareham, Hants, were second—in their stand were five blooms of Jeanne Délaux and Bonle d'Or; the third prize fell to F. S. W. Cornwallis, Esq. (gardener, Mr. McKenzie); and Mr. M. Sullivan, gardener to D. B. Chapman, Esq., of Roehampton, was fourth. Class 2, eighteen incurved varieties, distinct, was also well represented, there being eleven entries, the first prize going to Messrs. W. & G. Drover, for eighteen well-finished blooms, amongst them being Queen of England and Nil Desperandum; Mr. Horsefield, gardener to Lord Heytesbury, second. In this stand were some excellent blooms of Jeanne d'Arc, Queen of England and Princess of Wales. Mr. J. W. Springbett, of Holly Nursery, Cheshunt, was third.

In class 3, for twelve incurved, distinct, there were nine entries, the first prize being awarded to Mr. Gore, gardener to Capt. Taylor, of Glenleigh, near Hastings, for five blooms of Prince Alfred, Hero of Stoke Newington, Empress of India, Golden Empress of India, Princess of Wales and Novelty. The latter bloom was so much like Princess of Wales, it was some what difficult to distinguish them.

In the class for six incurved, one variety, there was keen competition for first honours, which were awarded

to Mr. James Wyatt, gardener to J. Perry, Esq., of Bradenhurst, Caterham Valley, for six well-furnished blooms of Nil Desperandum. Mr. Russell was second with Jeanne d'Arc; and Mr. A. Holmes, of Clapham Park, third; there were fifteen exhibitors. Class 5 for eighteen Japanese varieties, distinct, with fourteen entries, was a blaze of colour. First, Mr. J. Munro, gardener to E. P. D. Paul, Esq., of Twickenham, with fine blooms of Marguerite Marrouch and Madame C. Audiguier, &c.; Mr. E. Willis second, and Mr. H. W. Ward, third. The class for twelve Japanese, distinct, contained the greatest number of entries (sixteen); Mr. H. Shoemith, of Hythe, was first. In this stand was an excellent bloom of Mdlle. Lacroix. Mr. Fred Moon, of Bexley, second, and Mr. Cole, of Bristol, third.

The first prize in class 7, six Japanese, one variety, was one of the treats of the show; Mr. C. Gibson's grandiflora were the finest we have seen; Mr. A. Elphick, of Reigate, second, with Madame C. Audiguier; and Mr. Shoemith, third, with six Elaine. In the class for twelve reflexed, Mr. F. W. Flight, Twyford, was first, Mr. E. Willis, second, and Mr. C. Gibson, third. The large-flowered Anemones, twelve distinct varieties, brought forward fourteen entries, the first honours going to Mr. M. Sullivan, of Roehampton, for a fine stand containing Lady Margaret, Fleur de Marie, &c.; Mr. Fred Moore, second, and Mr. C. Penfold, third. Both classes 10 and 11, for Pompons, were well represented, as also the class for six Anemone Japanese, in which Mr. C. Gibson was again first, followed by Messrs. W. & G. Drover, and Mr. H. W. Ward, in the order named.

The great feature of the show was the thirteen groups of plants staged in the three classes. With a collection of incurved varieties Mr. James Townsend, of Putney, secured the first prize, with Mr. N. Davis, of Camberwell, a close second. In the collections for Japanese varieties only, Mr. Geo. Edwards, of Balham, was first; Messrs. John Laing & Co., of Forest Hill, second; and Mr. N. Davis, third. Class 16, collections of plants for amateurs, Mr. W. Wester, gardener to Mrs. Croll, of Upper Norwood, arranged a grand collection; and well deserved the first honours; Mr. John Howes, second; and Mr. F. Ball, of Tooting, third. Trained plants were also well shown by Mr. E. Cherry, Mr. C. Portway, Mr. G. Kinson, Mr. Wm. Griffu and Mr. A. Tomlin. Amongst the miscellaneous exhibits were some grand blooms of Chrysanthemums and Pompons from Messrs. Cannell & Son, of Swanley, to whom five First Class Certificates were awarded; also a box of single Begonias from Messrs. J. Laing & Co., of Forest Hill.

Reports of Brixton and Lambeth shows are unavoidably held over.

GARDENING NOTES FROM SCOTLAND.

The Martinmas Term.—As usual, on Thursday, the Edinburgh nursery and seed trade had a busy day among journeymen and foremen gardeners, but this year shows a marked falling off in the number changing. A large number of young men did not find situations, owing to ordinary reductions in the winter staff, and extra reductions caused by depression among the landed proprietors. The young men also seem to be profiting from the experience gained at former times, and are not so ready to change annually, when they find themselves in a good situation.

Seasonable Notes.—PEAS. — It is generally considered a poor garden in which a few early Peas are not grown; and simple as the cultivation of this very popular vegetable may appear to be, there are few crops that give greater anxiety or trouble than very early Peas. In northern parts it is an old-established custom to sow Peas in November for the first crop—about the middle to the end of the month is considered a good time—but some still hold to dates, and if, perchance, a severe frost, a deep snowfall, or a deluge of rain should take place about the fixed date, it gives cause for great anxiety to the thoroughly "orthodox" friends. It need not, however, as they can always make up for a few days' lost time, by placing the seed in a vessel of water and keeping them under cover, in a temperature of 50° or thereabouts. The quality of the seed is thus proved, and sowing may be done accordingly.

Sowing more thickly than usual is the general practice at this season; some put in double rows, but we have not yet learned the propriety of such a system. If sowing now is preferable to waiting and raising the Peas in frames or other protection at the turn of the year for planting out in March, we would advise doing the work well. Where trenching may be done without doing mischief to trained fruit trees or borders—early crops or others for protection are generally in close proximity to such—we would trench two spades deep for Peas, levelling and breaking the surface well, and sow thereon; a dusting of red lead next the seed, and a covering with dry light soil is a good beginning. Chopped Furze, Barley chaff, and other preventives are often used to help to ward off vermin (rats and mice especially) from devouring the seed. These preventives have another use, they protect the seed to some extent from severe weather, and, we think, encourage free rooting. When the young tops begin to push through the surface of the soil, a dusting of fine ashes, sand, old tan, leaf-mould, or some other similar material will act as protection; early staking of the rows also does much to protect young growth. It is a good practice to put rows of Peas between the Winter Spinach; the ground having been well prepared for the latter, is in good order for the Peas, and the Pea stakes in return shelter the rows of Spinach between them.

We would sow two or three kinds of early Peas. William the First is a favourite for early picking; and one which generally does well as a close succession to the above, is Sangster's No. 1 Improved. Carter's First Crop seems to be a selection from this favourite, and Sutton's Ringleader is one which may be classed on the same level. Birds are often very destructive to young Pea tops, and are often scared by lines of thread stretched along the rows; dustings of soot, syringings of Gishurst Compound and other mixtures may be used with advantage to make the young growths obnoxious to the feathered tribe. Dwarf Peas are very useful for small gardens, and Blue Peter and Little Gem are very suitable for sowing a foot and a half apart. A net may be used as a protection from birds. The good plan of raising Peas under glass, as indicated, saves much of the labour which is imposed by sowing now.

GLOBE ARTICHOKEs may now be protected by placing round their collars, ashes, dry leaves, litter or such material to throw off damp and keep out severe frost; soil drawn up around the collars acts fairly well, but in localities where damp prevails, substantial protection is really necessary.

SEA KALE AND RHUBARB are all the better for having protection over the crowns, not from severity of the weather, as they are both very hardy, but when vegetation begins no check is sustained. Lifting for forcing is rendered more easy during frost when a covering over the roots can be removed. Though frost may not appear to be very near, provision should be made to avoid being caught unawares.

CAULIFLOWER and autumn Broccoli should be lifted to safe quarters as soon as the hearts are of fair size. Hoops and mats may be got ready for Parsley, where better means are not at disposal to keep the leaves in order for daily pickings. A few dozen Parsnips, according to demand, may be dug and covered with straw or soil. Turnips may have soil drawn over the roots as protection, and also a quantity placed under cover for immediate use.

While one keeps the vegetable crops in safety, other things in the ornamental grounds must not be overlooked. Any plants requiring protection at their roots should have prompt attention. Half-hardy plants on walls must be kept in mind; where ferns abound it is excellent for protection of wall plants. Bulbs planted into beds, though ever so hardy, should have protection placed over them. Lifting, partially drying off, and storing of Dahlia roots claims attention; these often are dried till they are useless, and many roots are lost by their remaining in damp cellars; they retain their vitality best when placed in dry sand.

ROSES.—The planting of these is generally performed during November and December, but if plants are as vigorous and far from showing signs of cessation of growth as our own, we would leave planting alone for the present; but the preparation of the ground is of great moment, and if the soil is cold, damp, and of a clayey nature, deep trenching is an important part of the management. It is not necessary to bring up the sub-soil but thoroughly turning it over and break-

ing it will do much for the successful growth of the Roses. If the bottom is sandy and dry means to keep the roots upward is of primary importance; good rich soil to plant in with liberal mulchings of rotten manure will keep the roots right for some time, but during hot dry seasons they are apt to grow downwards in search of moisture, and will get into the sandy bottom, then mildew will soon follow. When planting beds of Roses, we always prefer dwarfs, budded close to the roots, and the junction kept below the surface; roots are thus emitted and a maximum amount of suckers have to be cleared off. Lifting and transplanting Roses suits them well, and their roots kept well up does much to induce free flowering, and keep the plants in even healthy growth. Beds of (say half-a-dozen) of one kind of Rose have a very distinct appearance, and it is much better to have a choice hardy free-flowering selection than a great collection for variety only.—M. T.

THE AMATEURS' GARDEN.

THE FLOWER GARDEN.

The grass on lawns, owing to the comparatively mild autumn, has made more growth than usual, and before the frosts become severe it will be advisable to mow slightly with a scythe, so as to render the lawn as neat as possible for the winter. It is not advisable to cut the grass too closely at this time of the year, as it is liable to suffer in long-continued or very sharp frosts; but a trimming will be advantageous, and it will render the subsequent work much easier. Sweep the lawns at least once or twice a week, and run the roller over them when the weather is not too wet, to render the surface firm and free from worm-casts.

Walks must have similar attention, and their condition during the winter will depend largely upon the attention they now receive. All drains at sides of walks should be cleared, and a free passage provided for the rain, as, however well walks are constructed, they are speedily spoiled if the water remains upon the surface. Never attempt, however, to place the roller on a walk immediately after rain, or more harm than good will result, and it is similarly useless to roll paths when the gravel is frozen.

THE GREENHOUSE.

Primulas are now coming into flower, and as they will continue in succession for a month or two, it is needful to give them some attention, especially in supplying them with water. Carelessness in the performance of this operation causes the loss of many plants, as they are very liable to decay at the "collar," that is, the base of the stem next to the soil, which is often brought about by the reverse of the supposed cause. If once allowed to become thoroughly dry, the tender young roots are killed, and though the leaves may appear healthy for a time they soon turn yellow, and upon examination it is found that the stem is decayed partly or entirely through. The fact is, a plant is, perhaps, found to be dry, with the leaves slightly drooping; water is immediately poured into the pot to saturate the soil, and as the roots have then lost their power of absorption it becomes stagnant, and decay at once commences.

The great evil to be avoided is, therefore, once allowing the soil to become dust-dry, and on the other hand never supply water liberally when it is seen that the soil is really moist, or when the plant is unhealthy. Frequent attention is necessary, and without this success with Primulas is very uncertain. Give them a light position near the glass, and ventilate as much as possible whenever the weather is favourable. Most of the inmates of this house will now require greater care in watering and ventilation, as a cold moisture-laden atmosphere is apt to cause damp, and on foggy or wet days the ventilators should be open but slightly.—*Scolytus*.

IMPROVED METHOD OF PRESERVING WOOD.—The improved French method of preserving wood by the application of lime is found to work well. The plan is to pile the planks in a tank, and to put over all a layer of quicklime, which is gradually slaked with water. Timber for mines requires about a week to be thoroughly impregnated, and other wood more or less time according to its thickness. The material acquires remarkable consistence and hardness, it is stated, on being subjected to this simple process, and the assertion is made that it will never rot. Beech wood, prepared in this way for hammers and other tools for ironwork, is found to acquire the hardness of Oak, without parting with any of its well-known elasticity or roughness, and it also lasts longer.—*North British Agriculturist*.

WHITE DAFFODILS.

WHAT is the true *Narcissus cernuus tortuosus*? I have been reading in a contemporary a multitudinous correspondence for the last month relative to white Daffodils, and in particular as to what constitutes the true *Narcissus tortuosus* of Spain. The fault to be found with one of the most prominent writers on the subject is that he studies Haworth rather too much; whether as a classical scholar or not makes little matter; but, to do him justice, when he finds a pigeon-hole vacant that he cannot put a bird of Haworth into, he then does justice to ancient John Parkinson. Before I venture further with this subject, let me ask the readers of all garden literature, and also the good botanists of the present generation, have they yet fallen in with two white Daffodils answering to the description of what Parkinson describes as "*Pseudo-hispanicus flore albo major*" and "*Maximus albidus*?" Parkinson describes the foliage—viz., of a whity green colour, yet not so white as in the lesser Spanish white kinds, and the height given as fixed (not characterised) at about 2 ft. If it be conceded that Parkinson saw with his eyes two living plants of this description as to foliage, I fail to recognise such, either in the type *tortuosus* or *albicans*, pinning those who differ from me to the foliage as described.

Does Haworth mention *Princeps*, *Minnie Warren*, *Golden Princeps* (shall I say *Rip Van Winkle* or *Leda*), and, lastly, *Ard-Righ*? As to *Leda*, I do not believe he ever saw the plant—as known to me. If he ever saw it he would have ventured still further into the country of the lost tribes, and have been more wise in his generation. Why? Because *Leda* and two other forms of it, gone to sleep at Temple Hill, exactly fit Parkinson's plants in foliage, and when you take them from the soil in July the bulbs are white on the outside (with a whitish coat), as Parkinson describes. While the *tortuosus* of English gardens does not at all grow to the same height—not more than 14 ins.—and the foliage is blue-green, and the bulb brown-skinned, the difference in this respect being as distinct as what you could observe in the skin of Onions. No doubt but *tortuosus* has got the same peculiar Oak timber-like aroma. If Haworth had any knowledge of Ireland—and more particularly of its Daffodils—he never could have used the term *spurius* in connection with such a fine thing as *Ard-Righ*; and if he were more conversant in "stage-coach times" with the secluded haunts of "old England," I think we should have had more of the "light of other days" in Daffodils, and most certainly less of the foster parents "over the garden wall" of the present day. *Secundum artem*.—*W. Baylor Hartland, Temple Hill, Cork.*

[Up to the present time there has been found on the Pyrenees but one white *Narcissus*, and that was discovered by Mr. Buxton a few years back, while on a hunting expedition. It has not yet been long enough in cultivation to allow of a decided opinion being given upon it, but, judging from Haworth, so far the smallness of the flowers would lead to the assumption, that it may be *N. moschatus*, the lesser White Spanish Daffodil, notwithstanding that, the Kew authorities are of opinion that it is *N. cernuus*. Until someone discovers other forms of the white Spanish Daffodil, we must accept Herbert's suspicion that "these were artificial breeds which some cultivator had imposed upon the public as mountain plants above two centuries ago," (*Bot. Reg.*, 1,843, t. 38). From the foregoing, the question arises, have we any descriptions from modern authors that will enable us to fix the character of the four white Daffodils, namely, *albicans*, *tortuosus*, *cernuus* and *moschatus*. Haworth and Herbert give detailed descriptions, and there is but one way of settling the question, and that is, to have the plants grown on neutral ground—at Chiswick for instance—so that the Daffodil Committee can decide the question once for all upon the materials before them. The question is a very interesting one, as Haworth and Herbert, and, we fancy Parkinson, and, perhaps, Salisbury are at one as to the number of white forms. As to identifying Daffodils by their foliage, we must say that it is not a safe proceeding, as it is so much influenced by climate and other circumstances—the height in particular depending upon the surroundings and other local conditions. A moist climate will give a tall plant, and a dry climate a dwarfer one; and to arrive at anything like a satisfactory conclusion, the plants should certainly be grown for two seasons on the same soil. Parkinson's *Pseudo hispanicus flore albo major* is probably what

is now recognised in gardens as *albicans*, but as to what *N. maximus albidus* may be, we cannot say. It may, however, perhaps, be matched in any trials that may take place. At present we cannot call to mind any one Daffodil that fits Parkinson's description, but might it not be *Bishop Mann*? Haworth certainly describes *N. spurius*, but we do not suppose he knew what we now call *Yellow King*. As to *N. princeps* it may be stated that Haworth does not mention it, but Herbert does; and as regards *Leda*, if that is what some growers maintain it to be, namely *N. tortuosus*, Haworth certainly had seen it, but not if it is something else. It should be remembered that Haworth had no popular names, so that what is now called *Minnie Warren*, in all probability was unknown to him. *Golden Princeps* would come under the shield of *N. Telemonium*, while *Rip Van Winkle* is probably none other than Haworth's *N. nanus flore plenus*.—Ed.]

CHRYSANTEMUMS ROUND LIVERPOOL.—II.

THE usual exclamation is, "My flowers are suffering terribly from damp"; but anyone visiting Mr. W. Mease will heartily sympathise with him, for the damp has been most destructive in his collection. It is not individual flowers that have suffered, but we are informed that in one night the whole of the flowers on one side of the greenhouse went; two or three nights afterwards nearly all in one of the vineries met with a like fate, and in another house they have escaped altogether. We were pleased to note *Bronze Queen* of England in good form; these are the only satisfactory flowers we have seen of this variety, in most cases the blooms being very large but rough. Possibly care must be exercised in the selection of the bud. W. Robinson was also in good form, and amongst older varieties, *Yellow Dragon*, *Mr. Bunn*, *Cherub*, and *Jardin des Plantes* were good. As usual, the visitor to Wyncote always sees something worthy of note, and at present there is a grand spike of *Vanda cœrulea* in full beauty. *Cattleya aurea*, a splendid variety, and *Cypripedium insigne Chantinii* were also in flower.

Mr. A. R. Cox, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, is in strong form, as probably will be proved ere this is in print. *Nil Desperandum*, *Boule d'Or*, *Triomphe de la Rue des Chalets*, *Lord Wolseley*, *Queen of England*, and many others, are fine, deep, solid blooms. A beautiful variety of *Cattleya superba splendens*, very rich in colour, is in flower here also.

At Childwell Hall a very valuable sport from *Meg Merrilies* has been secured by Mr. T. Winckworth, gardener to Ralph Brocklebank, Esq. The colour is a pleasing yellow, similar to *Peter the Great*, and, without doubt, it will prove an acquisition as an exhibition flower. It appears to resist the damp more than the general collection. Mr. Winckworth has also been experimenting in reducing the height of one of the tallest growers, *Madame C. Audiguier*. He has grafted it on *Miss Margaret*, but *Madame* does not appear to have noticed the alteration, for she is as tall as ever.—*W.*

CHRYSANTEMUMS AND THEIR CULTURE.*

At an appropriate time, Mr. Molyneux, the famous Chrysanthemum-grower of Swanmore Park, issues an excellent treatise on the cultivation of his favourite flower. The Chrysanthemum is now a very popular flower, and deservedly so; it cheers us with its bright colours during the dullest month of the year, and onwards through a part of the winter. So many good growers and exhibitors of the Chrysanthemum have appeared on the scene, that every pamphlet and hand-book relating thereto is attentively read and keenly criticised; and clever indeed is the man who can "write a book" that is above criticism.

After a careful perusal of the little book now issued, we have much pleasure in recommending it to the notice of all cultivators and lovers of the Chrysanthemum, as a valuable practical treatise on Chrysanthemum culture in all its forms and fashions. A great flourish of trumpets is never necessary as an introduction to a good article; "good wine needs no bush," and the book under notice would have lost none of its value had the "Introduction" been omitted, and the author

*CHRYSANTEMUMS AND THEIR CULTURE. A practical treatise on propagating, growing and exhibiting, from the cutting to the silver cup. By E. Molyneux. London: 171, Fleet Street, E.C.

relied on his modest "Preface" for an "introduction" to his readers.

We cannot agree with the author where he says, on p. 5—referring to the quality of the flowers, "To insure these in the highest possible condition, height is essential." Nor is the reason unaccountable when as good flowers are produced on dwarfer plants. We have seen during the present and past seasons a number of instances where height has been obtained, but not a corresponding increase in the size of the flower; whilst on dwarf plants—dwarf comparatively—we have seen as fine and perfect flowers as ever were exhibited. To see scores of tall, gawky, unnatural-looking plants in garden after garden, with something at the top of each shoot that resembles a bunch of coloured paper shavings or wool—but which it is, or what, we cannot decide until we have mounted some steps or a ladder, which the "clever intelligent" gardener places at our service—is hardly as satisfactory as one could wish, and we think that the approximate heights of varieties, given on pp. 53 and 54, will tend considerably to correct the above unsatisfactory practice, and also to mitigate the misconception that is liable to arise from the statement on p. 5, previously alluded to. There is little doubt that the rage for "tall" Chrysanthemums will decline almost as rapidly as it has arisen.

Mr. Molyneux gives very good selections of the different sections for various purposes, and with the exception of the first five of the twelve incurred for specimens, his selections could not very advantageously be amended. Owing to the large size of the flowers of *Lord Alcester*, *Empress of India*, *Queen of England*, *Golden Queen of England* and *Golden Empress*, it is not possible for many good flowers to be produced by one plant. We have grown them as such several times and they were rough, loose and irregular, in fact, quite out of character; we would substitute smaller-flowered varieties, such as *Barbara*, *Lady Hardinge*, *Princess of Wales*, *Pink Venus* and *Mr. Bunn*.

On p. 19 the author has a "fling" at "soils of a complex nature," and then on p. 21 commends no less than seven different materials for the composition of one compost; notwithstanding this inconsistency, we agree with what he recommends. Whilst fully endorsing the advice upon firm potting, we think that gross growth and large leaves are more frequently the consequence of undue feeding than of loose potting. In treating of pyramidal Chrysanthemums, on p. 33, the author says, "Pompons are the best." We must take exception to this statement. Mr. Monk, of Leytonstone, has repeatedly exhibited magnificent specimen pyramidal Chrysanthemums, such as, in all probability, have never been surpassed; and his best were varieties of incurved, Japanese and reflexed sections.

In the chapter devoted to the arrangement of groups Mr. Molyneux gives some very valuable hints, which competitors will do well to study and act upon. As regards the matter of standing the plants on ashes (see p. 51), we may say we always do this; and with the exception of very large specimen plants in comparatively small pots, we never found them to emit many roots into the ashes, certainly none to affect the welfare of the plants on removal. Sound advice is given in the matter of "feeding" Chrysanthemums, and should go far towards setting this much-debated question at rest. His teaching is exactly in accordance with our own practice, which has been most successful. The chapters on "Keeping the blooms," "Preparing for shows," and "Dressing the blooms" are full of well-considered and carefully-written details, and will be invaluable to all exhibitors. We cannot, however, accept the statement, on p. 94, that "all blooms, after being dressed, are smaller, especially in depth, than before any manipulation of the petals has taken place." Our experience is exactly the opposite of this when good flowers are being dealt with; "cupping" reduces the size of all incurved flowers in a greater or less degree.

Valuable information is given in the chapters devoted to "Arranging in stands" and "Staging at the shows;" but the author appears inclined to become somewhat "grandmotherly" over it. The remarks on "Waiting for the verdict" would have been better unwritten, and the frequency with which the words "inexperienced" and "young beginner" occur give the text a pedantic appearance, and produces a disagreeable effect. The hints on "Taking notes" and "Studying the leaves of Chrysanthemums" are most useful, and will benefit all who act upon them.

The best book on the Chrysanthemum has not yet been written; but Mr. Molyneux's is the best that has yet appeared, and as such it should certainly be read by all growers and lovers of the Chrysanthemum.

THE CONIFERS AT WANSFEL, WINDERMERE.

THE mention of the height of some of the conifers at this establishment may be of interest to your numerous readers. The whole of the specimens are in excellent health, clothed down to the ground with green and vigorous branches and foliage; while the form of the many specimens leaves nothing to be desired. The whole of the plants were planted by the present gardener, Mr. J. Bremner, about twenty-five years ago, under the direction and superintendence of the late Thomas Wrigley, Esq.

In passing through the grounds, and noticing the beauty and dimensions of the individual trees, fresh interest was awakened with every subject that came under notice; and when at the close we were taken out on to the lake, and permitted to gaze upon them from a distance, the effect of the whole was of a very pleasing and gratifying character. Mr. Bremner referred to many of his plants with very commendable pride and satisfaction. The first to arrest attention were the grand Wellingtonias, some nine trees, perfect in health and shape, branches resting on the ground; some 40 ft. and others 50 ft. in height. *Cedrus Deodara*, a beautiful specimen; *Picea amabilis*, 40 ft.; *Picea lasiocarpa*, of similar dimensions; *Picea nobilis glauca*, one 40 ft. and another 60 ft.; *Thuja borealis* 40 ft. high and 30 ft. in circumference; *Picea Nordmanniana*, nearly 50 ft.; *P. Piudrow*, 30 ft., a grand specimen, 20 yds. in circumference; *P. cephalonica*, 40 ft. high, 20 yds. in circumference; *Cupressus macrocarpa*, 40 ft. high, 30 yds. in circumference; *Picea Nordmanniana*, 50 ft.; *Pinus cembra*, 45 ft.; a very distinct *Cupressus macrocarpa*, 50 ft.; *Thuja Lobbi*, 65 ft. high before growth commenced last spring; and *Picea grandis*, 60 ft. high. Beside the above-mentioned, are many others rather less in size but perfect in form; among them we noticed *Thuja dolabrata*, *Picea pinsapo*, *Cedrus Lebani* and *atlantica*, and numerous specimen Hollies.

In the glass department were also many things of interest, among them being some capital batches of *Disa grandiflora* raised from seed; several good seedling *Lapagerias*; a fine house full of *Odontoglossums*, the very picture of health, whilst another house was entirely filled with seedling flowering *Begonias*. At the time of my visit (October 8th) these plants were full of flower, the colours ranging from a pure white to deep rosy pink, and all the intermediate shades again up to a bright vivid crimson. The size and form of the blooms were worthy to be compared with the finest I have ever seen on any exhibition stage.—W. S.

BASING PARK, HANTS.

THIS lovely place, the seat of W. Nicholson, Esq., is situated about eight miles from Alton, and is most pleasantly situated. The park is very extensive, beautifully undulated, and contains many fine specimens of various trees. The mansion, which is a very noble building, stands in a commanding position overlooking a fine part of the country, and near thereto is the flower garden, which has been gay with various styles of bedding, which is well done here. The

gardens are very extensive, and all-round gardening is most practically carried out in an able manner by Mr. William Smythe, the gardener-in-chief. The demand for produce at various seasons of the year is very great, and none but a thoroughly practical man could cope with the requirements.

Adjoining the mansion is a splendid conservatory, which at the present time is very gay; the beds on either side of the walk are planted out with the leading varieties of Camellias, which are pictures of health and full of flower buds. Here and there, standing majestically, relieving the eye, are fine specimen tree Ferns, in splendid condition. The roof of the conservatory is adorned with a fine collection of Tacsonias, which were conspicuously in flower; amongst these are some very fine distinct hybrids raised by Mr. Smythe, which are lovely additions to these noble climbers, for as seen here they cannot

treatment they receive is just what they delight in. *Amaryllis* are well done here, and Mr. Smythe has been very successful in raising some fine hybrids of the perpetual-flowering kind; he has also many seedling *Eucharis* from various crosses. We trust he may be rewarded by something new and good. The stoves contain a nice collection of fine foliage and flowering plants, not over large, but of good useful size—just what is required for decorative purposes. The roofs are adorned with *Allamandas* and *Stephanotis* flowering freely; *Ixoras*, *Gardenias*, &c., are well done. *Aphelandra Roezlii* and *Clerodendron fallax* were splendidly in flower; these and *Epiphyllum*, *Justicia*, *Thrysanthus*, *Plumbago*, &c., are good useful plants for the adornment of the stove at this time of the year.

The second Pine house contains a fine healthy lot of clean and sturdy plants, and look most promising; in this house, on the back shelves, I noticed good healthy plants of various *Cattleyas*, *Cœlogynes*, *Dendrobiums*, &c. Another house is devoted to florists' flowers, such as *Cinerarias*, *Pelargoniums* and *Cyclamen*, which, from their promising appearance, will produce a fine display. The long range is in divisions: one is an early Peach house, which is at present full of young *Camellias* in 9-inch pots, full of buds; these, when required are for the decoration of the conservatory. The other divisions are devoted to *Vines* (viz., six of them), and a splendid lot of useful fruit they contain; finely finished good bunches and grand berries. The most useful and popular sorts are grown: *Lady Downes*, *Alicante*, *Black Hambro'* and *Muscats*, *Foster's Seedling*, &c., are still in perfection. The earlier houses have likewise contained fine crops. Another house is devoted entirely to *Black Hambro's*; one to *Alnwick Seedling*, *Gros Colmar* and *Lady Downes*, fine in bunch and berries. These Grapes are everything that can be desired for a gentleman's table.

In one of the early Vineries I noticed many splendid specimens of the old, never-beaten-yet, *Dendrobium nobile*, which have been here ripening their growths, and are fully 2 ft. long, showing great quantities of flower; these can be got in for Christmas, which is no doubt the in-

tention of Mr. Smythe. He informed me he takes in so many at various intervals, and by so doing has flowers of this old favourite right into the summer time.

The Cucumber and forcing houses were active, the former promising to carry a good crop through the winter; the latter were full of *Azaleas*, and other flowering plants suitable for forcing—such things as *Roses*, *Azalea indica*, *A. mollis*, *Lilacs*, *Staphyleas*, *Viburnums*, *Rhododendrons* and so on are extensively used for that purpose. A fine lot of tree *Carnations* are also showing quantities of buds, and will prove very useful for cut flowers; amongst these are some very fine seedlings raised by Mr. Smythe.

Violets are extensively grown; the frames were full of good strong plants full of flower, and from their appearance will continue so for some time to come. The kitchen garden is very extensive, and fine crops of vegetables are annually produced. The out-door department is well-kept; we noticed fine clumps of *Rhododendrons* and other flowering shrubs which flower luxuriantly during the season. There is also an interesting collection of conifers, and many fine



THE CHRYSANTHEMUM AVENUE AT SWANMORE PARK.

be surpassed for this kind of work. A grand lot of well-grown and splendidly flowered *Chrysanthemums* were beautifully arranged with other plants, such as *Salvias*, including fine grown plants of *Bethelii*, &c.; *Primulas*, &c., are to be seen well done here also. Mr. Smythe grows a large number of *Chrysanthemums*, some 800 plants in 9-in. pots, about 150 varieties, and as these are exceedingly well done, a good display can be kept up for a long time.

Passing into the kitchen garden we come to a fine orchard house, 100 feet long, 18 ft. wide; this is devoted to the culture of Peaches, Nectarines, Plums, Apricots, Pears, of all the leading sorts, and the trees this season have carried enormous crops of very fine fruit; a fine lot of *Tomatos* are grown here also, and produce an abundance of fine fruit. Pines are grown extensively, fine *Queen's*, *Smooth Cayenne* and *Hurst House Seedling*, at the present time producing good fruits; on the back shelves of these houses *Calanthes* find a place, *Vestita lutea*, *Vestita rosea* and *Veitchii* are grown well, and in great quantities; the strong bulbs and fine spikes which they bear show that the

specimens are to be met with in various parts of the grounds. The fruit garden is well stocked with specimens of all the leading sorts in various styles of culture, showing that the ambition is to find out which way is best for the various varieties suitable for the position and neighbourhood. Basing Park gardens and grounds are full of interest, and Mr. Nicholson may well feel proud of his beautiful place; the various departments are well kept, and at once prove that they are in the hands of a thorough all-round practical gardener. Mr. Smythe is to be congratulated upon the condition he keeps this place in; his motto appears to be "what you do, do well."—A. O.

SPRING GARDENING.—II.

FORGET-ME-NOTS.

WHAT an appropriate name for this innocent spring beauty and universal favourite! Known and admired by all, young and old, it is accepted as one of the most charming bits of colour with which our gardens are adorned; a plant, too, which, owing to the manner and ease by which any may increase it, has found its way into gardens far and wide; and those of the humble cottager, as well as those of the lord or noble, may be found to contain its complement of this pleasing plant. It is not only pleasing in itself and by itself, for it may be made use of in a variety of ways where pleasing combinations are sought after, and be made to harmonise in a most delightful manner. The manner in which they are best employed is generally settled to meet the requirements of individual cases; but one thing is certain, and that is, there need be no fear of having too much of the Forget-me-not, which, while innocent and lovely in the extreme, is not possessed of that intensity of colour which seems to absorb the attention of all upon entering a garden where such exists.

Myosotis dissitiflora—for that is the best form of Forget-me-not for spring gardening—is adapted for disposition in a variety of ways, either in the garden proper or on sunny slopes, for naturalising, and in many other suitable ways where greenery other than its own ample foliage exists to harmonise with it. It is, in fact, a perfect treasure to any garden, and certainly we have no more valuable subject among the many which are suited for spring bedding arrangements than the exquisite blue of the flowers of this *Myosotis*. I hardly know whether any comment on its increase is necessary, seeing it is so well known and understood; at any rate, one or two observations may not be altogether lost. As soon as the plants are done flowering, which will be about June, lift and divide them into small pieces, trimming them up top and bottom, and replant in rows in small nursery-beds, giving a good watering if the weather be dry, a north border being preferable. By the arrival of autumn, fine plants will be formed, and may be planted in beds just as they are, or, if too large, divided into suitable-sized plants. Early in spring they will commence to yield that profusion of lovely sky-blue flowers, to which, undoubtedly, its fame is due.

The plant is of biennial duration, but sows itself freely by seeds, and coming up hither and thither on rock-work in early spring are most effective. The true plant is a native of the Alps, where it was found by the late Mr. J. Atkins, of Painswick, near the Vogelberg. It is the unique loveliness of this plant which makes Belvoir and its gardens such a floral paradise, and, while seen in great numbers, it is nowhere overwhelming; and I have no doubt that so long as spring gardening lasts this *Myosotis* will ever be to the front.

AUBRETIAS.

These constitute a very pretty and easily-managed group of tufted Alpines, which, for the most part, thrive in almost any position or in any soil, and all beautifully adapted for spring gardening. Another point in their favour is that they will endure a great amount of shifting and transplanting, which, by the way, is very essential where spring gardening is carried on to any extent; and it may be well to remark, in passing, that there are numbers of spring-flowering subjects all beautiful more or less in their way, and when occupying permanent positions form very imposing objects, but which, at the same time, cannot endure that periodical planting and moving about that most spring-bedding plants have to endure; therefore if space cannot be given these in permanent beds it is better to omit them altogether rather than, in a season

or two, to have sacrificed a valuable lot of plants: some of those plants to which these remarks have special reference are Hellebores, Hepaticas, the whole of the Alpine Phloxes and many more, are all delightful when in flower, but they cannot endure constant removal.

With regard to the Aubretia, we find a group in no way bored with this drawback, but which, on the other hand, are patient and enduring, and they may be successfully treated in this way: after flowering cut them closely over with a knife, and if necessary insert under handlights in sandy loam the cuttings, which root readily. If from a variety of causes, e.g., a superabundance of work on hand at the moment, it will not be worth the while to trouble about the cuttings, rather wait till young shoots are formed, and then if stripped off, with a heel attached, will root more freely and soon form good plants; if not necessary to increase the stock in this way, the old stools may be divided as soon as the young shoots appear, and planted in small nursery beds till required; they may also be increased by seeds. The best kinds are *Aubretia deltoidea grandiflora*, *A. Campbelli*, *A. græca*, *A. violacea* and *A. Hendersoni*; these are all good forms, and if grown from cuttings or division may be depended upon, as the seedlings vary considerably; one and all, however, are possessed of free-flowering qualities, the flowers ranging in colour from bluish violet to purplish blue, and when in good condition, and their spreading compact tufts carpeting the earth and covered with flowers, few plants are more charming. There are one or two very prettily marked variegated forms, but as they do not lend themselves to general cultivation in the same easy manner as the green-leaved forms, I will not further dwell upon them.

THE VARIEGATED ARABIS.

Where silver variegated foliage is needed, it can be supplied in the variegated Arabis, a plant of easy and free growth, and one which may soon be increased to any extent by cuttings alone; these may be inserted in pots any time during the summer to the autumn, when they will soon form roots, and this, if followed up and the cuttings secured as they are formed from the tuft, a good stock may soon be had. In planting, choose a rather poorer soil than is usual for most plants, as this will lead to a brighter, and consequently, more effective variegation. The variety referred to is *A. albida variegata*, or variegated Rock Cress, this is the whitest variegated form; the taller-growing yellow variegated variety is probably a form of *A. cristata*, and I have some recollection of meeting this latter also as *A. mollis variegata*. Either of these forms are good and enduring, and amongst the earliest of our spring plants to flower; indeed, it may often be seen in January *en masse*, with its cushions of pure white flowers, and at this early date it is certainly most welcome and cheering.

THE YELLOW ALYSSUM.

We will next note the yellow Alyssum, *A. saxatile*, which, with its variety *compactum*, are useful early-flowering plants; easily reproduced from seed, and rooting readily from cuttings and layers, renders it an easily managed and, therefore, most valuable plant—at least to the masses, who require only such plants as are perfectly hardy, of free growth, and easily managed.—J.

DECORATIVE FERNS.

At Mr. James Naylor's, St. Hilda's Nursery, Roxeth, Harrow, several houses full of some of the best examples of Ferns for decoration we have ever seen, are to be found. Whole houses are devoted to Mr. Naylor's strain of crested *Pteris serrulata*, out of which that superb form recently awarded a First Class Certificate at the Royal Horticultural Society was raised. The whole of the plants are grown to perfection, and that, too, in a cool temperature, which may account for the fact, that scarcely a deformed or damaged frond is to be found among the whole stock. Among them we noted large batches of the charming and still not generally distributed *Platyloma adiantoides* (*Pteris*), which makes an elegant and well-furnished plant; of *Asplenium biforme*, which is the perfection of decorative *Aspleniums*; of the Palm-like *Pteris umbrosa*, also not common, although introduced to Kew in 1824; and of several fine forms intermediate between it and *P. cretica*; as well as the favourite *P. serrulata*, and many others.

Mr. Roland Naylor, who manages this department, must be complimented on his adroitness in handling the stock, among which we observed a fine batch of the shining green *Aspidium capense*, which lasts almost as long as an *Aspidistra* for indoor work. While regarding this same *Aspidium capense* (Swartz and Willdenow), we may quote it as an instance of the difficulties which beset the student who wishes for a perfect knowledge of Ferns. It is the *Aspidium coriaceum* of Schkuhr and others; the *Polystichum coriaceum* of Roth and others; the *P. capense* of J. Smith and others; the *Tectaria coriacea* of Link; the *T. Calahuala* of Cavanilles; the *Rumohra aspidioides* of Raddi; the *Aspidium macroporum* of Bory; the *A. discolor* of Langsdorff; the *Polypodium argutatum*, *P. coriaceum*, *P. politum*, and *P. adiantiforme* of four other authorities; and—shall we proceed? We think not; we think we have said enough to make everyone take up the study of Ferns for himself.

GARDENING MISCELLANY.

Madresfield Court Grape.—The interesting and practical notes upon this Vine have shown to your readers that the cracking or splitting of the berries may, with proper management, be partially, if not wholly, avoided without the aid of the gimlet. We have a small house containing two Vines of Madresfield Court, which enable us to give it especial treatment if required. At one time we were very much troubled with splitting, and I tried, as a remedy, for two seasons the "nicking" process, or partial severing of the laterals below the bunches, but without any appreciable effect. Since then I have discontinued the "nicking," also the stopping of any laterals, after the first symptoms of colouring, and leave air on front and back night and day, with a little warmth in the pipes. This treatment has reduced the number of split berries to such a minimum that we should not think of giving up the culture of this handsome Grape. Now, a word to "Vitis" on his sweeping remark of wantonness on the part of any man to plant it as permanent in a mixed Vinery. I happen to have charge of one so planted in a border entirely outside. It grows in company with Muscat of Alexandria, Alnwick Seedling and Mrs. Pince's Black Muscat, and until this year there was the Kempsey Alicante; the latter has been discarded, it being considered by my employer only third-rate in quality. The Madresfield Court Vine in this house gives more satisfaction in every way than those planted in a house by themselves in a border partly inside and partly out; they ripen somewhat later, and put on a better finish in the mixed house. My experience with this mid-season Grape is that it has four points in its favour and three against it. First, it is a highly-flavoured black Grape of the Muscat type, one of the best, a robust grower, a very free setter, and will frequently show three bunches on a lateral; and it has not the same tendency to shank that the Muscat of Alexandria has. The annual splitting of the berries in some hands and soils is a great drawback. It is also a bad traveller, and I find that the berries are very apt to go mouldy at the tips after they are thoroughly ripe and all danger from splitting is over. However, with these drawbacks I have kept it until the middle and end of December. This year I cut the last bunch on November 8th.—Thos. Simcoe, Cheltenham.

Late Strawberries.—In your last issue reference is made to ripe Raspberries being gathered in November. It is possible for everyone to have not only "several bunches of ripe Raspberries," but a large dish every day, till frost stops the supply. I am now gathering a large dish of fine fruit daily, which are much appreciated; the variety, Belle de Fontenay, was plucked here seven years ago, and since then we have had an unbroken supply of Raspberries from July till November, and occasionally a few in December.—Chrstr. Dearin, gardener, Harewood Lodge, Sunninghill.

Impatiens Sultani.—This highly decorative Balsam may be had in flower all the year round, where a stove temperature can be maintained. The secret of success lays in always having some young plants at hand ready to pot on. It roots very freely, and there

should be no difficulty in always having plenty on hand. A batch of young plants about 18 ins. high, and proportionately bushy, will yield a surprising quantity of flowers, the colour of the flower being a beautiful rosy carmine. Those who have young plants at their command, should pot them on at once, when they will flower all through the winter; the effect being very rich amongst other plants.—*W. G.*

Grevillea Preisii.—This is a useful as well as curious plant, and all fond of good greenhouse subjects should have a plant or two of it. The habit of the plant is graceful, the stems being closely set with the most delicate pinnate and bipinnate leaves, and producing, at the extremity of each point, a raceme of bright rosy red flowers, tipped at the points with green and yellow—a very remarkable flower. When out of flower, and in a healthy condition, it is useful as a decorative plant; but when well grown and flowering freely—and this it does, with me, at least six months in the year—it is a superb greenhouse plant. Avoid damp parts of the house for it to stand in, as this is its most inveterate enemy. A dry cool house suits it best; but, like many other plants of its class, it likes a little warmth when in a young state. A mixture of peat and sand suits it to grow in, and it requires to be potted firm.—*W. G.*

Rose Hedges: A Substitute for Snow.—While experimenting at Oakwood, I have come upon two notions which I think are worth publishing. The first is a new hedge. We tried a small one in front of the cottage, and this succeeding, we have now made one, above 100 yds. long, of Japanese Rose (*Rosa rugosa*). The beauty of its flowers, fruit and foliage, the last while green, and afterwards in its golden state in autumn, make it ornamental, whilst its quick growth and many close thorns make it useful. The plants of our last hedge are seedlings taken out of a seed-bed not more than 2½ yds. square. This hedge has a backing of cut Furze; I expect in three years it will be well-grown. Notion No. 2 is a substitute for snow as a protection for some bulbs and plants. Snow, as is well known, owes its efficacy to the air among it. I have tried many experiments to get something that would take its place. Finding that plants sowed themselves on our gravel-walk, and came up better than in the seed-beds, I used a surface of finely-sifted gravel with good results, and now believe that for bulbs which it is undesirable to plant very deep, and yet which must not be frozen, a covering of 3 ins. to 4 ins. of sifted gravel-stones, about 1 in. long, would hold air enough to prevent frost getting down into the ground; this could be easily removed in spring. With some precious bulbs and deciduous plants I have put a surrounding of bricks edge-wise, filling up the enclosed space with these gravel-stones. Smaller stones may be better; this is a subject for experiment.—*George F. Wilson, Heatherbank, Weybridge Heath.*

Clerodendron nutans.—Under this name Mr. Head, garden superintendent at the Crystal Palace, exhibited a plant for which he received a First Class Certificate at the Floral Committee meeting on Tuesday, and which those who want good winter stove plants would do well to look after. It is a shrubby species, which he obtained from Calcutta, bearing fine terminal panicles of white flowers, which are succeeded by indigo-blue coloured drupaceous fruits, and blooming freely at this dull season is a plant worth growing.

How to Make a Good Fertiliser.—A correspondent of *The Field* writes:—We hear a great deal about artificial manures and their value, but the fact is, that every gardener has around him—in the form of what is commonly called rubbish—the most valuable elements of such manures, if he will but utilize or prepare them. There can be no doubt that highly concentrated manures, in a handy form, are beneficial if rightly applied to pot plants just when the greatest strain is made on their growth, or during the flowering season. I have tried many kinds, and have made up the following for myself, and prefer it to any of the named kinds. To a gallon of bone dust add a gallon of dry fresh soot, a gallon of fresh wood ashes, and half a gallon measure full of guano, and about the same quantity of freshly slaked lime after it is cool. Mix the whole well together, and add an equal bulk of dry sandy soil, after which the whole may be sifted or screened, and then preserved in a tub in a dry place for use as it is required. It must be used dry, in the shape of a top-dressing, and a very slight sprinkling is

sufficient, as it is very stimulating in its action; and on no account should it be sprinkled over the foliage of such woolly-leaved plants as Pelargoniums, Gloxinias, Gesneras, &c., these being quite spoiled if it touches them.

Excessive Rainfall at Liverpool.—For the fourth time this year the rain gauge has registered a fall of rain of 1 in. or over in twenty-four hours, which is considerably above the average. The first occurred on May 13th, with a fall of 1·04; the second on September 9th, with 1·43, which is the heaviest recorded since August 15th, 1882, when 1·45 was registered. October 1st shows 1·00, and November 6th 1·23; from 10 a.m. on the 5th, to 11 a.m. on the 6th, or twenty-five hours, the total amounted to 1·30.—*R. G. Waterman, Roscleigh, Woolton, Liverpool.*

Tomato Notes.—This season, from one sowing of seed, I think I have raised nearly all the various forms in cultivation. Originally the seed was saved from Keyes' Prolific, and sure enough, in this instance, the name has been very appropriate, both as regards fruitfulness and the great variety in the shape of the fruits. Some you could scarcely distinguish from a beautifully-formed Apple, with the eye perfect, both round and conical; some like large Cherries, others like handsome Plums of dissimilar forms, and some representing those old kinds with which I was acquainted over fifty years ago; hence, the plants from which the seed was obtained, must have been fertilised in some way, or there must be an inherent disposition in the nature of the plant itself to sport; but still I have failed to discover, in the various forms, that there is any material difference with reference to the flavour or quality of the pulp of the fruit, dress them how you may, or even should they be eaten in a crude form. Like the hare, if you can but catch it, the Tomato is capable of being dressed for table in a variety of ways, and to suit the palate of the most fastidious epicurean; and there can be no question but that its use in any form has a most salutary and beneficial effect, evidenced by the fact of its extended cultivation of late years, and its great commercial value at the present time. Have any of your readers experienced similar results?—*George Fry, Lewisham.*

Begonia John Heal.—This interesting and, at the same time, most useful winter-flowering decorative variety was shown at South Kensington, on Tuesday, by Messrs. James Veitch & Sons, and attracted much notice by reason of its singular habit of not producing female flowers, and retaining its pretty, deep rose-coloured blossoms until they wither on the plant. It was certificated last year, and is the result of a cross between the species *B. Socotrana* and a tuberous-rooted variety named Countess of Doneraile, and from another tuberous-rooted variety crossed with pollen from John Heal, we believe the same firm have obtained a tuberous-rooted variety which also produces no female flowers.

Salvia splendens.—This, among soft-wooded plants, which are easily managed and adapted for the decoration of the drawing room or conservatory during the early winter months, for its rich bright red colour stands unrivalled. An objection raised against it, in common with other Salvias, scarcely holds good, for although it, like them, soon drops its flowers, the calyxes remain for a long time on the stalk, and being of the same colour as the flower, the flower spikes retain their usefulness for decorative purposes for a lengthened period. When well done, this old friend stands unique among autumn-flowering plants, and will bear very favourable comparison with the Poinsettias, both for richness of colour and real usefulness. A plant of the latter in a 32-sized pot yielding one head of coloured bracts, is not to be compared with one or two dozen spikes of *Salvia* in the same-sized pot. Many of our spikes of bloom this season measure from 6 ins. to 9 ins. in length, the plants having been grown in 32-pots, than which we never use a larger size for it. Our cuttings are struck in heat in April, potted off into 60's when rooted, and are stopped once to make them bushy. They have a shift into 48's about the middle of May, and about the first week of June they are placed outside in the shade, and are kept well pinched back. By the end of June, or very early in July, we place them into the 32's, using similar compost to that given to zonal Pelargoniums. They are kept all the season in the shade, and when they have well filled their pots with roots receive a liberal supply of manure-

water; our only care for them when in flower is to keep them well watered, and place them where they are well guarded from damping—a dry rather than a warm atmosphere being best suited for them. When they have done flowering we reserve a plant or two for stock, the others are thrown out, and the stock plants are introduced into a warm frame or pit to produce cuttings during the month of March.—*W. B. G.*

Stoke-holes and Heating by Hot-water.

—I am pleased to see the discussion respecting deep stoke-holes in your paper; the system of a gradual rise in the flow pipe, though probably generally sound, is not absolutely necessary. The first instance of this which came under my notice, was in a range of vineries I had charge of at St. Ives, Ringwood, where the flow-pipe, to save blocking up the door-way, was carried up to a cistern at the back of the house, and from there distributed by pipes running along the wall and over the doors into each house, the returns passing under the walks back to the boiler. This boiler was fixed by a Southampton firm, whose name I do not at present remember. I used to think that this plan of allowing the rise to be direct from the boiler to the highest point, and making all the heating pipes returns, resulted in a quicker circulation than the orthodox style, and it certainly, altogether, prevents the reverse action, which is sometimes troublesome in that system when heat is required in a hurry. The orthodox plan assumes that it is necessary for the boiler to be at the lowest point of the circulating column of water, but numerous exceptions in all parts of the country prove this to be needless, if care is taken to allow the heated water room to rise; the water simply takes the form of an endless band, and if the rise of the hot-water is provided for, no fear need be entertained that the return will not take place, as the one necessitates the other. The arrangements in some of the trade-growers' houses, who know about as well as anybody what will work, are a long way from being orthodox. I hope some correspondent will work out a plan to avoid the deep stoke-hole altogether.—*T. Woodfield, New Hampton.*

Pontederia crassipes var. delicata.—Plant lovers at South Kensington, on Tuesday, were much pleased with the appearance at the Floral Committee's table, of a flowering plant of this lovely aquatic, brought up by Mr. Frank Ross, from Sir George Macleay's interesting garden at Pendell Court. It bore a spike of lovely pale flesh-coloured flowers, with a lilac blotch on one of the upper segments. Mr. Ross stated that he grew it with the *Nymphæas*; but not until he treated it liberally by adding plenty of manure to its compost had he succeeded in flowering it satisfactorily. From this it would appear, that its so seldom flowering in the past has been due to starvation.

Japanese Chrysanthemums.—I should be obliged if some of the Chrysanthemum-growers among your readers would tell me if there is a dark golden or amber-coloured Japanese variety—the same lovely colour as *Agréments de la Nature*, but of a dwarf habit. *L'Or du Rhin* is not dark enough, and rather a small bloom. Are any of the dark reds—*Jupiter* or *J. Delaux*—moderately dwarf? A few names will oblige.—*L. H.*

Large versus Small Celery.—Large vegetables are very fascinating; in many instances size is the first and foremost consideration, and, in the case of produce for exhibition, it is often necessary to stage huge specimens to catch the judge's eye; but when the kitchen supply only is considered, we generally find the small or medium-sized produce the most favoured. There may be one or two exceptions to this rule—with *Asparagus* for instance—but not in Celery, as, however, sound the heads may be, if they are from 2 ft. to 3 ft. in length and from 18 ins. to 2 ft. in circumference, they will be rejected by many cooks in favour of heads half that size. Stewed Celery is a delicious dish at this season, and when nice little sticks are cooked and served something after the style of *Asparagus*, they are highly satisfactory, but huge heads are of no use in this way, and if they must be used, three parts of the outer leaves must be drawn off before reaching the centre part, and reducing them to a presentable size. It is for reasons of this kind, that we find large Celery not favoured on the table; and I am of opinion, that were small varieties generally grown they would give much more satisfaction than the monstrous sorts, which are often coarse and have to be greatly reduced before they can be served in any form. The "largest Celery in cultivation" has no charm for me.—*J. Muir, Margam Park, South Wales.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

With the thermometer outside registering 6° of frost, precautions must be taken, or mischief will soon be done. In the case of cool houses, where general greenhouse stuff may be stored, it is advisable to heat the pipes in the evening before the temperature falls too low. In this way a much greater amount of frost is excluded with ease than if left to approach freezing-point, as is often done. Unless it shows signs of being very sharp through the night, we always close the valves before banking up rather than run the risk of a high night temperature, as it is at all times most injurious. Be sure, also, to attend to the early ventilation of all such houses, as with fire-heat applied they become tender, particularly if not thoroughly ventilated. Open all available lights and the doors also, which may readily be done, as during frosts, generally speaking, sunshine prevails in the daytime.

Be extra careful with the house in which Cinerarias may be stored, and if at all possible, rather than resort to fire-heat, let the roof be covered with mats or other material, as these plants are most impatient of artificial heat, and if unduly excited invariably go blind. We have brought our Lachenalias from the pits on to a shelf in the Peach-house, quite near the glass. The foliage has become somewhat drawn; but in their new quarters they will soon right themselves. It is a great pity these plants are not more generally grown; they are at all times interesting, and when well grown are most desirable for room or conservatory decoration, as they remain a long time fit for service, and as ladies frequently remark, "those little red-hot poker are so pretty." Such plants, from the stoves, as Dracenas, after being used for house decoration at this season, are of very little use; the better plan is either to cut them down and insert the eyes in a pot or pan to furnish next season's stock, or, as some prefer, take off the top and strike in water, and allow the stool to break, taking off the cuttings with a heel as they become large enough; the latter plan is all very well if the stock is very short or tender, but the eyes are always preferable, except in the case of *D. gracilis*, which we find give much the best plants from cuttings; the tops, however, of this variety are useless for propagating.

Libonias are now in beauty, and when not coddled they stand for a long time; Penrhosiensis is far away before floribunda, and is very useful for all decorative purposes; the foliage of the first-named being larger and of a good deep green, also makes it more valuable.

THE FORCING HOUSES.

The French Beans which we sowed in the heated pit, as advised, now come in most useful; we had gathered from out of doors until Thursday last, but the frost has now completely destroyed the crop; those from the pits maintain the supply, and most necessary this is where venison is in use. The batch in pots in the Cucumber house will easily follow those in the pits, and other sowings having been made, we are easy; the only thing necessary to ensure success with this crop at this season, is not to use large pots, 7-in. at the outside; the compost, too, should be rich and light, and, of course, I need hardly say, a brisk moist heat must be maintained. There are three compartments in our Cucumber range, which give us the necessary room.

We find no variety so reliable as Osborn's Prolific for forcing through the winter; later on we use Pale Duu, as being longer and larger in the pod. The early lot of Sea Kale is starting, no water has yet been given, simply employing the syringe; when fairly on the way water will be given, but it must be applied warm, to induce a quick growth. The manure should now be ready for another Mushroom bed to be made up; nothing is more vexing than, just in the middle of the season, or about Christmas, to find the supply run short, but such will be the case unless care is now taken; regret is useless, so prepare.

THE KITCHEN GARDEN.

It will be necessary to look through the Cauliflower and autumn Broccoli squares; those which are ready for use must at once be lifted and stored in a cellar or shed for use as required; the remainder, if the plants are developed, may be heeled in, heading to the north, and so the season be prolonged. If the weather prove

very sharp we shall shake litter along the tops of the Celery rows, which has been growing so lately that we feel sure it will not withstand much frost; the same remark applies to Endive, which should be protected without delay. Our earliest batch is now well blanched and fit for use, but as the weather has been so mild we have continued to use the Brown Cos Lettuce.

We are lifting Parsnips; little good is gained by leaving them in the ground after this, and, as a rule, much injury is done to the soil, if of a retentive nature, by allowing them to remain too long; far better lift and expose the roots if it is so necessary, and take advantage of fine weather to dig and dress the ground for next season's crop—in fact, we make this rule absolute. Chicory and Salsafy too will be lifted without further delay, and be stored in cones of ashes out-of-doors, the crowns of the plants being placed outwards. After a few more such frosts as to-day, we shall lift and pit our July sowing of Turnips; we have drawn from them for a long time, and we hope to store quite sufficient to carry us the season through. Let the double digging and manuring of all vacant plots be carried on, due consideration being given as to the crop which it has been decided is to occupy the square next season.—*W. Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Staking and other Methods of Fixing Orchids.—At the start it may as well be said that an Orchid should never be left unsteady in the pot or basket, but that some means of securing it should be resorted to; sticks or pegs should never be used, unless they cannot possibly be done without. The mere fact that a plant is shaky in the pot implies that it is deficient of root, and in the case of dwarf or intermediate-sized plants, it is best at once to re-pot them, no matter what season of the year it may be, and endeavour in the re-potting to fix them with the material used. In all cases where unsound plants have to be shifted from this cause (deficiency of root), the first care should be to replace them in the smallest pots or baskets which will conveniently receive them, and the next to see that they are left firmly in their receptacles; if this cannot be effected without ties or sticks, they should be resorted to, but as few of them as possible. In the cases of basketed plants, the wires of the baskets may be made to do duty as stakes; but when such use is made of them, the tie should be so arranged that no portion of the plant presses against the wire.

Too much care cannot be taken in this matter, as wherever a leaf or pseudo-bulb presses against the wire, its injury is only a question of a very short time, and injury from this cause is beyond repair. I have given much attention to this subject, and could tell some interesting, but lamentable, stories about it. In one instance I noticed, some years ago, a batch of *Dendrobium McCarthiae*, which were growing in baskets vigorously, but suddenly many of the pseudo-bulbs turned gouty and black, and on examination I found that in every instance the injury took place at the point of contact with the wires of the basket, and the plants, which had up till a certain time been doing so well, afterwards dwindled away. I am inclined to think that atmospheric influence has much to do with injury by contact with metallic substances in this way, and that plants are more liable to come to damage during stormy weather accompanied by lightning. For the same reason the galvanised-iron wire pegs, which many are in the habit of using to make the plants firm in the pots, should on no account be used.

Of all the methods of securing plants, the ordinary sticks or stakes are the best, and the only thing necessary with them is to renew them when required; but at the same time a stick which has rotted off just above the soil should never be removed or replaced without the stump remaining in the pot being removed. This is often neglected, and the accumulation of stumps in plants which have not wanted repotting for some time, in many instances have proved the death of valuable plants. From the same cause, too, many such things as *Phalenopsis* which have been shifted on, their old baskets being encased with the roots on them in the new ones, have suddenly gone into bad health, and the cause has been traced to the decay of the old

basket. Fungoid growth in any shape about Orchids is destructive to them, and nothing is more productive of it than decayed wood. I therefore recommend the smallest possible use of sticks for Orchids, and the removal of the old baskets before shifting on. This can generally be effected by the wires of the basket being cut at each corner, and then drawn out, and the wooden portions may be withdrawn with the least possible injury to the roots about them. At all events it is better to lose a root or two in the present, than to lose the whole plant in the future.—*James O'Brien.*

Pescatoreas and Bolleas.—Doubtless, like many other growers, I was most interested in the note in your last issue, on the successful way in which the above named plants are grown and flowered with G. Nevill Wyatt, Esq. If Mr. Simcoe will tell us by what method of treatment he secures such good results, he will do many a great kindness.—*J. C. Cowley, grower to F. G. Tautz, Esq., Studley House, Goldhawk Road, W.*

Cirrhopetalum ornatisimum.—This extraordinary Orchid is now in bloom with Mr. Wm. Gordon, Orchid Nurseries, Amyand Park, Twickenham. The plant bears two spikes of four and five flowers respectively. The curious and pretty flowers, which are arranged in umbels, are each 3 ins. in length; the ground colour greyish white, delicately traced over with various shades of crimson; the curiously hinged labellum, and the bunches of fringe on the tips of each of the petals being rich dark crimson. This is one of the finest of the *Cirrhopetalums* and very rare.

Oncidium Lanceanum.—I send you a spike of *O. Lanceanum*, which I think is rather a large one, considering that the leaf had two spikes. The other spike came a little earlier, and is now losing its flowers. It bore thirteen flowers, and the number on the two spikes was forty-one flowers. The leaf is 19 ins. long by 6½ ins. broad. I grow my *O. Lanceanum* in baskets with nothing but crocks and charcoal. They are hung high up in the hottest house, and receive plenty of water during summer, being syringed twice a day. I have grown them this way for some years and never was troubled with spot.—*W. Macdonald, Perth.* [We have never before seen such a specimen, which consists of one main and three lateral spikes, carrying a total of twenty-eight blooms. The whole inflorescence bears evidence of the best possible cultivation, and the spike at the base measures over ½ in. in diameter. When so grown, *O. Lanceanum* is certainly one of the prettiest of rosy-lipped Oncids. It is to be regretted that more of our Orchid growers do not get so much beauty out of the plant.—*Ed.*]

FLORICULTURE.

PLANTING THE SHOW OR FLORISTS' TULIPS.—I wonder how many Florists' Tulips were planted during the week just ended within a radius of fifty miles of London thirty years ago! Those were the days of Lawrence, of Hampton; Saunders, of Staines; Headly, of Cambridge; Hunt, of Wycombe; Turner, of Slough; Wilmer, of Sunbury; and others who made the Tulip glorious. I well remember the operation of planting Tulips at Slough; it was always done (if possible) on the 9th of November. That was, in fact, the traditional day for Tulip planting, and it may be so now; but as the Rev. F. D. Horner has observed, "October is not too soon, and December is not too late, though I think more than late enough. A spell of fine mellow weather can be looked for in October, when the soil will be found friable; and the operation, always slow and cooling, will be less likely to give the enthusiastic cultivator a severe cold. Planting, when the ground is workable, is an important point, and more easy to secure than in November and December, when the days are shorter, wetter, and wilder."

At Slough the bed was always deeply dug, and a great deal of the old soil removed and fresh added; then the Tulip drawers were brought out, and a sufficient number of hands being engaged in the business, the work proceeded merrily, and was—as is the usual case at Slough—thoroughly well done.

As to the best soil for the Tulip, let me again quote from the Rev. F. D. Horner. In an extremely able and interesting article on the Tulip, which appears in a cheap book entitled *Gardening for Amateurs*, published at Hull, this eminent cultivator remarks:—"The Tulip, though not to be called fastidious as to soil, for

it will grow well in any good garden ground, does certainly love a soil that is stiff and deep. A well-worked clayey heavy soil—that is, if I may so express it, coarse in grain, roughly granular, enabling water and rain to pour through it freely—is good, irrespective of colour, so long as it is not peaty or impregnated with any metallic oxides. Soil that will grow good Wheat and Beans will do admirably for Tulips, and a dressing of turfy chopped-up sods from a heavy old pasture, is a capital help. But many a variety, lighter or heavier, of good kitchen-garden soil is suitable. I never had any Tulips better than where once, by change of residence, I had to plant them after Potatoes in a clayey soil, well-drained and worked. If the soil is in good heart, there is no occasion to dig any ‘well-rotted manure’ into it; that nourishment, if the beds must have it, is safest as a surface mulching after planting. One point worthy of note is, that the Tulip, like the Carnation, is very fond of salt. I use the same ground every year for Tulips, and nearly every summer, just after taking them up, give the beds a fair sprinkling of common salt, till they seem as if whitened by a slight fall of snow not quite enough to cover the ground. This, however, is not a necessity, only an advantage; and if the space is wanted afterwards for other flowers, such as half-hardy plants and annuals, or for other crops, a salting would not be seasonable.”

“Is it wet or cold that kills Tulips?” is a question that used to be hotly discussed among florists a quarter of a century ago. Undoubtedly wet, in the shape of water that cannot get freely away from the ground, causes the death of the Tulip, and is its very worst and almost only foe. Therefore, it is necessary, if the natural drainage of the bed be deficient, to put down an artificial bottom of rubbish, or other pervious material to the Tulip bed; and it is the usual plan to have the bed raised 1 ft. or so above the level of the ground, with boarded sides, and a good surface of fertilizing soil could then be laid upon the beds without danger of rain washing it off.

Tulip beds, like those of Mr. Samuel Barlow’s at Stake Hill House, Castleton, near Manchester, have seven bulbs planted in a line across the bed; thus a bed long enough to admit of 100 lines in seven rows would contain 700 bulbs.

More than three bulbs large enough to flower should not be placed in a hole; some growers put two in a hole, some only one. “For a couple of full-sized bulbs, in each place, the rows on the bed may be 7 ins. apart, and the places in the row across 6 ins. from centre to centre. The width of the bed should allow both of these spaces, and a clear margin of 3 ins. or 4 ins. on each side. 4 ins. is a fair depth at which to plant the bulbs, allowing the top to be 3 ins. or so below the surface. Early planting is much safer than late; for when the base of the bulbs is very ‘proud’ with fibres, and it is pushed, in the act of planting, against any hard substance, such as an unnoticed pebble in the soil, the points of the growing fibres behind this thin shield of skin may easily be broken; such injury is irreparable, for the bulb is not capable of forming any more than are already produced, and no broken fibre in this bulbous plant has the power of producing laterals.”

So much for the present. I will return to the subject again shortly.—R. D.

HORTICULTURAL SOCIETIES.

ROYAL HORTICULTURAL.

THE meeting held on Tuesday—the last but one of the present year—proclaimed the beginning of the end, both in the lesser number of subjects sent for exhibition and the smallness in the attendance of visitors. But for a very extensive display of Apples, Gourds, Pumpkins, and other garden and agricultural produce from Canada, the display would have been very poor, as contrary to expectation, the queen of autumn flowers was represented only by a few new varieties.

The new plants certificated were:—*Angræcum aviculare*, a small plant with two good spikes of long spurred white flowers, from Sir Trevor Lawrence’s collection. *Primula capitata major*, a species with large trusses of rich light purple flowers, shown by G. F. Wilson, Esq. *Amaryllis Lady Mayoress*, a pretty variety of the evergreen section, raised from a cross between *A. reticulata* and *A. Leopoldii*, with reticulated flowers of

a rich rosy crimson colour; *Zygopetalum Leopardinum*, a pretty and interesting hybrid (the probable parents of which are *Z. maxillare* and *Colax jugosus*), with sepals and petals cream colour and heavily barred with purple-brown, and the lip rich violet-purple; *Chrysanthemum gloriosum*, a new American variety, belonging to the improved Japanese type, with large and finely formed flowers of a straw-yellow colour; and *Chrysanthemum White Ceres*, a Japanese variety, with large, compact, white blossoms, distinguished by fine broad florets; all from Messrs. James Veitch & Sons. *Pontederia crassipes* var. *delicata*—a remarkable pretty stove aquatic with a spike of lovely pale flesh-coloured flowers, with a lilac blotch on the upper petals—shown by Mr. Frank Ross, gardener to Sir George Macleay, Pendell Court. *Clerodendron nutans*, shown by Mr. Head, garden superintendent at the Crystal Palace (see p. 171). *Chrysanthemum Admiral Sir T. Symonds*, a most remarkable novelty which we shall not attempt to classify, the monster yellow flowers more closely representing a double Sunflower or *Helianthus* than anything else it could be compared with; and another variety, named Jane, a good, white *Anemone* Japanese, which, with the first-named, was certificated as a decorative variety. Both of these good novelties came from Messrs. H. Cannell & Sons. *Chrysanthemum Coquette de Castile*, one of Délaux’s novelties of last year, and a very fine thing, the large, neat flowers being of a pleasant shade of rose-pink; this came from Mr. W. Holmes’s Frampton Park Nursery, Hackney, and was well shown in dwarf, compact plants. Amongst other subjects exhibited, mention must be made of a nice group of *Cyclamens* from Mr. R. Clarke, of Twickenham, which included some highly-coloured flowers of fine quality. Mr. Wright, gardener to Sydney Courtauld, Esq., Bocking Place, showed the new *Masdevallia acrocordonia*, a species resembling *M. ehippium* (trochilus) with some of the features of *M. Schlimii*. The Scientific Committee awarded it a Botanical Certificate. Mr. Cowley, Orchid-grower to F. G. Tautz, Esq., Studley House, Goldhawk Road, showed fine forms of *Cypripedium Leeannum* and *C. Lawrencianum*, the large white dorsal sepal of the former being very striking. Mr. R. Owen, Maidenhead, sent some cut blooms of new varieties of *Chrysanthemums*, and also of *Marguerite Cloth of Gold*, a wondrously free and continuous bloomer of a very rich golden yellow colour. Mr. William Bull also showed several new varieties of *Chrysanthemums*, one of which, *Madame Ghys*, certainly deserved recognition; it belongs to the large *Anemone*-flowered section, and is very pretty, the upper surface of the florets being pale pink, and rose-pink beneath. Mr. Simkins, gardener to R. J. Measures, Esq., contributed, with some cut flowers, a plant of a deep rose-coloured form of *Lælia præstans*.

The Fruit Committee had before them, amongst other things, bunches of the Winter King Grape from Mr. Bowman, gardener, Hylands Park, Chelmsford, which was decided to be identical with *Gros Maroc*. Mr. E. Woodhall, St. Nichol’s House, Scarborough, showed a “new seedling Grape, Miss Clarke,” which could not be distinguished from *Gros Colmar*. Messrs. Rivers & Son, Sawbridgeworth, showed a fine sample of the Wyedale Plum, a valuable late, medium-sized, oval-shaped, purple-coloured variety, which appears, besides, to be a very free bearer. Good examples of Cox’s Emperor and Coe’s Late Red Plums also came from Mr. Divers, gardener at Ketton Hall, Stamford. Mr. Toogood, Alvalton Hall, Peterborough, sent handsome fruits of a yellow Apple, closely resembling *Frogmore Prolific*. Messrs. H. Lane & Son again showed superb samples of their famous Prince Albert Apple; and Messrs. Veitch & Sons had very fine fruits of the fine new variety, *Bismarck*.

MANCHESTER HORTICULTURAL IMPROVEMENT.

THE annual meeting of this society was held on Thursday evening, November 4th, in the Memorial Hall, Albert Square; Mr. Bruce Findlay, the president, was in the chair. Mr. Robert Tait, the honorary treasurer, submitted his financial statement for the past year. He said the members had every reason to congratulate themselves on their financial position. In the session 1884-5 the total number of members was 108, from whom £13 10s. had been received in the way of subscriptions; the present number was 117, and the amount of subscriptions £14 13s. The balance

in hand last year amounted to £4 2s. 7d. The payments during the past session had been heavier than in the previous two years, and, in consequence, the present session began with a smaller balance than last year—namely, £2 14s. He was pleased to find the society had a small balance, and he hoped that the new session would end with a larger amount than it had now. The statement was adopted by the meeting. Mr. Bruce Findlay was unanimously re-elected president for the coming year; Mr. Robert Tait, treasurer; Mr. W. B. Upjohn, honorary secretary; and the following gentlemen again form the committee of the society:—Messrs. William Plant, J. Briddon, F. Robinson, J. S. Butterworth, and E. G. Hughes.

The president then delivered an address. He took as his subject “Horticulture,” which, he said, whether regarded as an art, a science, a pursuit, or a profession, now occupies more of the attention of the educated classes than at any previous period. Horticulture is the parent of agriculture, inasmuch as it determines on a small scale the value of those principles upon which a more extended cultivation of the soil depends. It essentially consists in subjecting living organisms to the wants, tastes and caprices of man, who obliges the plant he wants or admires in its natural conditions to live where he pleases, however far from its native haunts, and who requires the plant which he does not want or admire in that condition to change its form, colour or habits, and assume such as will render it valuable to him or beautiful in his eyes. The tendency to produce variable offspring is inherent in the constitution of every plant, and is, indeed, a necessity of its existence. There is no such thing as a repetition of the parent in the progeny. Nature supplies the gardener with varieties, and all he can do is to exert his skill in deciding which of them is best suited to his wants, again selecting from its progeny that which is still better suited, and so on till his wants are satisfied. It is to this inherent power of variation and its apparent universality that the attention of horticulturists is now directed in a very marked manner.

Every gardener knows how difficult it is to keep the progeny true to its parents, that the same garden variety does not originate in two independent nurseries, and that the race of a plant raised in Belgium differs from the race of the same plant raised in France, Holland or England. There can be no doubt that vegetables, as well as animals and plants, are liable to an almost unlimited diversification, regulated by climate, soil, nourishment and new commixtures of already formed varieties. Mr. Findlay referred briefly to the state of horticulture at the present time in the country. He could go back for a period of thirty-five years, and he was bound to say that in some branches of plant culture little or no progress has been made. Where are the magnificent collections of Cape Heaths, that used to be exhibited by Fairbairn, of Clapham; Rollisson, of Tooting; Pince, of Exeter; and Barnes, of Camberwell? They are not to be met with in these days. Where are the magnificent specimen Azaleas that used to be the glory of our exhibitions? They don’t exist. Then again there were the New Holland plants formerly shown by Mrs. Laurence, of Ealing Park; Mr. Collier, of Dartford; and several other exhibitors. One seldom sees well-grown specimens of this class of plant now. No doubt reasons can be assigned for this; one, he thought, was that the attention of gardeners had been directed to other channels, and another, no doubt, is that, owing to the commercial depression, the class of plants to which he referred had not received that special attention accorded to them in former days.

He believed, on the whole, that horticulture has made rapid strides in this country during the past fifty years. Not a year passed over, but every country in the world was searched and ransacked in order that new plants, flowers and seeds might be brought to this country. Thus we are able to congratulate ourselves on the advanced state of our gardening. We ought to feel grateful for the science, skill, enterprise and knowledge which had all been brought to bear in order to produce these splendid effects, and to arrive at the present high position which horticulture enjoys. Next year is the jubilee year of the Queen’s reign, and a paper on the progress of horticulture during that period would be a subject pregnant with interest. He hoped that the subject would be taken up by some member of the society. A vote of thanks was passed to the President for his address.

QUESTIONS AND ANSWERS.

SULPHATE OF AMMONIA AND CHRYSANTHEMUMS.—When should I cease giving sulphate of ammonia to my Chrysanthemums, when the blooms are half open, or only till they show colour? —L. H. [Mr. Molyneux and other successful growers continue the use of stimulants until the blooms are three parts expanded.]

WORMS IN A LAWN.—As a reader of your valuable paper, may I ask if you can tell me any means of getting rid of worms in a lawn. I may add they are more like snakes than worms, they throw up such huge casts. —H. A. W. [Water the lawn with lime-water, made by placing a few lumps of unslaked lime in a tub of water, and using the latter when clear. A special kind of soap for dissolving in water is made for this purpose, but we have mislaid the address of the manufacturer. You will hardly, however, find anything answer better than lime-water.]

NAMES OF PLANTS.—D. Campbell: Asplenium Colensoi. Reginald Young: 1, Rodriguezia planifolia; 2, Pleione maculata; 3, Oncidium barbatum; 4, Cattleya gigas, a grand flower, 8½ ins. across; also without numbers, Calanthe Veitchii superba, very fine in colour; Cattleya luteola (Holfordiana) and another, respecting which we will reply later on. J. W. S. & Co.: Oncidium prae-textum. W. Macdonald: Dendrochilum Cobbi-anum.

BILLINCE SCARR.—Mr. R. Holden, Woodfold Park, near Blackburn, requests us to state that "W. P. R." was in error in stating recently that the Woodfold Garden was under the superintendence of Mr. Ferguson, and that he (Mr. Holden), recognises no superintendent but his employer, Mr. Thwaites, and his steward.

COMMUNICATIONS RECEIVED.—J. M.—C. T.—D. P. L.—J. D.—A. M.—T. S.—E. J.—A. I.—W. H.—R. T. (many thanks).—A. O.—B. L.—W. K.—W. B. G.—W. S.—J. B.—W. G.—H. T.—J. Harris.—E. S. D.—W. H. E.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, 544, King's Road, Chelsea, S.W.—Descriptive Catalogues of Roses and Fruit Trees.

LITTLE & BALLANTYNE, Carlisle.—Forest Tree List, 1886-7.

LONDON SEED TRADE.

November 10th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate demand for Canary and Hemp Seed at unchanged rates. Germany is buying a little Red and White Clover from this market, but stocks being fairly large, values are not affected. Rye Grasses are firm. Mustard, Rape and Blue Peas move off slowly at former prices.

COVENT GARDEN MARKET.

November 11th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1	6	3	Peaches, per doz.	
Cherries, $\frac{1}{2}$ sieve				Pine-apples, St.	
Currents, $\frac{1}{2}$ sieve				Michaels, each	2 6 8 0
Grapes, ... per lb.	0	6	2	Pine-apples, Eng., lb.	1 6 2 6
Kent Cobbs .100 lbs.	65	0	70	Plums, $\frac{1}{2}$ sieve	0 9 2 0
Melons, ...each	1	0	2	Strawberries ..per lb.	

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	0	Horse Radish, bundle	3	0	5	0
Beans, French, per lb.	0	4			Lettuces ..per dozen	1	6		
Beet, per dozen.....	2	0	3	0	Mushrooms, p. basket	1	0	2	0
Cabbages....per doz.	2	0	2	6	Onions, per bushel ..	4	0	6	0
Carrots, per bunch ..	0	6			Parsley, per bunch ..	0	6		
Cauliflowers, English,					Radishes, per dozen ..	1	6		
per dozen	3	0	5	0	Sea Kale ..per basket	1	6	2	0
Celery, per bundle ..	1	6	2	6	Smallsalading, punnet	0	4		
Cucumbers, each	0	6	0	9	Spinach, per strike ..	2	0		
Endive, French, doz.	2	6	3	6	Tomatos, per lb.	0	9		
Herbs, per bunch.....	0	2	0	4	Turnips.... per bnn.	0	6		
Potatoes.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.									

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches			Lilium longiflorum,		
Arm Lilies, 12 blms.	4	0	12 blooms	4	0
Azalea, 12 sprays . . .	0	9	Liliums in variety,		
Bouvardias, per bun.	0	6	12 blooms	2	0
Camellias, 12 blooms	3	0	Marguerites, 12 bun...	3	0
Carnations, 12 blooms	1	0	Mignonette, 12 bun...	1	0
Chrysanthemums,			Parma Violets(French),		
12 blooms	0	6	per bunch	3	0
Chrysanthemums,			Pelargoniums, per 12		
12 bunches	1	0	sprays	0	9
Czar Violets (French),			—scarlet, 12 sprays...	0	3
per bunch	1	3	Primula, double, bun.	0	6
Dahlias . . 12 bunches			—single . . . 12 bun.	4	0
Daisies, common,			Pyrethrum, 12 bnchs.	2	0
12 bunches	2	0	Roses . . . 12 bunches	2	0
Encharis, per dozen ..	4	0	Roses (coloured) . . .	1	0
Gardenias, 12 blooms.	3	0	Roses, Tea per dozen	0	9
Gladioli . . 12 sprays	1	0	Stephanotis, 12 sprays	4	0
Heliotropes, 12 sprays	0	6	Sweet Peas, doz. bel.		
Lapageria, red,			Sweet Sultan, 12 bun.		
12 blooms	1	0	Tropeolums	1	0
Lapageria, white,			Tuberose, per dozen.	1	0
12 blooms	2	0	Violets . . 12 bunches	1	0
			White Jasmine. bun.	0	6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Aralia Sieboldi, doz.	6	0	18	0	Ficus elastica, each.	1	6	7	6
Asters, per dozen					Foliage Plants, vari-				
Balsams per doz.					ous, each.	2	0	10	6
Begonias, per dozen	6	0	12	0	Fuchsia, per doz.				
Bouvardia, per doz.	9	0	12	0	Gladioli, 12 pots				
Chrysanthemums, doz.	4	0	18	0	Hydrangea . . per doz.				
Cyperus, per dozen	4	0	12	0	Liliums per doz.				
Dracæna term., doz.	30	0	60	0	Marguerites, per doz.	6	0	9	0
— viridis, per dozen	12	0	24	0	Mignonette, per doz.	4	0	6	0
Erica gracilis, per doz.	12	0	18	0	Palms in variety, each	2	6	21	0
— hyemalis, per doz.	18	0	24	0	Pelargoniums, doz.				
— Regerminans. doz.	9	0	12	0	Pelargoniums,scarlet,				
— various . . per doz.	8	0	24	0	per dozen	3	0	6	0
Evergreens, in var.,					Petunias, per doz.				
per dozen	6	0	24	0	Primula sinensis, p.dz.	4	0	6	0
Ferns, in var., doz.	4	0	18	0	Solanums . . . per doz.	9	0	12	0

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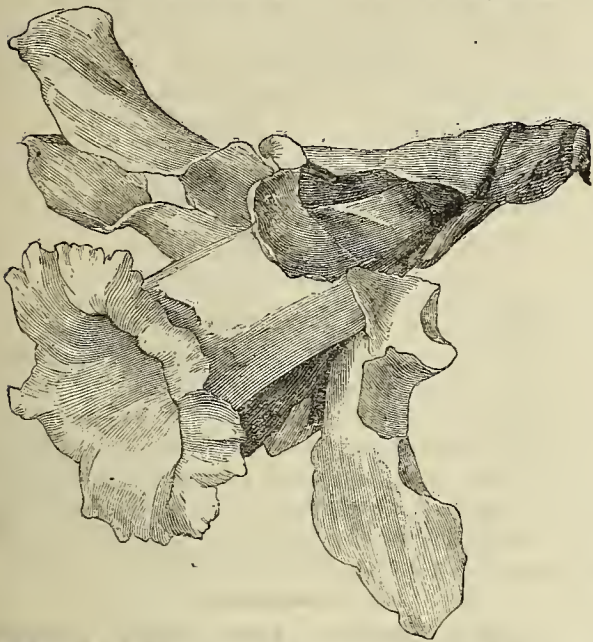
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" " " second-sized bulbs	...	per 1000, 63s.	7 6 1 3
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LENT LILIES OF ENGLAND, petals white, trumpet yellow, valuable Daffodil for naturalisation	...	per 1000, 25s.	3 0 0 6
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Trumpet Daffodils.

MAJOR, uniform rich yellow petals and trumpet	15 0 2 6
second-sized bulbs	10 6 1 6
OBVALLARIS (Teuby Daffodil), very early flowering, uniform petal and trumpet	12 6 2 0
extra-sized bulbs	17 6 2 6
SPURIUS, rich full yellow petals and trumpet, large flowered	15 0 2 6
second-sized bulbs	10 6 1 6
CAMBRICIUS, sulphur-white petals, yellow trumpet	15 0 2 6
PRINCEPS, sulphur-white petals, very large yellow trumpet	12 6 2 6
second-sized bulbs	10 6 1 6
PALLIDUS PRECOX, a great beauty, uniform pale sulphur petals and trumpet	15 0 2 6
TELAMONIUS PLENUS, strong-flowering bulbs	7 6 1 3
" " very large bulbs	10 6 1 6

Chalice Cup-shaped Great Nonsuch Daffodils.

CONCOLOR, second-sized flowering bulbs	12 6 2 3
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FRANK MILES, second-sized flowering bulbs	21 0 3 6
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FAIRY, second-sized flowering bulbs	8 6 1 6
GLOW, second-sized flowering bulbs	7 6 1 3
SUNLIGHT, second-sized flowering bulbs	7 6 1 3
SULPHUREUS, second-sized flowering bulbs	7 6 1 3
ASTREA, second-sized flowering bulbs	7 6 1 3
JOHN BULL, second-sized flowering bulbs	15 0 2 6
LONGSHANKS, second-sized bulbs	12 6 2 6
SANCHO, second-sized bulbs	7 6 1 3
ALBIDUS, second-sized bulbs	7 6 1 3
ANNIE BADEN, second-sized bulbs	12 6 2 6
CYNOSURE, second-sized bulbs	12 6 2 6
LORENZO, second-sized bulbs	21 0 3 6
STELLA, second-sized bulbs	10 6 1 6
BARRI, GOLDEN MARY, second-sized bulbs	5 6 1 0
" SULPHUREUS, second-sized bulbs	7 6 1 3
" ADA, second-sized bulbs	10 6 1 6
" JOHN STEVENSON, second-sized bulbs	21 0 3 6

The Eucharis-flowered Daffodils.

LEEDSI AMABILIS, second-sized bulbs	21 0 3 6
" DUCHESS OF BRABANT, second-sized bulbs	21 0 3 6

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HUME'S SULPHUR, second-sized bulbs	10 6 1 6
MACLEAYI, second-sized bulbs	10 6 1 6
ODORUS, second-sized bulbs	5 6 1 0
REGULOSUS, second-sized roots	5 6 1 0
BUTTER AND EGGS, second-sized bulbs	4 6 0 9
EGGS AND BACON, second-sized bulbs	7 6 1 3
CODLINS AND CREAM, second-sized bulbs	21 0 3 6

Burbidge's Daffodil.

BURRIDGEI, second-sized bulbs	7 6 1 3
BOZ, Yellow Poeticus, second-sized bulbs	15 0 2 6
DANDY, White Poeticus, second-sized bulbs	10 6 1 6
MARY, White Poeticus, second-sized bulbs	12 6 2 6
ROBIN HOOD, White Poeticus, second-sized bulbs	12 6 2 6

Poet's Daffodil.

POETICUS ANGUSTIFOLIUS, second-sized bulbs	8 6 1 6
" ORNATUS, second-sized bulbs	8 6 1 6
POETICUS OF GARDENS	3 6 0 6
GARDENIA-FLOWERED DOUBLE WHITE DAFFODIL	7 6 1 6
smaller bulbs	5 6 1 0
PRIMROSE PEERLESS DAFFODIL, per 1000, 30s.	3 6 0 6
THE TRIPLE-GASHED DAFFODIL	15 0 2 6
second-sized roots	10 6 1 6

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THE GARDENING WORLD, Vol. III., commenced with number 105. Order through all Booksellers and Newsagents. Cases for binding Vol. II, post free for 2s. 4½d.

Birmingham and Midland Counties Chrysanthemum, Fruit and Floricultural Society.

THE Twenty-sixth Annual Exhibition of CHRYSANTHEMUMS, FRUIT, &c., will be held in the Town Hall, Birmingham, on Wednesday and Thursday, November 24th and 25th.—Secretary, J. HUGHES, Metchley Lane, Harborne, Birmingham.

Next Week's Engagements.

MONDAY, Nov. 22nd.—Leeds Chrysanthemum Show (two days).—Sale of Dutch Bulbs and Lilies at Protheroe & Morris's Rooms.—Sale of Bulbs and dwarf Roses at Stevens' Rooms.—Clearance Sale at Ealing Dean Nursery, by Protheroe & Morris.

TUESDAY, Nov. 23rd.—Chrysanthemum Shows at Liverpool and Manchester (two days), and Hanley.—Sales of Dutch Bulbs at the City Auction Rooms, Gracechurch Street, and of Imported Orchids at Protheroe & Morris's.

WEDNESDAY, Nov. 24th.—Chrysanthemum Shows at Clonmel and Birmingham (two days).—Sales of Hardy Plants, Bulbs, &c., at Stevens', and Protheroe & Morris's Rooms.

THURSDAY, Nov. 25th.—Colehester Chrysanthemum Show.—Sales of Established Orchids and Lily Bulbs at Stevens' Rooms; and Dutch Bulbs at Protheroe & Morris's.

FRIDAY, Nov. 26th.—Sale of Valuable Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, Nov. 27th.—Sales of Dutch Bulbs, &c., at Stevens' and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 20, 1886.

THE PLANTING SEASON.—The recent heavy and continuous rains proved as disastrous to the Chrysanthemum shows as it was beneficial to nurserymen and intending planters, and thus, once more, was illustrated the old adage as to its being "an ill wind which blows nobody good." Planters may now enter upon their heavy and responsible duties with light hearts, for the soil is not only thoroughly moistened to a considerable depth, but it is left in just that desirable condition which planters desire. When the ground is saturated, the work of getting up trees and shrubs is difficult, laborious and too often harmful in its results to the things removed. The work of planting is also bad, and no satisfactory work can be performed whilst trees and shrubs so transplanted are in exceeding danger from severe frosts later. But an unduly

dry soil is an evil also, because it prevents lifting with ease and kindness to the roots, and, after planting, the roots are left subject to the danger of want of proper moistening. Contingencies like these planters naturally wish to avoid, as not only productive of excessive labour, but of loss; and the death of good trees and shrubs means, sometimes, more than the mere loss of the things, it means loss of time, for the planting season has invariably passed away for the year ere the losses are discovered.

A planting season of promise naturally conduces to planting; as at present, with some months or more of weather before us prospectively specially suitable, confidence is now abundant in its safety, and those, who under other conditions would have hesitated to incur expense and possible loss, will now feel that planting, even on the largest scale, may be performed with safety and with satisfaction. It is worthy of note that whilst there are in relation to ordinary ground crops much divergence of opinion as to the most desirable or profitable, there does not seem to be any with regard to tree planting. In all directions there is a consensus of opinion that myriads of acres of land in the kingdom may be planted suitably, with prospective, if not with absolute certainty of profit. There can be little doubt but that ample breadths of woods and forests in any country is conducive to salubrity, health and warmth, as shelter is thus more largely provided for tender crops and the inhabitants. We are, in this kingdom, beginning to realise that whilst fast exhausting the timber stores of other countries, we have vast areas lying at our own doors absolutely non-productive, but which, if properly drained and broken up, would, in due time, yield good timber. It is true that profits from any such expenditure are remote, but they are, doubtless, certain; and it seems but fair that owners of estates, which have portions of these non-producing areas, should have power to charge upon posterity, which will reap the benefits of present planting, some of the original cost incurred.

In regard to ordinary garden planting, it is as well to remind those who purpose doing so that whilst their soil may be by labour and weather thoroughly prepared for the work, yet success depends finally upon the fitness of the trees and shrubs to be removed—still farther, upon the way in which they are removed. It is not possible to give too much care in this respect, whether by one's own labour or by that of a nurseryman, and where really valuable trees or shrubs are concerned, special supervision in the lifting is desirable. We have seen sad disasters to fine specimens from lack of due care in that direction, and feel that the very foundation of success in planting lies in the care bestowed in lifting the subjects to be planted.

WE have the pleasure to announce that Baron Ferdinand de Rothschild, of Waddesden Manor, Member of Parliament for the Aylesbury Division of Buckinghamshire, has most kindly consented to preside at the Forty-fourth Anniversary Festival of the GARDENERS' ROYAL BENEVOLENT INSTITUTION, to be held at "The Albion," Aldersgate Street, on Friday, July 1st, 1887.

WE understand that Mr. J. TRANTER, of Upper Assenden, Henley-on-Thames, has become proprietor of the nursery, at Henley-on-Thames, which belouged to the late Mr. Jones.

THE DATES selected for holding the meetings of the Fruit and Floral Committees of the Royal Horticultural Society, in 1887, are as follows:—January 11th, February 8th, March 8th and 22nd, April 12th and 26th, May 10th and 24th, June 14th and 28th, July 12th and 26th, August 9th and 23rd, September 13th and 27th, October 11th and 25th, November 8th, and December 13th.

ON Thursday, November 11th, Sir Philip Cunliffe Owen, on behalf of the gate-keepers at the Colonial Exhibition, and in their presence, presented Mr. J. DOUGLAS DICK with a handsome drawing-room clock, bearing the following inscription:—"Presented to J. Douglas Dick, Superintendent of Entrances, by his staff, as a mark of respect for his kindness and courtesy during the series of exhibitions held at South Kensington from 1883 to 1886. 11th Nov., 1886."

THE COMMITTEE OF MANAGEMENT of the Liverpool Horticultural Association have arranged for the following series of papers to be read at the meetings of the Association on the dates named:—December 18th, paper on "Rose culture under glass," by Mr. J. Clarke, Calderstones. January 22nd, paper on the "Cultivation of the Ixora," by Mr. A. R. Cox, Wavertree; paper on the "Cultivation of the Clematis," by Mr. H. Ranger, Aigburth. February 19th, paper on the "Cultivation of the Pelargonium," by Mr. John Tunnington, Haigh Hall Gardens; paper on the "Cultivation of the Tomato under glass," by Mr. B. Cromwell, Allerton. March 26th, paper on the "Rhododendron," by Mr. R. W. Ker, Liverpool. The annual general meeting will be held in the Lecture-room of the Free Library, William Brown Street, on Saturday, January 29th, at 7 p.m.

THE CHAIRMAN of the Window Garden branch of the Birmingham Kyrle Society appeals to the readers of a local paper for a few thousand Horse Chestnuts and Acorns for distribution amongst the children of the Board and denominational schools in that town, who plant them in pots and in bottles, &c., and watch their growth with great interest. In London, the cultivation of Acorns in water, placed in small glasses specially made for the purpose, is becoming popular with ladies, and ought to become equally as popular with the million. As trees will doubtless be planted in most of our public parks and gardens next year, in commemoration of Her Majesty's Jubilee, why should not every child have its own memorial Oak? Some enterprising nurseryman should see to this.

WE understand that the CHRYSANTHEMUM SHOW to be held in Edinburgh on December 7th and 8th, under the auspices of the Scottish Horticultural Association, is meeting with a gratifying amount of support, considering the short time the council have had to organise it. Although the competition is confined to Scotland, it is hoped that some southern growers will be found among the exhibitors. Any information may be had from Mr. Robertson Munro, Piershill, Edinburgh.

WE understand that Mr. EDWARD GEORGE has left Ockenden, Cuckfield, in consequence of his employer, T. W. Boord, Esq., having given up the place, and is seeking another situation. Mr. George was formerly gardener to the Earl of Cloncarty, at Garbally, succeeding his father who had been gardener there for thirty years. He went to Ockenden in 1879, and there proved himself a first-rate all-round practitioner, and especially able as a fruit cultivator under glass. The services of such a man should not be long in the market.

WINTER-FLOWERING EPACRIS.

THE season being at hand when these excellent greenhouse plants commence to bloom, perhaps a few notes on some of the best varieties and their culture may not be out of place. These plants require good cultivation to bring them to perfection, and it is only by this that good spikes of flowers can be obtained. There are a good many varieties in cultivation at present, but I will only name a few of what I consider to be the best both for colour in the flower, and free-blooming qualities. White, pink and red are the predominant colours, and these colours blend well with any other flowers with which they may be used. It is surprising the quantity of flowers that can be cut from a dozen well-grown plants, and if the following notes can be followed out, the amateur may grow them as easily as the professional.

After the plants have finished flowering, they should be kept somewhat drier for a few days, at the end of which time the shoots should be shortened about three parts of the way back. The plants should then be taken into an intermediate temperature, where they will soon commence to make new shoots. They must be potted as soon as they have nicely started into growth, using good peat and silver sand, and be sure to pot very firm. The plants may be grown in this temperature—syringing the plants occasionally—until

the growth is considered to be made up, when they can be shifted into a frame or cool house, and ultimately out of doors to thoroughly ripen their growth. If this be followed out, the plants will be set with bud in almost every axil of its leaves. The plants will require to be taken inside before any frost appears, and ordinary cool greenhouse treatment will then suit them. The following eighteen sorts I can with confidence recommend to intending growers:—

Alba odoratissima	Lucifer
Ardentissima	Model
Delicata	Mont Blanc
Densiflora	Mrs. Pym
Fireball	Racemosa
Hyacinthiflora	Rosea elegans
„ fulgens	The Bride
Impressa coccinea	Vesta
Lady Panmure	Viscountess Hill.

For summer-flowering or exhibition sorts the following are very useful:—*Rubra grandiflora*, *Princess Royal*, *Eclipse*, and *miniata splendens*. The two varieties of *Epacris onosmaeflora plena*—*nivalis* and *alba*—promise to be very good things, and have every appearance of being as free as the single varieties. Under no pretence shade the plants, as a great deal of the vigour of the plants depends upon having plenty of light.—*W. G.*

"BELLCIDE" OR THE DAISY ERADICATOR.

AT last we have what promises to be a valuable help to the gardener, in the way of destroying objectionable weeds on lawns. One rarely sees a lawn free from weeds, and in some cases they have gained such an ascendancy, that they spoil the effect of the grass plot, which, to be perfect as can be desired, should be entirely free from weeds. At great cost of time and labour, women and children have been set to work to clear the lawn of them, but it is done, in most cases, in a perfunctory manner, only to be followed in course of time by an equally profuse growth. What has been required, is a rapid and efficacious exterminator, easily applied and inexpensive in the matter of price. This is found in a preparation made by Messrs. Hurst & Son, wholesale seedsmen, of 152, Houndsditch, E.C. and designated "Bellicide." In these respects it has a great advantage over Watson's lawn sand.

When visiting Mr. Sherwood, at Dunedin, Streatham Hill, during the summer, I saw where the "Bellicide" had been extensively applied, and the entire destruction of Daisies, Plantains, etc., had resulted, and instead of the grass, round where the weeds had been growing, looking impoverished, there was a most luxuriant growth. I was informed by Mr. Sherwood that the preparation, in addition to destroying the weeds, fertilised and stimulated the growth of the grass. During July and August it was largely applied by my neighbour, Mr. John Roberts, to the lawns at Gunnersbury Park, Acton, with the most satisfactory results; I saw where it had been widely employed, both in shady and open sunny positions, and with the best results, completely destroying leaves and stalks of the Daisies and other weeds. In the process of destruction the grass about the weeds became a little discoloured, but owing to the presence in the preparation of fertilising properties, a luxuriant growth almost immediately followed, and the freshened appearance of the lawn was, as Mr. Roberts described it, "truly astonishing."

I advised Mr. Robert Greenfield, the head gardener at The Priory, Warwick, to try it, knowing that he was troubled with a growth of weeds on his lawns, and he reports that he experimented at different times, and each time with the same successful results. It completely kills Daisies, Plantains, Dandelions, &c., while, at the same time, it acts as a renovator to the grass, as the latter grows vigorously after the application of the "Bellicide." I find it most effectual when applied in moist weather. From Mr. G. Bloxham, The Gardens, Brickhill Manor, Bletchley, comes an equally satisfactory statement, especially in relation to the destruction of moss on paths that are sunless and damp. It has been tried at various other places, in all cases with the most satisfactory results, and I am certain that it is a real "gardener's friend."

The preparation is in the form of a fine powder, and it is applied by means of a dredger, which is sent with each parcel; it is necessary to distribute it evenly over the plant. In the case of large and vigorous-leaved weeds—like Plantains, &c.—it is best to cut away the

tuft of leaves with a knife, and then apply the "Bellicide" direct to the stem. It may be necessary to apply three or four dressings; but, in the end, the weed succumbs. It is best to apply the "Bellicide" during moist weather; but if it be in a time of drought, the grass about the space where the preparation has been applied should be watered after the expiration of five or six days. It can be used at any time between March and August, it should be kept dry, it does no harm to birds, there is no objectionable smell, and it will keep for any length of time. I am so satisfied with what I have seen of its effectual operation when applied, that I have every confidence in recommending it for general use.—*R. D.*

THE LONDON FLOWER-GIRL.

ONE of the most familiar figures of our streets and thoroughfares is that of the flower-girl, who, with her basket of pretty flowers, arranged either in bunches or "button-holes," is known and welcomed everywhere. Neatly, if poorly clad, she may be seen in the busy streets of the City, in the fashionable promenades of the West, in the dull poverty-clad districts of the East, in the pretty and healthy suburbs of the North and South; in short, wherever there is a prospect of doing business, the flower-girl is one of the most noticeable figures. And yet, thoroughly as she is known, it is a remarkable fact that very few persons are aware of the many ins and outs of a flower-seller's life. Day after day—no matter how inclement the weather—we see her almost in the same spot, with her basket more or less crowded with the flowers of the particular season; but at the same time, however, few of us give a moment's thought as to the hardships she has to bear, in order that sufficient money may be got together, by which not only to keep herself and those depending upon her, but also to enable her to again lay in her stock of flowers on the morrow.

If there is to be any result from the day's labour, the flower-girl must be up and stirring, and should be at the market in Covent Garden as early as four o'clock in the summer and between five and six o'clock during the winter months. Hours previous to this time, however, the well-to-do dealers and others will have been there before her, and she must, therefore, make the best bargain possible, according as her scanty means will allow. If flowers are at all scarce, and, as often happens, the demand from the shops has been great, the prices will run high, thus making it impossible for the poorer class of flower-girls to invest, and consequently many, with heavy aching hearts, return home, or wander listlessly about the streets.

The Flower Market at Covent Garden presents a very animated appearance during the early hours of the morning. Flower vendors of various ages are there—women and girls, often with infants in arms, or little ones clinging to the aprons or dress of their mothers—some with an air of carelessness about them, showing that they have grown accustomed to the business; others—new hands, perhaps— anxiously awaiting the first opportunity to purchase as soon as the more wealthy have taken their choice.

The spring of the year is by far the best season for the flower-girl. Then it is that her basket of bright pretty flowers is most welcome, when, after a long dreary winter, the sun once again bursts forth with renewed splendour, cheering the heart of the poor, and delighting the eye of the rich; because, for a few short months, the piercing cold and agony of the winter will be forgotten in the magnificence of the sun's warm rays. With the spring comes the dawning of a new life. It is then that our fashionable thoroughfares will be made bright and cheerful by the plenteous supply of flowers. Primroses, Daffodils, Crocuses, Snowdrops and Violets all tend to enliven the dull monotony of our busy life, and lend a charm to the streets of the world's great Metropolis.

Spring soon passes; summer waxes and wanes; the lovely autumn too quickly follows suit, and once again the cruel cold winter is upon us. Then the most bitter of problems to the flower-seller has to be solved—viz, how to live through the winter months, until the spring once again brings the means of subsistence. If, indeed, it is a hard matter to live when flowers are plentiful and in great demand, how much more so is it when flowers are scarce and prices enormously high?

Nearly twenty years ago Mr. J. A. Groom commenced his great work of practical Christianity among

the poor of London, and naturally the deplorable state of the flower-sellers during the winter season soon attracted his attention, the formation of the Flower Girls Mission being the result. This mission, which has its quarters in Clerkenwell-close, was for many years under the presidency of the Earl of Shaftesbury, who up to within a few days of his death was indefatigable in his exertions, and now the mission has not been less fortunate in securing the co-operation of the Earl of Aberdeen; and the Countess, who took such a deep interest in the Irish women's industries, is one of its most devoted helpers. The mission works upon the principle of helping others to help themselves, and so far its efforts have met with every success. The last long and dreary winter, however, taxed the resources of the mission to the very utmost, but in spite of reduced subscriptions, owing to the depression in trade, it was able to give relief, in the form of clothing and food, to a vast number of poor flower-women and children. A missionary visits the early-morning markets and the theatres and music-halls at night, where many cases of an appalling and distressing nature have been met. The proffered help of breakfast is in most cases eagerly accepted, while the few words of kindly sympathy and encouragement are listened to with great attention, the result being that a bond of loving friendship is formed, thus destroying that indifference of feeling which is so hard to contend against, and which so often leads into sin.—*Echo.*

MUSHROOM KETCHUP.

HAVING had an abundance of Mushrooms this autumn my wife tried her hand at making ketchup, but from some cause or other, which we cannot determine, failed



UNADULTERATED KETCHUP.

in the attempt; can you tell us how it is done?—*A. Chrichton, Leicester.* [Unless our correspondent grows Mushrooms under cover, which we do not suppose is the case, it is too late in the season to make ketchup now; but as the details required by our correspondent may also be useful to others, we give a recipe taken from Mrs. Beeton's "Cookery Book," a most admirable work on the subject, and so cheap that even the most humble housewife should possess it. "The ingredients required for dealing with a peck of Mushrooms, are $\frac{1}{2}$ lb. of salt; and for each quart of Mushroom liquor, $\frac{1}{4}$ oz. of cayenne, $\frac{1}{2}$ oz. of allspice, $\frac{1}{2}$ oz. of ginger, and two blades of pounded mace. The Mushrooms should be full grown, and fresh gathered in tolerably dry weather. Put a layer of them in a deep pan, sprinkle salt over them, put in another layer and so on. Let them remain for a few hours, then break them up with the hand and put them in a cool place for three days, occasionally stirring and washing them well to extract the juice. Ascertain the quantity of liquor without straining, and allow to each quart the above proportion of spice, &c. Put all into a stone jar, cover it up closely, put it into a saucepan of boiling water, set it over the fire and boil for three hours. Turn the contents of the jar into a clean stewpan, and simmer for half-an-hour; pour into a jug and stand it in a cool place until next day, then pour off into another jug, and strain it into very dry clean bottles. To each pint of ketchup add a few drops of brandy. Do not squeeze the Mushrooms. Be careful not to shake the contents, but leave all the sediment behind in the jug; cork well and seal or resin the cork. The ketchup should be examined occasionally after it has been put by, and if it is spoiling it should be re-boiled with a few peppercorns." In the accompanying little sketch, our artist, who has ere now nearly poisoned himself by tasting dubious "Mushrooms," presents his ideas on the subject, and like Pat's Potatoes, "they speak for themselves."—*ED.*]

PEARS v. PEACHES FOR A SOUTH WALL.

As the planting season is now at hand, and as far as I am aware, no one has answered your correspondent "W. C.", see p. 341, vol. ii, I venture to give my experience upon the above subject. We have sixteen trees of Peaches and Nectarines planted by the side of a south wall, and the youngest of them would be from twelve to fifteen years of age, from the maiden state; the others are much older. I have had charge of them for nine seasons, therefore, I can speak with some certainty. We have about twenty-four trees planted against walls with an east aspect; these are not nearly so satisfactory as those grown on a south wall, but they yield sufficient returns to justify us in continuing their culture outside. This year we have had some good fruit of the following kinds, from the east walls:—Royal George, Barrington, Violette Hâtive, Noblesse, Gros Mignonne and Lord Palmerston; some fruits of the latter measured 10 ins. in circumference. Humboldt Nectarine was also very fine in quality.

The autumn of 1885 was favourable for the ripening of Peach wood, consequently, this season, I have gathered over a thousand Peaches and Nectarines, the greater number from the south wall, of the following kinds:—Dr. Hogg (very fine), Early Silver, Alexandra, Exquisite, Princess of Wales, Late Admirable, Walburton Admirable, Barrington and Gros Mignonne; and Lord Napier and Elruge Nectarines. To show how favourable a south wall is to the growth of Peaches, I will give an instance: Walburton Admirable, which was formerly trained on an east wall and rather shaded by other trees, did not ripen a single fruit for seven years, and it lost nearly all the lower branches. Some would have said, "Cut it down, why waste time and space upon it?" I thought otherwise, as I wanted to prove its capabilities. It was removed to a southern aspect, fully exposed, and the next season we were rewarded with one handsome fruit; at that time I could see that, by the quality of the new growths, which, instead of being green and soft, were hard and of a mahogany colour, we were on the road to success.

This year the same tree produced twenty fine Peaches. "W. C.'s" trees must be in a deplorable condition when he is constrained to say, that "four trees in an ordinary lean-to house will give more good fruit than fourteen outside." There is an amount of uncertainty about all our choice wall-fruit trees out of doors, and, no doubt, Cherries, Plums, and some of the more tender kinds of Pears would be much better with some glass protection to carry them safely over the blooming and setting period.

As regards Peach culture, sometimes a deficiency of sun in the autumn leaves us with nothing but green and unripened wood to face a severe winter with; under such circumstances, need one wonder at branches dying off wholesale? And in the spring and early summer, frosts and treacherous winds finish the work of destruction by destroying the scanty crop. It will be seen and, I think, admitted, that unripened wood is the chief cause of failure; and, in order to remedy this as far as we can, some old notions need to be expelled, one of which is, after a border is well made and planted, that it must remain undisturbed (as if it were sacred) year after year; in other words, the trees are expected to go on thriving for an indefinite period without having their roots examined and attended to from time to time. If a Peach tree is making rank and pithy growths, which will not ripen, we prune the roots and bring them nearer the surface; on the other hand, if the growths are weak, we lift the tree and replant in a somewhat richer soil. The aim and object is to produce medium-sized growths that can be matured before winter sets in. In very cold districts, or in the neighbourhood of smoky manufacturing towns, it is useless to plant Peaches out-of-doors, but where they have once thriven and succeeded, I should feel that there was something wrong in the treatment if they did not do so again.

We have Pears in abundance, and some of them disgrace the name by which they are called, being coarse and gritty, and only fit for stewing. Just now we are getting a fresh stock, and may hope for better things. We are also replacing some of the worn-out Peach trees, and I mean to give the west wall a trial, and expect success therefrom.

Where variety in the dessert is required, Peaches and Nectarines are worth some trouble for producing a

succession of fruit from the end of August until the middle or end of October. I have gathered fruit of Late Admirable on Lord Mayor's day; of course, there is not much flavour in a Peach so late in the season, however well-coloured it may be; notwithstanding this, a showy dish is appreciated.—*J. Simcoe, Cheltenham.*

SPRING GARDENING.—III.

As we are now in the very heart of the season, when all spring bedding arrangements should be taken in hand in right good earnest, I will now call attention to a group of plants, whose success materially depends on their being planted at the right time. I refer to

BEDDING VIOLAS,

Which, I may justly remark, are among the foremost of our spring and early summer-bedding plants—a group, which, taken as a whole, is greatly varied in itself, and possessing the profuse-flowering qualities of which so few plants can boast, while the delightful fragrance they impart, in some instances, can only tend to make them more deservedly popular among all classes. We have, in fact, no class of plants possessing so long extended a period of flowering and with so much variety of colour as the Viola now combines. But, alas! in how few cases do we really see them as they ought to be? crowded with all the brightness and freshness of spring, as they should be. In good hands and with generous and thoughtful treatment, the Viola is, perhaps, one of the most charming bedding plants we possess, and one which really needs so little care.

Some cases, however, exist—and my own counts of the number—where some little effort is necessary to grow Violas to perfection, and this remark is particularly applicable to counties in the south of England. In my own case, the soil with which I have to contend is—if the orthodox theory be accepted at all, but which I, for one, am endeavouring to overthrow—the very opposite for the well-being and successful culture of the Viola, by its being on a deep gravelly sub-soil; so much so, that in dry seasons it becomes so dusty that it is a marvel how plants exist at all upon it. To remedy this I use an abundance of cow manure in a green state, and quite fresh as it is received from the cow-shed. In the very cooling nature of the manure, and the amount of moisture it contains when placed in the ground, I attribute much of my success upon a soil which, *prima facie*, appears quite opposed to their welfare. Therefore, I cannot too strongly urge the value of such manure for these plants, together with a liberal use of it. Another important item is

PREPARING THE BEDS

For their reception, upon which I will briefly remark: In the first place, throw out the soil to a depth of 4 ins; secondly, dig the ground deeply below; after which, place a good layer of the manure, in the proportion of a large barrowful to every 5 sq. ft., this to be solid manure and not half straw; after which, return the surface soil to its place; if at hand, a liberal dressing of the burnt ash from the rubbish fire-heap may be given, which the plants at all times thoroughly enjoy, and which is not only valuable at planting time, but equally so in giving top-dressings and mulchings afterwards. The next step to be considered is the

PLANTING,

Upon which so very much depends, and especially so since the mistaken notion of spring planting seems to have become the order of the day. That such an idea is at once erroneous is obvious to all, which latter remark I mean to extend to those even who know little or nothing of such matters; for what can be more decidedly wrong than being engaged in planting any subject at the moment it is in full flower, and expect results equivalent to those gained by carrying out the work at the proper time? No one would think of planting an Apple tree in full flower, and expect it to bear fruit the same season; but though the subjects are so widely distinct, the observation applies with equal force to each. Hence the advantage of carrying out work at the right time, and the “right time” is the early autumn; but as this period is rather an indefinite one, it may be ruled by the summer occupants of the beds, and as soon as these are cleared off, you may, if your plants are ready, begin at once. Any time, however, during October and November for Violas, and the earlier the better.

THE BEST PLANTS

For the purpose are fresh-rooted cuttings, those which were inserted in July and August preferred, for these are now well-rooted, and in excellent condition for removal. The operation of planting is an easy one, and is done by simply making a hole in the fresh dug ground, and inserting the plant up to the first green leaves, and finally making them firm in their respective positions. The frequent use of the hoe is of considerable assistance, and occasional dressings of burnt ash from the rubbish heap. This is the more advantageous to them if the plants are earthed up with ashes, for they root freely into it, and continue to throw up young shoots till the base of the plants are bristling with their numerous breaks, the surest possible sign of ultimate success.

I have been tempted to thus fully dwell upon this charming group of plants, with a view to show, if possible, that although a commonplace subject, there is a wide difference between growing it to perfection, or, at least, as near to that point as possible, thereby making it one of the most enjoyable of spring plants, and merely putting it in any hole from which barely sufficient soil has been taken to admit it without doubling it up, or cramping it in such a manner that it never gets a start; and from the fact of having insufficient depth of soil to penetrate, it soon suffers when the heat of summer arrives. I would next refer to

VARIETIES FOR PLANTING,

Which, by the way, are numerous, though the number that have really good constitutions and free-flowering properties are somewhat limited, and to these latter I will confine my remarks. Of the most desirable white kinds we have Countess of Hopetoun to head the list, closely followed by Lady Polwarth. Next in order of merit is Mrs. Gray, a variety valuable for its fragrance and very pure flowers, following which are Jeffrayanum, Pilrig Park and Champion, the two latter being of similar bearing, and both having large pencilled flowers. In yellow, primrose and gold we have, of the former, Queen of Spring; of primrose, Ardwell Gem is very good; and of gold, we have Golden Queen of Spring, Bullion, Brilliant and Sovereign; of purple and its kindred shades, Mrs. Chas. Turner, Queen of Purples and Cliveden Purple compacta are the best; while Paragon is a rich violet shaded with purplish crimson.

As an intense rich violet, Archie Grant stands out unique with bold erect flowers, and a splendid constitution. Almost unique in its way is Countess of Kintore, a flower of the Magpie type, in which the purple-steel-blue and white flowers find many admirers; while of the blue, I think I need only name one kind, that is, True Blue, which is simply perfection, seeing that it possesses the freedom of flowering, with which is combined a thoroughly sound constitution, and at the same time a habit so dwarf and compact, that might well be compared to some of the dwarf forms of bedding Lobelia; and in company with the smaller silver-leaved Pelargoniums, in summer time, it is in perfect harmony. It was raised by Mr. William Dean, of Walsall, and is certainly a very fine introduction.

Of the shades of lavender, lilac and mauve, we have Duchess of Albany, Duchess of Sutherland, Elegans and Fairy Queen, the first and third named, perhaps, being the two best; they all are very pretty, however, and the shade of colour is so distinct and pleasing from that usually found in the Viola. I have at present refrained from mentioning the several fancy kinds, which, though very beautiful by their quaint markings, do not appear so well suited for bedding purposes as the more decided colours.—*J.*

ALLOTMENT GARDENS.

So many of our readers take an interest in the allotment question, that we feel sure the following interesting remarks on the subject, culled from an admirable paper read at the last meeting of the Farmers' Club, by an occasional contributor to our columns, Mr. H. Evershead, Hurstmonceaux, Sussex, will be read with interest:—“These who best understand the wants of farm labourers have always attached great importance to the provision of sufficient gardens and allotments for them. Many years since, some of those great land owners, whose names are known for their services to agriculture, were among the most active promoters of allotments; and just twenty-eight years ago this month, a respected member of our club—Mr.

Trethewy, of Silsoe—read a paper to us on ‘The Allotment System: Its Uses and Abuses.’ There were no accurate statistics relating to the number of allotments at that time, but we know that influential bodies, such as the Labourers' Friendly Society, of 1830, were founded especially to advance the work which the Association for the Voluntary Extension of Allotments has recently revived. Mr. Trethewy, in his admirable paper, gave examples of estates in Bedfordshire having many acres of land devoted to allotments.

Mr. Little, of Chippenham, Wilts, mentioned that the number of allotments on the estates under his management were 700. A story was told by Mr. Gray which, I think, should be repeated. After referring to the labour riots and prevalence of incendiarism in the rural districts in 1830, he said that his own parish of Alconbury, Hunts, was notorious for badly-conducted labourers, so that the saying ran, ‘As bad as the parish of Alconbury.’ A meeting was called at that abandoned place to consider the unhappy position of affairs, and the Bishop of Durham, having some land in a convenient situation, offered it to the churchwardens for the purpose of allotments at 35s. per acre. The offer was accepted, and the land drained and let in allotments of twenty rods each, and forthwith the wicked people began to mend. The usual system of cropping they adopted was one-third Potatoes for the family, one-third Mangels, and another one-third Beans for the pigs. There is such magic in a spade when used by a poor man in his garden that the condition of Alconbury soon improved, and the complete regeneration of the people, which afterwards occurred, was attributed in no small degree to the influence of the allotments.

An enumeration of landowners who have provided allotments for all claimants on their estates from that time till now would include most of the great proprietors and many of the small ones. During the existing movement in favour of allotments the newspapers have contained constant announcements of the provision of allotments by landowners who had become aware of the demand for them. As a rule, my limited space will forbid the mention of names; but I may notice, as historical examples, that in Oxfordshire, in 1841, the fifth Duke of Marlborough, a noted agriculturist, the Earl of Macclesfield, the Harcourt family, and many other land proprietors set out allotments in numerous parishes in that county.

THE LAW OF ALLOTMENTS.

The extension of allotments, both before and after the passing of the Poor Law Amendment Act in 1834, was very great, and, no doubt, many of the numerous examples which have been reported in all parts of England, where the cottage gardens are deficient, date from that period, and were due to the voluntary action of land owners. Mr. T. Hall states, in his new work on “The Law of Allotments,” that fifteen statutes in the present century, and thirty-four parliamentary papers within the past fifty years have related to allotments, showing how much has been said in Parliament on the subject compared with the very little it has done. The Acts relating to allotments, however, have been very limited in their operations, referring mainly to charity land, as in the case of Mr. Weyland's Act of 1832, and of the Allotments Extension Act of 1882. In 1843 two admirable philanthropists—Lord Shaftesbury and the present Lord Mount-Temple, then Mr. Cowper—were engaged upon the allotment question, as a host of other liberal-minded gentlemen, including many members of this club, have been at various times.

On the motion of Mr. Cowper, a select committee of the House of Commons was appointed to inquire into the allotment system, and its report states that allotments existed in all the agricultural counties, but were not universal in any of them, while in the manufacturing districts they had not long been introduced. It is interesting to learn, from the evidence collected by the committee, that 3,000 allotments were held under the West Kent Labourers' Friend Society; that 400 were let by the Corporation of Nottingham; and that 800 acres of allotments were in the possession of the Northern and Midland Counties Artisans and Labourers' Friend Society, which was founded by Mr. James Orange, and supported chiefly by hand-loom weavers. There were allotments in fifty parishes in east Somersetshire, their extension in the native county of Mr. George Mitchell having been due to the good example of the Bishop of Bath and Wells. As the farm labourer, according to Mr. Mitchell, has been habitually trampled

upon in Somersetshire, we may say of the Bishop's influence what Portia said to Nerissa of the distant candle twinkling in the dark, "So shines a good deed in a naughty world."

It seems that to some extent the subject of allotments, like the culture of tobacco, had been allowed to lapse. During many years it was frequently discussed both within and without the walls of Parliament. In 1843 Lord Shaftesbury, then Lord Ashley, introduced a Bill not very different from that of Mr. Cowper in 1845. No compulsory taking of land was proposed; the rent was to be secured on the rates, and unpaid parochial officers or field wardens were to be appointed to act as intermediaries between the tenants and landowners. The feeling of leading politicians is discovered by the fact that Mr. Robert Peel, Sir James Graham, and Lord John Manners supported Lord Shaftesbury's Bill. So as there were Greeks before Agamemnon, there were farm labourers' friends before Mr. Jesse Collings.

Before concluding this short history, I might, perhaps, mention the Poor Law Amendment Act of 1819, which empowers the churchwardens and overseers, with consent of the vestry, to take in hand parish land, or to purchase or hire other land not exceeding 20 acres, and to set the poor to work on it as a parish farm, or to let a portion as an allotment to any poor and industrious inhabitant of the parish. As the powers which were given for raising money out of the rates or by loans charged on future rates, were repealed by the Statute Law Revision Act of 1873, this Act of 1819, commonly called "Sturge's Bournes Act," is no longer available for the purpose of parochial agriculture, or for the provision of allotments; and experience shows that the intervention of the parochial authorities has not usually proved successful in extending allotments. On this point the Poor Law Commissioners pronounced very strongly in 1834, in their report for that year (February 21st.) After stating that "the immediate advantage of allotments is so great, that if there were no other mode of supplying them, we think it would be worth while, as a temporary measure to propose some general plan for providing them"; they add, in reference to the use of local machinery for the purpose, "where the system is carried on by individuals it has been generally beneficial, but when managed by parish officers it has seldom succeeded." In point of fact, the experiment of setting out allotments under the Act was tried in a number of parishes, especially in the south-western counties, and was soon abandoned as a failure.

FLOWERS AT FUNERALS.

MINE being essentially a grave avocation, perhaps no one could approach this subject, from an horticultural point of view, with greater aptitude, having for many years had ample experience with reference to this all-prevailing custom. I may say that I have seen many hundreds of pounds' worth of the choicest flowers placed on the last resting-place of departed friends, and have had occasion to listen to various expressed opinions upon this particular matter; and although the flowers are, as a rule, very much admired, it is considered by most people a great waste of money, with no positive good accruing therefrom. The flowers being mostly of a tropical character, when exposed to inclement weather so soon perish and become useless, that it is considered by the less sentient as so much value absolutely thrown away. But although there is in an abstract point of view some semblance of truth in this, when a broader gauge is brought into force, another light is thrown upon the whole matter, and to the unprejudiced mind a great good is seen, benefiting numerous classes of many professions. When the subject has been under discussion, as it frequently has been, I always, in the first instance, introduce my friends to the iron and other mines. The iron has to be obtained before hot-water pipes and boilers can be manufactured; timber has to be hewn and prepared for the plant house builder; clay must be dug and prepared before bricks can be made; then follows the engineer, the carpenter, bricklayer, painter and glazier, which latter reminds us of the enormous trade that is transacted both at home and abroad in this manufactured article for even horticultural structures, exclusive of all other uses where it is employed. Then I may pertinently observe, to grow and bring these charming and rare flowers to perfection for market purposes, how many hundreds, aye, thousands of gardeners are

employed, to say nothing of those that are engaged in the more artistic department in arranging the flowers into crosses and wreaths; and I am convinced that when the whole matter is well and rightly considered, it must be seen, apart from the more sentimental and sacred considerations, that the custom of decorating on these sad and special occasions is very desirable in the good arising therefrom. It would be a sorry age that repudiated the use of flowers on these solemn occasions, for as one of the leading growers for Covent Garden once said to me there is a far greater quantity of flowers used at funerals than at weddings. The prevailing custom may be deemed one of weakness in the minds of some individuals, but for my part I envy them not; the fullest fruition of a happy mind is to regard our friends with the highest esteem, and revere their memory so long as we are permitted to sojourn here, should they journey on before us, and to place emblems of attachment and respect on the resting-place of such, generating in our hearts and minds feelings of the most refined and sacred character.—*Man of Kent.*

GARDENING NOTES FROM SCOTLAND.

The Chrysanthemums at Carbert Castle, Broughty Ferry, and at Clement Park, Dundee.—On Monday last, a party of Edinburgh horticulturists paid a visit to Dundee, in order to inspect the collections above named, and for the following notes on the trip we are indebted to a member of the party:—Leaving Edinburgh by the 9.30 a.m. train, we had a pleasant run through Fife. It may be remarked, in passing, that Fifeshire farmers have been among the most unfortunate, the harvest being very protracted, and the grain secured in bad condition. We noticed a considerable acreage of Beans still standing out. On arrival at Broughty Pier, we walked to Carbert Castle, and were most hospitably received by Mr. S. Fullin, the head gardener, and a few other noted horticulturists. Carbert Castle, the residence of Joseph Grimond, Esq., occupies a commanding site with a fine view up and down the Firth of Tay. Mr. Grimond has long been an ardent lover of horticulture, and some years ago the leading honours at many exhibitions always fell to his lot.

The glass erections are very extensive, and complete in every detail. Taking them in order, we came first to the span-roofed greenhouse, 95 ft. by 14 ft., with division in centre, and containing a useful collection of hard and soft-wooded plants, growing on for conservatory decoration. Alongside is another house of the same length, but 20 ft. wide, filled with Chrysanthemums, particulars of which we will give farther on; a flight of ornamental steps lead to the stove, a handsome span-roofed house well filled with a choice collection of all that is newest and best; it was generally remarked that all were in a high state of cultivation. There are two ranges of fruit houses, each 120 ft. in length; one is divided into three Vineries and a Peach house, the other is entirely given up to Peaches and Nectarines, and is in three divisions. Mr. Dunn, of Dalkeith Palace, who was one of the party, remarked that he had the pleasure of seeing them in fruit last summer, and finer or larger fruit he had not seen for many a day in any gentleman's establishment.

We next came to a range of useful span-roofed forcing houses, five in number, all fulfilling well the mission required of them; the other houses consist of two spans devoted wholly to Roses, an exotic Fernery and a house where Heaths and other hard-wooded plants are grown; a class of plants that too little attention is being given to now-a-days. Adjoining the Castle there is an ornamental conservatory in four divisions, with a cool Fernery at the north end, surmounted by a handsome dome, and which has a really commanding appearance.

The main object of our visit being to see the Chrysanthemums, I will now confine my remarks to the house devoted for the time being to them. Mr. Fullin confines himself to about 150 sorts—and plenty we venture to think; all his plants are trained down to about 1½ ft. from the pot, and tastefully arranged as they were in the centre and at the sides of the house, the sight was, indeed, one rarely if ever to be seen in Scotland; the incurved varieties were just at their best,

but some of the Japanese would require another ten days' time to fully develop themselves. I will send you a list for your next number; in the meantime we must record our thanks to Mr. Grimond for having given us an opportunity to inspect such a noteworthy collection.

CLEMENT PARK is about two miles out from Dundee, and easily reached by steam tramcar. It was the residence of the late James Cox, Esq., a gentleman whose name is inseparably associated with the great jute industry. Time being limited, our visit was rather hurried, but Mr. Moir made the most of it in showing us round the well-appointed establishment which he so ably manages. The kitchen garden is a small, but compact square, and the south wall is covered from end to end with glass; six vineries, two Peach houses and a large span-roofed plant-house at either end. One is used as a stove, and contains an extremely clean and healthy collection, Crotons being especially well coloured; the other, a cool greenhouse, with fine specimen Camellias planted out in the centre, and the roof covered with a well-assorted variety of climbers. A particularly fine plant of *Lapageria rosea* is trained immediately over the Camellias, forming a natural and graceful canopy.

Behind the kitchen garden, we found quite a number of useful plant houses, two of them entirely devoted to Orchids—a fine healthy collection, containing many choice varieties, which time did not permit us to examine as carefully as we would have liked. Perhaps on another occasion a few notes may be given.

We must not omit to mention the Chrysanthemum-house specially constructed about two years ago—a span, 70 ft. by 30 ft., and containing over 400 well-grown plants, trained down to the pots, and full of flower. The varieties, with one or two exceptions, were the same as at Carbert Castle, so we need not give further details.—*D. P.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

Potatoes that have been stored for some time in sheds will now require turning over and examining, for if a few decayed or diseased tubers are allowed to remain amongst them, they will quickly affect the others, and a good stock may be seriously damaged for want of this precaution. Clear off the out-door crops, and dig the ground roughly when it is moderately dry; see that Celery is sufficiently earthed up; clean and mulch the Asparagus beds; protect Globe Artichokes with some light material on each side of the roots but not over the crown, cutting the old leaves close in.

The present is a good time to consider the respective successes, or otherwise, of the various crops, and also to decide upon new plans or trials for another season; a careful record should always be kept of each variety grown, the time of sowing and when it comes into use, and then, the most important of all, its quality when cooked or prepared for the table. A good deal may be learned by observations in this way, and it will soon be found that there are particular varieties which thrive in one garden, while, perhaps, entirely owing to some peculiarity of soil or situation, the same varieties, in other gardens a short distance away, may prove very unsatisfactory; these are matters that can only be learned by experience and close attention to their requirements, but an ample reward will be secured in having better crops of good quality. Vegetables differ considerably in their respective merits, and cultivators of all kinds act wisely in relying mainly upon those they have proved, confining experiments with novelties or varieties that have not been previously tried, to moderate limits at first. At the same time the additions sent out by respectable firms are well worth attention, and if the plants receive fair culture, it will be generally found that they possess some distinguishing character of more or less importance. Avoid prejudice in such trials, and if a variety be found with good qualities, endeavour to develop them by better treatment.

It is an excellent system where the kitchen garden is of moderate size, say an acre or more, to prepare a plan of the ground, and mark out upon the several quarters the crops that are to occupy them, and the succession in each case for the season. This can be readily done as regards all the larger crops, the less important, such as salading and similar plants, not needing to be included, as they are generally useful for filling up odd spaces, or for placing between other crops. A plan prepared in this way will be found to facilitate work greatly, and, besides, is instructive, as the respective success of each crop can be recorded on it, the times of sowing and cutting, and many other facts that may be found very serviceable in arranging for another season.—*Scolytus.*

NOTES FROM NEW ZEALAND.

WE have had a most trying winter, and lately one continual downpour of rain and snow, which has so soaked the ground that it seems to refuse to absorb any more; and if you tread upon any soft ground, or put a spade in, the water immediately rises up. I have not come across any Colonials yet who remember such a winter as this has been, and those who are on a visit to your Colonial Exhibition have missed a treat. I hope they will gain some good; but I fear some of them will be spoilt for Colonial life.

The following may interest some of your readers. There is, at the top of my garden, a Blue Gum tree, planted by my next-door neighbour, who is the owner. It was planted twenty-two years ago. It is 12 ft. in circumference 1 ft. from the ground, and 6 ft. above it is 10 ft., and is about 60 ft. in height. This may not be as large as some specimens of the same age in Tasmania or Australia; but for this Colony I consider it a fair sample. It must be borne in mind that this tree has never been transplanted, which is a very great advantage to Blue Gums, as they never seem to make such stout timber if they are. They generally run up very quick; but the timber is not so good in quality, nor the tree so robust, as those that are sown and remain there.

Those who are experimenting with Blue Gums at home will do well, when they get a young tree that is somewhat established, to feed it well, for they will absorb the richest manure. I knew one that was planted near a huge cesspool, and the roots, finding their way by some means into it, soon devoured the contents; and when the owner went to clean it out; after a lengthened period, to his surprise, found the well comparatively dry, and without the least offensive odour.—O. Revill, Fairwood Cottage, Christchurch, New Zealand.

PLANTING TREES AND SHRUBS.

WITH a view of continuing our remarks under this heading, we may mention, that in peaty soils there generally exists between the surface-peat and the sub-soil, whether sand or gravel, a stratum from 1 in. to 6 ins. thick, of a hard gritty substance, impenetrable to water, which, in the peat districts, is locally denominated "rust" or "pan." Until this "rust" or "pan" be quite broken through by the process of trenching—for which a pickaxe is generally indispensable—it is in vain to plant in such a soil, as it will nourish nothing but the indigenous heaths and Scotch Firs; but once trenched and the "rust" broken through, the land becomes very fertile and peculiarly well adapted to the growth of trees and shrubs of all kinds.

Plants reared in peaty or similar light soils bear transplantation better than those grown in heavy lands. The reason is, that in light and porous soils the roots are mostly globed into fibrous tufts near the stem, whereas in strong land the roots of the plants wander farther away in search of moisture, &c., and through a denser medium, so that they become elongated and coarse. All tap-rooted plants, whether the tap-root be congenital or superinduced by the nature of the soil, should be transplanted when young, otherwise they have little chance of surviving the process. Hence it is, that young plants growing spontaneously in woods, whether self-sown young trees or suckers sent up by older ones, and generally saplings undisciplined by nursery cultivation, scarcely ever grow in transplantation. Plants with fibrous roots are generally taken up with "balls" of earth, i.e., with more or less soil clinging to the dense masses of roots, and in that state transplantation is a safe and easy process; of this, Rhododendrons afford a striking instance, as, when taken up with good "balls," they can be moved with impunity at almost any season of the year.

Trees and shrubs intended for transplantation should not be left more than two years without being moved, or—which, in most cases, is equivalent—"spaded." The last process consists in passing a spade, or other tool peculiarly constructed for the purpose, round and under the tree, so as to cut off the tap-root (if any), and to confine the lateral roots within a certain given space. This work should be done in early autumn, so that there may be time for fresh rootlets to be pushed forth inside the ball to replace those which were cut off outside of it. A plant so treated will hardly ever fail of successful transplantation, as it is isolated from the

surrounding soil, and, when transplanted, will extend its roots in its new locality without sensibly feeling the difference. We are decidedly of opinion that if nursery-men transplanted a little more than they do, customers would not have to complain of trees dying. At the same time, it must be admitted that defective planting often causes many deaths of valuable trees and shrubs.

The safe removal of large trees is ensured by a process identical in principle with the above, but, of necessity, on a proportionately larger scale. When it is proposed to transplant a large tree, a trench is dug round it, one season before its intended removal, at such a distance from the main trunk as may be considered sufficient to leave roots enough attached to the tree to feed it when removed to its new position. The act of making this trench cuts off all the roots extending beyond its inner circumference. The spade, or other special tool, is then pushed successively from all parts of the trench, as far under the roots of the tree as possible, so as to intersect the "tap," if any. The trench is then filled in, and the tree proceeds during that season to develop fresh rootlets within and around the "ball" left inside of the trench. By the ensuing season this ball will contain within itself all the roots necessary to the life and growth of the plants. Then, by proper machinery of a simple nature, both the tree and its ball of roots, with plenty of soil adhering to them, can be lifted up and safely removed to the new site which the tree is intended to occupy.

Having thus dealt with the subjects, when to plant and how to plant, we will next week offer a few suggestions as to what to plant.

GRAPES AT THE ROYAL AQUARIUM.

THE valuable prizes offered through the National Chrysanthemum Society for Grapes in various classes, and especially in the large class for twelve bunches, at the November exhibition, attracted such superb examples, that it is a matter for regret when any defect on the part of the schedule operates injuriously against thoroughly representative collections. This year we saw three kinds, all of moderate quality, winning by sheer size or weight of bunch. It reflects upon any collection of twelve bunches shown at this time of the year, that it should not contain a single bunch of that best of all keeping whites, Muscat of Alexandria, or that first-rate winter-keeping black, Lady Downes; and yet really excellent collections were passed over, perhaps unavoidably so under the circumstances, which included not only these, but other high-class kinds.

The winning twelve bunches included not less than six bunches of Gros Colmar—a combination which the conditions of competition in this class should render impossible—three huge Barbarossa, and three fine Alicante. In this last lot size and weight were prominent, and quality was lacking. I have no doubt whatever, that the committee of the National Chrysanthemum Society, in arranging the schedule, were desirous of favouring quality in Grapes, as well as bulk; but if such is to be the case in the future, the conditions, annexed to the class should be altered to "not less than four varieties, one of which at least shall be white." That would ensure fair variety, whilst the judges should be invited to give special attention to variety and quality, especially in relation to finish and keeping properties. Mere big bags of water, which are thin-skinned and would collapse in a month at least, are hardly the sorts to be encouraged at winter shows.

The second prize collection included no less than seven kinds, but obtained its position chiefly through the strength of three bunches of Gros Colmar, without doubt as finely done as any ever seen of this huge and rarely well-coloured Grape. The sorts, in addition, were Alicante, Lady Downes and Mrs. Pince, blacks; and Golden Queen, Mrs. Pearson and Muscat of Alexandria, whites. These bunches were of moderate size, but were fairly pulled through by the superb Gros Colmars. The third-prize collection included Mrs. Pince (large but loose, and wanting colour), Black Maroc, Lady Downes, Gros Maroc, and good Alicante: five kinds. Some other collections, out of the seven lots staged, were also admirably varied, and included good white kinds.

If it be objected to the granting of weight in judging to "variety," then the committee would be well advised to make the conditions of the competition strictly exact, by calling for four kinds absolutely, one of which

should be white, and permitting only three bunches of a kind to be shown. It does seem a specially weak feature, that a competitor should show six bunches of one kind in such a class. Very probably laxity in the conditions of a class of this kind helps to provide competition in one way, but the result must be unfair almost always to someone, whilst strictly defined conditions place all exhibitors on the same footing, and at the same time must be far more satisfactory to judges.—A. D.

CHRYSANTHEMUMS ROUND HUDDERSFIELD.

THE interesting notes of your Liverpool correspondent, published in your last, prompted me to look round this district, in which the cultivation of the Chrysanthemum to any extent, is, comparatively speaking, of modern growth; yet, during the last two years, some of our growers have made rapid strides, and can now produce blooms, for size, depth and quality, nearly equal, if not superior, to any in the country. I am tempted to believe that the Chrysanthemum develops itself better in the more cool humid atmosphere of the north than it does in the south, as, in its growing season, it delights more in the former conditions.

On this point my opinion is confirmed by the remarks made by one of our most eminent plant growers, Mr. B. S. Williams, who, when paying a visit to our first Chrysanthemum show, declared that he had never seen blooms to equal them. True, the show was honoured by the presence of the champion growers of the north, therefore our success is due to the skill of the cultivator, backed by climatic conditions. Smoke, the plant will stand with impunity, as most of our successful growers here are in the midst of its enveloping influence. In the final development of the flowers damp is more to be dreaded than smoke, and your remarks, in a recent number, as regards the action of damp, is, alas! unfortunately too true. Lamentations of the loss of fine early blooms are the rule rather than the exception.

Knowing how remarkably well Chrysanthemums are grown for decorative purposes at Greenhead Hall, the residence of Alderman J. F. Briggs, by Mr. F. Hatch, his gardener, I availed myself of an invitation to inspect this choice collection. The dense foggy weather which prevailed towards the end of last month and the blooms being rather early, caused many fine ones to damp off. Nevertheless, there were some most creditable specimens left, grown chiefly in 7-in. pots, with some few in the 10-in. size, the plants ranging from 2 ft. to over 5 ft. in height. The following were noticed as good:—Lady Selborne, Margot, Jas. Salter, Mons. Astorg, Lord Alcester, J. Délaux, Mr. Bunn, Golden Empress, Refulgens, Madame C. Audiguier, M. Marrouh, Nil Desperandum, Madame de Sevin, Source d'Or, Mons. Tarin, and Madame Lacroix. Of new varieties, Cullingfordi, L'Adorable, Val d'Andoré, Triomphe du Nord, La Triomphante, Alex. Dufour and Sœur Dorothée Souillé; these two latter splendid Japanese Pompons, not more than 2 ft. high, are fine for side stages.

At Sherwood House, the residence of Samuel Learoyd, Esq., Mr. Micklewaithe, the gardener, has a small but neat and well-grown collection, which, being somewhat late, will be at its best a week hence; what blooms are out now are of fine proportions. Mr. Micklewaithe does not exhibit; were it otherwise, some would have to look to their laurels. Last year, the finest blooms in the district were produced here; the following were of especial merit:—Boule d'Or, Elaine, Peter the Great, Madame C. Audiguier, Source d'Or, Empress of India, Refulgens, Queen of England, Mr. Bunn, and John Salter. Damp also has left its mark here.

At Hall Croft, Mirfield, Mr. W. Daniels, gardener to Mrs. F. H. Cook, has a large and varied display, including many new varieties. Chrysanthemums are a speciality with Mr. Daniels. At Fairlea, Mr. M. Chambers, gardener to J. Vickerman, Esq., has also grand blooms both for decorative and for exhibition purposes. Crosland Lodge, Mrs. Chas. Crosland (Mr. F. Stockes, gardener), and at Rose Hill, Birkby, Mrs. G. Crowther (Mr. Walker, gardener) are also well-grown collections, and composed of the principal standard and new varieties enumerated above; but of these and others you will, doubtless, give particulars in another column.—B. L.

AMASONIA PUNICEA.

Of the genus *Amasonia* some half-dozen species are known to science as natives of Southern Tropical America, but none of them are much known in gardens. The subject of this note seems to have been introduced from Trinidad in the West Indies so far back as 1823, but from some cause or other was little grown, and eventually, we believe, died out. But it has been introduced again, this time by Messrs. James Veitch &

Some of the plants now in bloom in the nursery, after a lapse of two months, are as fresh as ever, and promise to be useful for some time to come. The plant requires somewhat similar treatment to *Poinsettia*; it is easily propagated by cuttings during the summer months; likes a compost of loam, peat and sand, and moderate-sized pots. Under good management it may be grown into the form of bushes, and as every shoot flowers, there is no reason why handsome bushy specimens should not become conspicuous features of

GARDENING MISCELLANY.

Dichorisandra musaica.—A charming and very attractive stove plant now rarely seen but which when well grown and properly cared for, makes a very handsome plant, fit to stage amongst the best collections of foliage plants. The reason that we do not see so much of this kind of plant in general collections, is



AMASONIA PUNICEA (HALF NATURAL SIZE).

Sons, who imported it from British Guiana, and put it into commerce last spring.

Under the Messrs. Veitch's skilful manipulation, *Amasonia punicea* proves to be one of the best introductions of recent years, and is so beautiful and so useful as an early winter-flowering stove plant, that its wide cultivation would seem to be a matter of certainty. It is of shrubby habit, with brownish purple-coloured shoots, long lanceolate, serrate, alternate leaves, of a deep bronze-green colour, and stiff, erect, terminal racemes of pendulous, creamy white, tubular flowers, springing from the base of bright crimson-coloured bracts, which are the great charm of the plant, and the persistency of which renders it so valuable as a decorative subject.

our plant houses at this season. The accompanying characteristic illustration, for which we are indebted to Messrs. Veitch, serves to show its floriferous character; but, in order to appreciate its great beauty, it must be seen in flower as it is now in the Chelsea Nursery.

BRICKS OF CORK.—The waste cuttings of cork are now being employed for making bricks, which can be used for walls, impervious alike to heat or damp. The cork cuttings are reduced to powder in a mortar, and mixed with lime or clay; and from this composition the bricks are made in the usual way.—*Gardeners' Monthly*.

that their culture is but imperfectly understood, and, in consequence, they are thrown from place to place in the houses, and finish up with being thrown away altogether. The plant under notice is extremely handsome, of dwarf habit, seldom exceeding above 12 ins. in height, the leaves on the upper surface being a rich shining green, marked with quantities of parallel transverse fine white lines; the under side is a beautiful deep purple, the flowers at the terminal point being an azure-blue. There appears to be no doubt that this plant wants a large amount of heat to bring it to perfection, and at no time should it be allowed to become dormant. The root being fleshy, it requires to be grown in a loose rough soil—the best soil I find it to

grow in is very rough peat and loam, with broken crocks and charcoal, and filled up on the top of the pot with sphagnum moss. This seems to suit it well, more especially if it can get a good bottom heat, and also plenty of water, which must be given in large doses when the plant is growing freely. With this treatment it will send up shoots in several places, and soon make an attractive specimen that no grower need be afraid of showing either in an exhibition, or at home in his stove.—*W. G.*

Filmy Ferns for Dark Corners.—How frequently do we see odd corners in cool greenhouses, where damp seems to lodge and never can be got dry, except in the very height of the summer time. Why should not these corners be utilised in the cultivation of a few choice gems, in the shape of Filmy Ferns? If a case was made or a bit of rough stonework put up in these corners, it could soon be covered with the most delightful green verdure; the moisture just suiting these beautiful Ferns. What could exceed in beauty a nice plant of *Todea superba*, or *T. pellucida*, in the centre of such a corner, filling round about with *Trichomanes radicans* (The Killarney Fern), *T. angustata*, which would cover the stones all over in time? *Hymenophyllum demissum*, one of the very best and quickest growers, would soon form good masses; *H. caudiculatum* is a very handsome species, and seems to grow almost as free as *demissum*; *H. dilatatum* is another very pretty variety. Many other varieties could be induced to grow in these corners with them, such as *Actiniopteris radiata*, several varieties of *Cystopteris*, *Scelopendrium*, &c. For edging such a place, *Sibthorpia europea* (The Cornish Moneywort), would make rapid growth, and its lively green would be a relief to the dark fronds of the Ferns. If, in the summer time, the place should become too dry, it is an easy matter to shade and occasionally syringe overhead.—*W. G.*

The late Richard Headly.—In your issue of November 13th I observe a slight mistake in notes on "Planting the Show or Florists' Tulips." The late Mr. Richard Headly was not of Cambridge, but of Stapleford, Cambridgeshire. I rectify the error, as the Headlys of Cambridge are not of the same family as the celebrated amateur Tulip grower.—*W. D'Arcy Godolphin Osborne, F.L.S., Villa Louis, Biarritz.*

Chrysanthemum maximum (lacustre).—A fine plant of this late summer and autumn-flowering species is now in fine bloom in my cold greenhouse. It was lifted from the open ground, placed in a pot, and its vigorous dark green growth is now crowned with blossoms. It is an extremely free-growing perennial, and perfectly hardy. Strange to say, it does not appear to mature its seeds in this country; but seed can be obtained, and I have found it to germinate freely. It is a plant that should have plenty of space in which to grow when planted in the open ground, as it extends itself rapidly. Lovers of hardy plants should make a point of adding this species to their collections if they do not already possess it.—*R. D.*

Deep Stoke-holes.—"Hortus," in your issue of Oct. 30th, draws attention to the very important matter of deep stoke-holes, and gives instances where the piping is lower than the boiler, and working, so far, satisfactorily. With only one connection, such an arrangement will do its work well; but with two or more connections it will not, if on different levels. As it is not always convenient to build upon level ground, I will give an instance to prove that rise increases speed of circulation in hot-water pipes. I once had charge of a range of houses 600 ft. long, heated by three powerful boilers; the ground-fall was 1 in. in 20 ins. The central one I instance thus: Eight compartments, in seven of which the rise was from 6 ins. to 12 ft. In the other house, the piping was level with the centre of the boiler, a horizontal tubular. As it was an orchard-house, the heat was seldom on but in severe or damp weather in winter, to protect Chrysanthemums. When 10° of frost were on, we had to close the valves on the mains that had a rise to force it into this low level, and frequently, at midnight, had to clear out all the plants. On the other hand, the piping at the highest level maintained the best heat. The valves of this house had to be left with the least possible openings, gradually increasing them as the levels fell. Thus I found, from years of observation, that rise in pipes is conducive to circulation. Undoubtedly, deep stoke-holes are a bore; but a slow and

stagnant flow is worse. He will be a benefactor who sets forth some practical plan for abolishing them.—*Alex. Methven, The Gardens, Pelaw House, Chester-le-Street.*

I HAVE read with pleasure the remarks by "Hortus," at p. 133, anent deep stoke-holes; also the other letters on the same subject at p. 154. Piping cannot always be laid level; but where it can be, is there anything gained by raising the pipes at the end farthest from the boiler, seeing that the water gets heavier by degrees from the moment it leaves the boiler until it enters it again, and what is gained by the fall in the return is lost by the rise in the flow? Of course, we have always the difference in the levels of the top and bottom of the boiler; but, in some cases, that is not very much. I hope some light will be thrown on this subject, which, I think, is but very imperfectly understood, even by parties who have made the heating of houses their profession.—*J. M.*

Begonia albo-picta.—This very pretty ornamental Begonia, of recent introduction, is a charming and graceful plant, and well adapted for table decoration. It is shrubby and compact in habit, having lanceolate leaves spotted all over with pure white, and may be used from quite young plants up to larger specimens for decorative purposes. I have not yet seen it flower; but from the plants I have about here I am satisfied it will be a most useful subject, even if it should not be a free-flowering variety. It is easy to propagate, and should be constantly kept growing, for by this means it is always making new shoots from the main stems, which curve over in a very elegant manner.—*W. G.*

Dahlias in November.—During an experience in Dahlia cultivation extending over thirty years, I have not, until now, been able to make up a stand of blooms on Martinmas term day, November 11th. Today, owing to the mildness of the season, I cut a good stand of show, pompon and single varieties, which were a surprise to most of the gardeners. Until this year they had always before this time been cut down by frost.—*John Downie, Edinburgh.*

Madresfield Court Grape.—I have been very much interested in reading the different opinions of your correspondents respecting this, the grandest of all black Grapes either for market purposes or private use. I have grown it here for ten years, and my experience is very much the same as that of the majority of your correspondents. The Vines are all planted outside in a border raised about 3 ft. above the level of the ground, which always keeps the border well drained. This, I think, is a very important matter in connection with the culture of all Vines, and, especially when planted in outside borders. I find that by giving plenty of air early in the morning in bright weather, and always having a little fire on when it is dull and damp, I am never troubled with more than a very few cracked berries. Some of the Vines are on their own roots, and some are inarched on the Black Hamburgh; but those on their own roots generally colour up quicker and better than those inarched, and as a midseason Grape it always fetches a much higher price in Covent Garden than any other black Grape. We have living near here a well-known market gardener, Mr. Wilmot, who grows it largely for market, and his gardener, Mr. Lee, grows it remarkably well. His practice with it is very much the same as ours, the only difference being that Mr. Wilmot's are planted inside. As there is so much competition, market gardeners, as a rule, do not grow any one sort long if they find it don't pay them.—*G. Thompson, The Gardens, Crosby House, Hounslow.*

To anyone unacquainted with the merits of the noble Madresfield Court Grape, the remarks of "Vitis" would be enough to make them hesitate before planting it, were it not for the fact that they are able to hear the opinion of others speaking more favourably of it. I cannot agree with your correspondent when he makes the assertion that it is mere wantonness to plant it as a permanent Vine in a mixed Vinery, after witnessing what it is capable of doing when planted in a house with the Black Hamburgh, and all the roots in an outside border. That it requires a little extra care and attention at colouring time I will freely admit, but for that we are fully compensated by its grand appearance when on the table. As soon as I perceive it beginning to change colour I give more air; the front lights are always kept a little open, and the house is never quite closed at the top under any cir-

cumstances. A little warmth is always kept in the pipes, and very little moisture is put on the floors, unless the weather is very bright and dry. Some spare lights are placed on the border outside to throw off the rain. Treated in this way, I have no difficulty in finishing a good crop, both in bunch and berry, and scarcely a cracked berry is to be found.—*T. Griffin, Davenport, Bridgenorth.*

Brunsvigia Josephinae.—I have had in my possession for six years an enormous bulb of *Brunsvigia Josephinae*, which I am told by all my gardening friends who have seen it is the largest known in this part of the country. It is now growing in a pot 16 ins. in diameter, which is the same as it was in when I got it. The bulb measures 28 ins. in circumference, and 12 ins. in height from the top of the soil, and is just now sending up twelve splendid leaves, which attain a length of 3 ft. by 4 ins. to 5 ins. wide. I have only flowered it twice in that time; the last time it sent up a spike with fifty-four flowers in a large umbel 26 ins. across. The age of the bulb must be nearly thirty years, as the person I got it from had it eighteen years. Will any of your readers say if they have seen or know of such a monster?—*John Atherton, Fern Bank, Cadley, Preston.*

CHRYSANTHEMUM SHOWS.

Brixton.—November 4th and 5th.—The twenty-seventh annual show of this flourishing little society was held in the Lecture Hall adjoining the Congregational Church, Streatham Hill, on the dates named above, and was, in all respects, highly creditable to the local gardeners. It was a most pleasing exhibition, varied with plenty of good-quality contributions, both in Chrysanthemum blooms, plants, vegetables and fruit.

Cut blooms are invariably a strong feature amongst the attractions of the Brixton show; and though this season they were not quite so large as usual in the incurved classes, the Japanese were excellent, and there was no objectionable roughness in the others. A beautiful stand of twenty-four Japanese varieties won leading honours for Mr. Mausell, gardener to Mrs. Burton, Streatham, his blooms being large and of capital colour. Some of the finest were *La Triomphante*, *Val d'Andorre*, *J. Délaux*, *Margaret Marrouch*, *Jupiter*, *Madame Audiguier*, *Source d'Or*, *Boule d'Or*, and *N. Davis*. A similar position for twelve Japanese was won by Mr. G. Pell, gardener to A. Margotson, Esq., Streatham, who had much the best plants in a large class, one of his blooms, *Boule d'Or*, being a marvellous example of this fine variety. Messrs. T. Sadler, C. J. Salter, W. Howe and T. Mansell were second and third prize winners in these classes. All the honours for the incurved varieties fell to Mr. C. J. Salter, Selborne Gardens, Streatham, who carried off three first prizes with remarkable ease, and who also had the satisfaction of securing the prize for the premier incurved bloom in the show, a very handsome specimen of *Prince Alfred*. Mr. Salter's blooms in each class, for twenty-four, twelve and six varieties, were marked by a clean, neat style, that is far preferable to the coarseness with greater size, too often seen at shows; his back row blooms of *Prince Alfred*, Mrs. Heale, St. Patrick, *Jeune d'Arc*, *John Salter*, *Princess of Wales* and *Lord Alcester* were excellent in all respects. Messrs. T. Sadler, J. Howe and W. Howe followed in the classes named. Mr. T. Sadler had the best twelve reflexed varieties, very good blooms; and Mr. J. Swan, gardener to E. Jones, Esq., Clapham Park, took the lead with twelve large Anemones.

The specimen plants were fairly good, but we have seen them much better at this show, though the Pompons were almost up to their usual style. Mr. E. Cherry, gardener to Mrs. Gabriel, was first, with six incurved plants; Mr. F. Weston, gardener to D. Martineau, Esq., Clapham Park, being second; and though some thought the awards should have been reversed, the judges were undoubtedly right, for the first-named were far better trained. Mr. Weston had six and three well-bloomed dwarf Pompons, being first with both; and other prizes were taken by Messrs. Cubb, Cherry and R. Clark. Of the miscellaneous plants the Orchids, from Mr. C. J. Salter, were the most important; healthy well-bloomed specimens, including some choice varieties. Mr. H. Wright, gardener to J. A. Whittard, Esq., Streatham Hill, also had four first-rate Ferns, including a surprisingly vigorous *Gymnogramma schizophylla gloriosa*.

The vegetables from Messrs. W. Howe, H. Wright, E. Cherry, A. Sandy and T. Sadler; and the fruit from Messrs. Howe, Salter, Wing, Mursell, Sandy and Sadler added greatly to the extent of a very satisfactory show.

Lambeth.—*Nov. 8th, 9th and 10th.*—This society has tried several places as sites for its annual show, and this year it was held in the Bridge House Hotel, near London Bridge, a spacious room being devoted to the purpose. The exhibits were apparently as numerous as usual, and the groups were better than are commonly seen at local shows. Mr. J. A. Howett had a remarkably fine group, such as would not have disgraced many a more pretentious exhibition, the first prize awarded him being well merited. The blooms were of excellent substance, both Japanese and incurved, some of the latter being better than those in the cut flower classes. The Silver Cup for the best six standard Chrysanthemums was awarded to Mr. Williams, who also had the first prize in the class, the plants being healthy, but not very even. Mr. J. A. Howett won first honours with six untrained Pompons, vigorous, dwarf, and pretty flowered plants; Messrs. Ellis, Williams, Hadden, Davison and Hole, also won prizes in these and other classes.

Cut blooms were numerous, but as regards the incurved there was considerable deficiency in size. Mr. Hadden's premier twelve were much the best in the show, though Mr. Childs had a good stand of six, and Mr. Ellis a praiseworthy half-dozen examples of Prince of Wales. In the Japanese classes, Mr. Childs was the most successful exhibitor, taking first with twelve and six varieties, and six blooms of one variety, the last-named being five specimens of *La Triomphante*.

Peckham Rye.—*Nov. 8th and 9th.*—Some short time since a society was formed under the name of the Surrey Chrysanthemum Society, with their headquarters at Peckham, and the annual show was held in the Peckham Rye Hall. No doubt the prospects of this society will improve, but at present the competition is not so keen as could be desired, nor is the quality generally satisfactory. An exception must be made respecting the groups, especially that for which Mr. Haynes, gardener to John Saddler, Esq., was awarded the Silver Cup. This comprised a number of admirably-grown plants, bearing blooms that in several cases were good enough for any exhibition board. Mr. Neville, gardener to H. H. Lennard, Esq., followed in the same class, but with a much smaller group. In an amateurs' class for a group of plants, Mr. Tucker, Lausanne Road, was first; Mr. F. W. Snoud, Bellenden Road, and Mr. Finch, Waterloo Street, being second and third. Mr. T. V. Stevens had the best nurserymen's group of dwarf plants, Mr. Drew having a good non-competing group of Chrysanthemums, and Mr. Castle, of Lausanne Road, exhibited a group of Palms, Ferns and a few flowering plants.

Mr. T. Sadler was the leading exhibitor in the cut-bloom classes, securing first honour with twelve incurved, twelve Japanese, and twelve reflexed, contributing in each case fresh bright blooms of excellent substance. Mr. G. R. Johnson, Tottenham, was first with twelve Pompons—admirable examples of the principal varieties; Messrs. Snoud, Finch, Bennett, Parker, and Clitter winning prizes in the other classes.

St. Neot's.—*November 9th.*—This was the third exhibition, and it was held, as usual, in the Corn Exchange. The hon. secretary is Mr. William Ratchelons, who holds the position of secretary of the St. Neot's Horticultural Society, and who is assisted by an energetic committee, with the result of a pretty and attractive exhibition, which is generally well supported by the townspeople. The plants were staged round the sides of the Exchange; the cut flowers were on tables, leaving a good space for a promenade.

The leading class was one, open to all, for twelve incurved blooms and twelve Japanese, the first prize going to a local exhibitor, Mr. Redman, gardener to G. J. Goodganver, Esq., Eynesbury, St. Neots, who had a good lot, his incurved blooms consisting of Prince of Wales, Prince Alfred, Lord Wolseley, Venus, Jardin des Plantes, Golden Empress, Mr. Dixon, Mr. George Glenny, Novelty, Lord Alcester and Princess Beatrice; the Japanese varieties were M^{me}. C. Audiguier, Comte de Germiny, Soleil Levant, Jeanne Délaux, M^{lle}. Lacroix, Album plenum, Ethel, Mons. Ardenne, Peter the Great, Val d'Andorre and Belle Paule. Second, Mr. Tillbrook, gardener to B. Brown,

Esq., St. Neot's, whose incurved flowers were larger and broader petalled, but sadly wanting in finish. He had, of incurved flowers, Queen of England, Lord Wolseley, Eliza Serle, a charming silvery-pink variety; Refulgens, Empress of India, Mr. Bunn, Prince Alfred, Mr. Howe and White Venus. His Japanese varieties were Thunberg, Fair Maid of Guernsey, Fulton, Belle Paule, Golden Dragon, Comte de Germiny, M^{lle}. Louise, and La Nymph. Third, Mr. R. Chillman, The Moat, Soham. In the division from which nurserymen were excluded, the best twelve incurved blooms came from Mr. Tillbrook, who had large and fresh flowers, but a little rough. Second, Mr. Redenall, whose flowers were of better finish, but small and lacking depth.

Japanese varieties were in good form; Mr. Tillbrook had the best twelve, consisting of Thunberg, Jeanne Délaux, Golden Dragon, M^{me}. C. Audiguier, Comte de Germiny, Belle Paule, Triomphe de la Rue des Châlets, Roseum superbum, Sarnia and M^{lle}. Moulise. Mr. Chillman was second, his best blooms being M^{lle}. Lacroix, William Robinson, Cry Kang, Bouquet Fait, Source d'Or and Elaine. Mr. Tillbrook had the best twelve reflexed varieties, showing the following in good form:—King of Crimson, Golden Christine, Cullingfordi (very fine), Felicity, Christine, Lilac Christine and Salteri; second, Mr. Redman, with Dr. Sharpe, Christine, Felicity, Garefield, Salteri and Cullingfordi. Mr. Tillbrook had the best twelve large Anemone-flowered, showing in good form.

Pompon varieties made a pretty display. Mr. Redman was first with twelve varieties.

Mr. Redman had the best bunch of double Violets, showing good Marie Louise; Mr. J. F. Maddison, of St. Neot's, being second with the same. Mr. Redman also had the best basket of cut Chrysanthemums, Mr. Williams, gardener to Geo. Bower, Esq., St. Neot's, being second.

The best group of Chrysanthemums came from Mr. Redman—incurved, Japanese and pompon varieties, well grown and arranged; and Mr. Williams came in second. The best six plants also came from Mr. Redman, an excellent half-dozen, well grown and flowered, the best varieties being Mrs. Dixon, Mrs. Geo. Rundle, George Glenny, Felicity, Golden Christine and Dr. Sharpe; these were trained in the usual globular style.

The best collection of fruit came from Mr. Tillbrook, who had Muscat of Alexandria and Gros Maroc Grapes; Napoleon, Josephine de Malines, Marie Louise, Beurré Clairgeau and other Pears; King of Pippins, Cox's Orange Pippin, Court of Wick, Ribston Pippin and other Apples; Walnuts and Lord Beaconsfield Melon. Second, Mr. Williams, with Alicante and Barbarossa Grapes, nine dishes of Pears, seven of Apples, &c.

A fine group of Chrysanthemums and also foliage plants were contributed by Mr. F. Thomas, gardener to Lord Esmé Gordon, Paxton Park, St. Neot's; from Mr. Partell, gardener to G. O. Newton, Esq., Croxton Park, St. Neot's, came various foliage plants, &c. From Mr. John Hall, Eaton Ford, came a great collection of Gourds of various kinds; from Mr. R. Wall, some excellent Onions; and from Miss Cheere, Papworth Hall, St. Ives, came cut Chrysanthemums, zonal Pelargoniums, and spikes of *Salvia Pitcheri*, all of which were highly commended.

Bromley District.—*Nov. 10th and 11th.*—The fifth exhibition of this society was held in the Drill Hall, Bromley, and proved very successful except in regard to the wretched weather, which must have greatly influenced the attendance of visitors. The quality of the exhibits was undoubtedly superior to those shown in previous years, and the entries more numerous. The four classes open to non-subscribers attracted considerable competition, and for twenty-four incurved blooms Mr. Palmer, gardener to H. Newton, Esq., Bickley, came first, and Mr. Perkins, gardener to F. Norman, Esq., Hayes, second. Mr. Blackburn, gardener to T. Scott, Esq., Elmstead Grange, Bickley, was successful in carrying off the highest awards for twelve incurved, eighteen Japanese and twelve Japanese respectively, with remarkably good blooms. The same exhibitor also secured the leading honours in the local classes for six Japanese, twelve large-flowering Anemones, twelve Pompons, six incurved, six Japanese and six reflexed, a very creditable achievement. Mr. Clayton, gardener to A. Machin, Esq., Logshill, was well first with twelve incurved,

showing a grand lot of blooms; and Mr. W. Parks, gardener to H. M. Pollett, Esq., Fernside, Bickley, was a good second with twelve Japanese. The prize for new exhibitors at this show given for twelve blooms, distinct, was won by Mr. Adlam, gardener to W. S. Milnes, Esq., Grove Park; and for the best collection of Chrysanthemum plants, Mr. Charlesworth, East Hill, Bickley, took the lead. The Pelargonium classes were not well patronised, but there was a fair display of fruit, Mr. J. Neighbour, gardener Bickley Park, securing the lion's share of the prizes.

Staines and Egham District.—*Nov. 11th.*—Held in the Egham Institute, on a terribly wet day, the show was, in spite of surroundings, singularly bright and good, not a few of the exhibits displaying more than usual high quality. Owing to defections on the part of Staines exhibitors, because the place of the show was inconvenient, the competition was limited; yet the Institute was well filled. Four groups of Chrysanthemums were in competition, all good; the best well arranged and showy flowers of high quality coming from Mr. Thatcher, gardener to Leigh Bennett, Esq., Thorpe; M^{lle}. Lacroix, Val d'Andorre, Bouquet Fait, Album striatum, King of Crimson, F. A. Davis and Barbara, being exceptionally fine. Mr. Riddich, gardener to W. Paice, Esq., Egham, was second, having Cullingfordi, Elaine, Golden Empress and Thunberg, excellent. The best four dwarf-trained plants came from Mr. Riddich, in Cassandra, Mrs. Forsyth, Hiver Fleuri and Antonelli; whilst Mr. Thatcher had the best pair in first-rate well-bloomed specimens of pink and white Christines. The same exhibitor was first with a beautiful single plant of Red Dragon as a specimen; and Mr. Proudfoot, gardener to B. Marshall, Esq., Staines, possessed a good but little stiffly-tied second in Mrs. George Rundle. Standard large-flowered plants were good, Mr. Riddich having the best in especially good Guerusey Nugget, Golden Christine, Pink Venus and Elaine; Mr. Proudfoot being second. Turning to Pompons, Mr. Riddich had the best four dwarf plants; Mr. Thatcher having the best pair, medium-sized but separately bloomed specimens of St. Michael and M^{lle}. Marthé. A capital pair of Anemone-flowered pompons, in standards, came from Mr. Thatcher, who had Marie Stuart and Autonus, most beautiful. There were other good plants in the class. A singularly brilliant and finely bloomed half-dozen of zonal Pelargoniums, plants 2 ft. over and finely done, from Mr. Riddich, were: H. Jacoby, Woman in White, Mrs. Gordon, Dr. Orton, Constance and Mad. Leon Dalbo, the latter a beautiful purplish double. These plants could hardly have been excelled, and were well worthy the highest commendations.

Cut flowers were good and plentiful. Mr. Riddich had the best twenty-four incurved in one class, and Mr. Proudfoot the best twenty-four in a second class, whilst Mr. Thatcher was second in one case and Mr. Collings, gardener to Mrs. Holgate, Staines, was second in the other. Japanese were shown well; the best twenty-four of these also coming from Mr. Riddich, whilst Mr. Thatcher was second. Mr. Collings came first with twelve Japanese, having capital blooms of popular kinds, Mr. Jemmett being second. The classes for smaller numbers of both incurved and Japanese blooms were well contested. Mr. Thatcher had the best twelve Anemone blooms, clean and good; and also the best twelve bunches of pompons. Reflexed flowers made a capital class, Mr. Collings having the best, and for a special prize class for six, one kind, incurved, and same, one kind, Japanese, Mr. Thatcher was best with a good Mr. Jay and album plenum; whilst Mr. Riddich followed with Mr. Barnes and Beethoven. Mr. Riddich had the best four dishes of Apples, good clean samples, and Mr. Bloomfield the best Pears, whilst Mr. A. Riddich, of Thorpe, showed good Alicante Grapes. The vegetables shown were excellent.

Richmond, Surrey.—*Nov. 11th and 12th.*—The sixth autumn exhibition of Chrysanthemums, flowers, fruits and vegetables was held in the Assembly Rooms, Castle Hotel, Richmond, on the above dates, in most miserable weather. The show was quite up to the usual average, and great credit is due to Mr. J. H. Ford, the secretary, who spared no pains to make the exhibition popular and successful. The groups arranged for effect were good, the space allotted being 50 sq. ft. The first prize was awarded to Mr. Roots, gardener to J. B. Hildich, Esq.; second, J. Bigwood, Esq., gardener Mr. Waldis; third, J. Cave, Esq., Mr. Champion,

gardener. For six specimens, a well-flowered half-dozen from Mr. King, gardener to Mrs. Few, Wolsey Grange, were worthily awarded the first prize; and for three standards, which were only fair in quality, Mr. Elliot, gardener to Mrs. Hamsin, was first.

For thirty-six cut-blooms, distinct, eighteen Japanese and eighteen incurved, the good prizes offered brought out several competitors; and the quality was good, the Japanese especially; but here, as at all other shows, a falling off was noticeable in the incurved varieties. Mr. E. Coombes, gardener to W. Furze, Esq., Rose-lands, Teddington, was first, D. B. Chapman, Esq., Roehampton, gardener Mr. Sullivan, second, and Mr. Meakes, The Gardens, Poulett Lodge, Twickenham, third. For twenty-four incurved, Mr. Coombes was again the first, Mr. Sullivan being second, and Mr. Carter, gardener to W. T. Parry, Esq., third; all showing fairly well. For twelve incurved, Mr. King, gardener to Mrs. Few, came in first; second, Mr. Munro, gardener to E. W. Paul, Esq.; third, Mr. Benson, gardener to W. B. Root, Esq. For six incurved, first, Mr. Root; second, Mr. Slade, gardener to Lady Bowater; third, Mr. Carter, gardener to R. J. Pary, Esq. Twenty-four Japanese: first, Mr. King; second, Mr. Munro; third, Mr. Slade; these were all grand and the competition very keen. For twelve distinct: the Hon. W. P. Talbot was first; second, Mr. Munro, gardener to E. W. Paul, Esq.; third, Mr. Benson. For six, Mr. King was first. For twelve Anemone, Mr. Child, gardener to Mrs. Slade, was first; second, Mr. Woodgate, gardener to Lord Wolverton; third, Mr. Slade. Table plants were well shown, a nice graceful half-dozen from Messrs. Hooper, nurserymen, Covent Garden, being first.

Fruit was only fairly represented. For six dishes, Mr. Bates was well to the fore; second, Mr. Champion, gardener to Thos. Caves, Esq.; third, Mr. Coombes, Sheen House. For four dishes of Apples, Mr. Buckland was first; and for Pears, four dishes, Mr. Davis took the lead. For black Grapes, two bunches, first, W. S. Graham, Esq.; second, W. Cunard, Esq.; third, Thos. Cave, Esq.; and for white Grapes, Mr. Hickie, gardener to W. Cunard, Esq., came in first; second, Mr. Bates; third, Thos. Cave, Esq.

Vegetables were good. For a collection of six varieties, the first prize was awarded to Mr. C. J. Waite; second, J. R. Tindale, Esq.; third, Mr. Coombes, Sheen House.

Special prizes were offered for three vases or stands of flowers, and the Silver Medal, given by H.R.H. the Duchess of Teck, was won by Mr. Chard with nicely-arranged pieces. Mr. Merton won Lady Parker's special prize for six dishes of fruit. Mr. Osborne was the fortunate winner in groups arranged for effect, 50 sq. ft., the special prize given by Sir J. Whittaker Ellis, Bart., M.P. Miss Little was first for a single vase of flowers for Mr. Smith's prize, and the same lady also won the first prize for six button-hole bouquets. Miss Chard was first for hand bouquets, which were nicely shown. The amateurs and cottagers showed well in the various classes. H. Little, Esq., showed, not for competition, the following Orchids, in fine condition:—*Lælia Perrinii* majus, *Oncidium macranthum*, fine variety; *Lælia elegans*, several good well-flowered varieties of *Lycaste Skinneri*, including *Smeeana*; *Cypripedium Harrisianum*, *Heynaldianum*, fine forms of *Spicerianum*, and *Oncidium papilio majus*. These were the admiration of all. Mr. Bray, florist, of Richmond, also showed, not for competition, several fine sprays and baskets of flowers, well put up; Mr. Smith, of Richmond, bouquet, basket and sprays, well done; Messrs. Hooper, Tree Carnations in pots; and the orchestra was nicely decorated by Messrs. Kinghorn.

Reading.—Nov. 12th.—The third exhibition held at Reading took place in the Town Hall, and was far in advance of any previously held. Considering the bad weather, the show was wonderfully well attended. This society is making good steady progress, the credit for which is greatly due to the exertions of the secretary and committee. There was a great increase in the entries, both in plants and cut flowers; but here, as at other shows, the incurved blooms were not so good, and there was a falling off in the classes for Grapes, although some splendid Muscats were shown, especially those staged by Mr. Turton, gardener to J. Hargreaves, Esq., who also took the principal prizes for Apples, showing fine large fruit, well coloured. Some good specimen plants, both standard and others, were shown nicely flowered, and the first-prize group arranged for effect

was a good one, both in quality of flowers and arrangement; this came from Mr. Baskett, gardener to W. J. Palmer, Esq. Mr. Wildsmith, The Gardens, Heckfield, was a successful exhibitor, being second to Messrs. Drover, of Fareham, for eighteen incurved, and first for twelve reflexed, twelve pompon, and twelve of any sort. Mr. Turton also showed, not for competition, some very fine *Celosias* of the pyramidalis type, which were greatly admired. Mr. Wildsmith was awarded a First Class Certificate for a pure white sport from Princess Teck, and named Lord Eversley. Mr. R. Owen, Maidenhead, contributed a fine collection of cut blooms.

Lewisham and District.—Nov. 12th and 13th.—The second exhibition of this enterprising young society, held on Friday and Saturday last in the Ladywell Public Baths, was one of the prettiest and best we have seen this year in the metropolitan district. The society is fortunate in having in its committee a band of thorough going floral enthusiasts; in its secretary, Mr. H. Drake, an admirable executive officer; and in the Ladywell Public Baths, a building in all respects well adapted for winter exhibitions; and all it wants beyond these advantages, great as they are, is an abundant measure of local support to ensure a speedy assumption of first-rank importance. The groups of plants sent in for competition were arranged in semi-circular groups on two sides of the hall; at the platform end there was a fine group of Palms lent by Messrs. John Laing & Co., Forest Hill, which served as an admirable background to two exceedingly fine groups of Chrysanthemums contributed respectively by Messrs. John Laing & Co. and Mr. H. J. Jones, Hope Nursery, Loampit Vale, Lewisham, and which were both Very Highly Commended. Down the centre of the hall, were arranged two long tables containing the cut blooms, and to relieve the flatness that must otherwise have necessarily existed, Messrs. James Carter & Co., Forest Hill, lent an admirable assortment of well-grown small stove and greenhouse plants.

For a group of plants in pots exhibited by amateur members, the Silver Medal was won by Mr. W. E. Jupp, 72, Broxfield Road, Brockley; and the Bronze Medal in the same class went to Mr. Hanny, Brockley, both showing well. In the gentlemen's gardeners' class similar awards were made to Mr. Hudd, gardener to F. W. Prior, Esq., Gordon House, Blackheath Park; and Mr. Munn, gardener to J. Soames, Esq., Maze Hill, Greenwich Park, in the order named. The last-named exhibitor also had a pretty group of decorative stove and greenhouse plants, which secured a first prize.

The cut flower classes were well contested, and as a rule the quality ran very good indeed. The leading amateur exhibitor was Mr. J. Wickham Jones, Frocester Lodge, South Norwood, who staged very fine blooms in most of his stands, and succeeded in winning a Silver Medal (one of the three given by Mr. H. J. Jones), for six Japanese; and first prizes for twelve Japanese, and for twelve incurved respectively. One of the Bronze Medals given by Mr. H. J. Jones was won by Mr. G. S. Addison, Parchmore Road, Thornton Heath, with a very good stand of half-a-dozen Japanese; among which was the finest bloom we have seen of the new variety named after Mr. Harman Payne. With half-a-dozen good blooms of *Madame Lacroix* the hon. secretary, Mr. H. Drake, also secured a second prize. In other classes, Mr. J. J. Hillier, Priory Road, Wandsworth Road, and Mr. W. J. Upton were very successful competitors, winning several premier awards; the last named gentleman having also the best bloom in the show. In the gardeners' classes the leading honours went to Mr. H. Shoesmith, Mr. T. Sadler and Mr. F. R. Moore. There was a spirited competition with baskets of Chrysanthemums and bouquets, all of which were exceedingly good; in the latter class Mr. H. J. Jones won the first prize, Mr. Butcher the second, and Mrs. H. J. Jones the third; and for the baskets Mr. Wickham Jones was first. The prizes were distributed on Saturday afternoon by Lady Mayo.

Huddersfield.—Nov. 12th and 13th.—This, the third annual show, was held in the Town Hall, and was opened by the deputy mayor, Mr. Alderman Varley. It was in every way a decided success. The season has been favourable on the whole to the growth of these flowers in the district, and the show far surpassed its predecessors in the number of entries, and in the quality of flowers staged. The cut flowers were arranged on three tables running the length of the hall, and up

the centre of each table were placed the plants sent for competition. In front of the orchestra were arranged three groups, relieved at the back by tree Ferns and fine foliage plants, which had a fine effect. To the right and left under the balcony, were other groups, and specimen Chrysanthemums, &c., and other miscellaneous plants in pots. Under the balcony in the rear of the hall were stands of miscellaneous flowering and fine foliage plants, beautiful wreaths, crosses, bouquets, sprays, &c., contributed by Messrs. J. T. Sharp, Almond-bury, Wm. Armatage & Son, Huddersfield, and F. Blagburn, Huddersfield, and which were especially admired. The display of bouquets, cut stove and greenhouse flowers and sprays for ladies wear, were well represented, and were of great merit, being composed of flowers of the choicest quality. In the local class for cut blooms of Chrysanthemums, the flowers were in advance of last year, but fruit was only poorly represented. There was a very unfortunate case of disqualification in the class for forty-eight blooms, open. The rules stipulated "forty-eight cut blooms, twenty-four incurved and twenty-four Japanese, and not less than eighteen varieties of each." One exhibitor, Mr. H. West, gardener to E. Wright, Esq., Halston Hall, Shropshire, accidentally put in only seventeen of each, and the error cost him the £10 prize, as he was otherwise an easy first. Much sympathy was expressed for the exhibitor, for such blooms were certainly never seen in this locality before. Mr. West being ruled out of the competition, Mr. A. R. Cox, Elm Hall, Liverpool, who staged fine blooms, was placed first; and Mr. M. Midgley, gardener to H. Mason, Esq., Bingley, second. With twelve Japanese and twelve incurved, Mr. West was well first; Mr. Cox, second; and Mr. J. P. Leadbeater, Franley Croft, Hull, third. The other first prize winners were: twelve large Anemones, Mr. W. Daniels, gardener to Mrs. H. Cook, Mirfield; twelve reflexed, Mr. B. Morton; twelve bunches of stove and greenhouse cut flowers, Mr. M. Chambers, gardener to Jos. Bickerman, Esq., Huddersfield; the best bouquet, Mr. W. Daniels.

In the local classes there was a fine competition. The special prize, given by S. Learoyd, Esq., for a spray for ladies' wear, fell to Mr. W. Daniels; and for another spray, Mr. Chambers was first. For a group of Chrysanthemums, arranged in half-circles of 64 sq. ft., the first prize, a marble timepiece value £5, was awarded to Mr. F. Carter, gardener to T. P. Levery, Esq., Dalton Lodge; and Mr. Budd had the best three plants, incurved, in pots; while in the corresponding class for three Japanese Mr. F. Hatch was first. For twenty-four cut blooms, Mr. Daniels was a good first, Mr. Stokes second, and Mr. Chambers third; twelve varieties of Japanese, Mr. F. Senior, gardener to T. P. Crossland Esq., first; twelve incurved, first, Mr. W. Daniels; six incurved, dissimilar, first, Mr. Walker, gardener to Mrs. G. Crowther, Rose Hill; six Anemone large-flowered, Mr. Daniels first. For six dinner or table plants, not to exceed 6 ins. in height, Mr. Chambers, who always does these well, was again first, with beautifully grown plants. Mr. Budd was the principal prize taker for Poinsettias, *Eucharis amazonica*, *Mignonette* and *Bouvardias*; these last were splendid specimens, of good culture, but rather late. For black Grapes, Mr. J. Stephenson took the lead. The cottagers' classes were also well represented, and creditable blooms were shown.

Sheffield and Hallamshire.—Nov. 15th and 16th.—This society held its ninth annual exhibition of Chrysanthemums, fruits and other miscellaneous plants, in the Cutler's Hall, on the above date. The exhibits were numerous, especially the groups of plants, which were arranged against the walls of the hall; and the committee were fortunate in getting the support of four of the local nurserymen, who each contributed very effective groups of miscellaneous plants. Messrs. Fisher, Son & Sibray, as usual, brightened up a large space with some superb specimens of their greenhouse Rhododendrons, full of bloom, interspersed with Ferns and many well-flowered Orchids, conspicuous amongst them being a very fine variety of *Odontoglossum Insleyi* *Leopardinum*, *Lycaste Skinneri*, *Cattleya Dowiana aurea*, and several well-flowered *Cypripediums* of different species. Mr. Crosland, of Richmond Nurseries, Mr. Mower, Westbourne, and Mr. Seagraves, Gleadless Nursery, all contributed very attractive and well-arranged groups. Amongst the members' productions there was no lack of competition in all the classes. No attempt is made by the members of this society to grow dwarf-trained specimen

Chrysanthemums, but all are exhibited as they are grown for the decoration of their conservatories. These plants, when massed together as they were, made a very nice display. Mr. Austin, gardener to J. H. Allcard, Esq., was first with twelve plants, amongst them being some well-flowered specimens; Mr. Stimpson, gardener to J. Craven, Esq.; Mr. Marsden, gardener to T. Hobson, Esq.; Mr. Simmonds, gardener to G. Fisher, Esq.; and Mr. Slaney, florist, all contributed to this class. In the class for groups of miscellaneous plants, Mr. Herriott, gardener to Major Blake; Mr. Cook, gardener to C. B. Clark, Esq., were first and second (in the order of their names) with nice attractive groups; Mr. Spright, gardener to Mrs. Fawcett, was first with a group of Chrysanthemums and other plants.

In the Primula class there were some fine examples shown, these were staged down the centre of the hall, with the cut flowers. Of the latter there was a good display, and Mr. Redmill, gardener to J. G. Lowood, Esq., Mr. Stimpson and Mr. Austin were the principal exhibitors. Of fruit there was some excellent Apples and Pears, Messrs. Richard Smith & Co., Worcester, staging fifty dishes, amongst them being some of the finest examples possible. This collection was, without doubt, the chief feature of the exhibition. In the Grape classes, black and white, there were some good bunches shown by Messrs. Watts, Stimpson, Cook and others. At the time of our visit there was a good attendance, and we hope the show will prove a financial success to this deserving Society. — IV.

Caterham.—Nov. 17th.—A small, but very pretty Chrysanthemum show was held in Haveston Hall, close to the railway station, on the 17th inst., and the committee must be congratulated on the district furnishing so good a display, for only local growers competed. The best group of plants arranged for effect came from Mr. John Palmer, gardener to J. Clarke, Esq., Beechanger, Caterham Valley, bright and effective, and well worthy the award made to it; second, Mr. Pannell, gardener to D. McD. Smith, Esq. The best three specimens, well grown and bloomed, came from Mr. Watts, gardener to O. T. Turpin, Esq., Caterham, the varieties being Mrs. G. Rundle, Mrs. Dixon and Mrs. Forsyth; Mr. Pannell was a close second with the same varieties. Mr. Pannell had the best specimen plant, an unnamed incurved variety; Mr. Watts being second with George Glenny. Some very creditable plants, shown in threes, and also as single specimens, came from cottagers.

The chief class for cut flowers was for twelve incurved and twelve Japanese varieties, and here Mr. Wyatt, gardener to J. Penny, Esq., Caterham, was first, with the following incurved flowers, very fine in quality:—Golden Empress, Alfred Salter, John Salter, Queen of England, Mrs. Heale, Lord Wolseley, Hero of Stoke Newington, Guernsey Nugget, Pink Venus and Princess Teck. Japanese: Orange Dragon, Golden Dragon, Balmoreau, L'Adorable, Père Délaux, Mdme. C. Audiguier, Triomphe du Nord, Comte de Germiny and Boule d'Or. Second, Mr. Papworth, gardener to S. Vorley, Esq., Caterham; third, Mr. Pearman, gardener to H. Horne, Esq., Caterham. Mr. Palmer had the best twelve blooms—viz., six incurved and six Japanese—staging, in good character, Baron Beust, Jardin des Plantes, White Venus, Lord Wolseley, Prince Alfred and Cherub. Japanese: Comte de Germiny, Jeanne Délaux, Peter the Great, Mdme. C. Audiguier, Mdme. Bertha Rendatler and Elaine. Second, Mr. Pannell, who had excellent blooms of the following incurved:—Lady Slade, Prince Alfred, Nil Desperandum, Isabella Bott, White Venus and Mrs. Dixon; the Japanese varieties being small. Third, Mr. Beard, gardener to Mrs. Gardiner, Caterham. Pompon Chrysanthemums were very well shown in bunches of three blooms, Mr. Palmer being first with an excellent lot, consisting of Madlle. Marthé and its golden variety, Black Douglas, Le Pureté, Robert Beust and Eleonore, six varieties being required; second, Mr. Watts, with much the same varieties in good form; third, Mr. Pannell. Mr. Papworth had the best six table plants, Mr. Brand being second, and Mr. Palmer third; all plants of excellent quality. The best two dishes of Apples came from Mr. Palmer, who had very fine Blenheim Orange and Cox's Pomona; second, Mr. Palmer, with Winter Hawthornden and Ribston Pippin. Among honorary exhibits were a fine group of Chrysanthemums from Mr. G. J. Wollett, nurseryman, Caterham; an excellent group of foliage

plants and Chrysanthemums from Mr. Harris, gardener to R. W. Salmon, Esq., Caterham Court; some well-grown plants of Gesnera exoniensis from Mr. Pearmain and also fifteen dishes of Apples; from Mr. Palmer a collection of Apples; and three dishes of Pears from Mr. Hicks, gardener to J. E. Stuart, Esq., Caterham.

ORCHID NOTES AND GLEANINGS.

Orchids at Messrs. Shuttleworth, Carder & Co.'s.—It is impossible to visit the compact little Orchid nursery at 191, Park Road, Clapham, without finding many interesting things in bloom, and our inspection at this dull season proves no exception to the rule. The establishment is noted for its superb strain of *Odontoglossum Alexandræ* and *O. Pescatorei*; its fine type of *O. Rossii majus*, out of which so many of the rare *O. Humeanum* and *O. aspersum* have flowered; its new white *Lælia anceps*, and its select and well-grown *Cattleyas*; and now to these last-named the firm has added a splendid lot of certified white *Cattleya speciosissima*, which will be one of the finest and most fragrant of all our *Cattleyas*, and a grand acquisition for spring and summer flowers.

Among the plants in bloom in this well-grown collection we found a very varied and excellent strain of *Masdevallia chimæra*, some of the forms being pale yellow mottled with rose, and others almost wholly crimson; *M. ignea aurantiaca*, the brightest orange-coloured form; *Restrepia antennifera* and *R. elegans*; many *Oncidium varicosum*, *O. tigrinum*, *O. prætextum*, *O. Jonesianum*, *O. papilio*, *O. Krameri*, *O. Forbesii* (a very superior strain), *O. dasystyle*, *O. ornithorhynchum*; *Odontoglossum Bictonense*; *Pleione Wallichiana*, *P. maculata*, *P. lagenaria*; *Cœlogyne ocellata*, *C. fimbriata*, *C. fuliginosa*; *Miltonia Clowesii grandiflora* (true); *Cypripedium Crossianum*, *C. venustum pardinum*, *C. Spicerianum*, *C. concolor Regnieri*, *C. Haynaldianum*, the true major form of *C. Schlimii*; a nice group of *Mesospidium*; a quantity of the largest form of *Sophrontis grandiflora* and *S. coccinea*; *Paphinia rugosa* and *P. cristata major*; the true *Epidendrum macrochilum album*; the rare and curious *Pleurothallis macroblepharis*; and, with other interesting *Masdevallias*, the rich scarlet *Masdevallia racemosa* (Crossii), which will certainly develop into one of the prettiest and most effective of our neat-growing cold-house Orchids.

Messrs. Shuttleworth, Carder & Co. do not aim to cultivate anything but Orchids, but in the course of their extensive importing operations, they frequently get over other new and rare plants, among which may be noted their fine additions to the twining *Bomareas*, &c. At present, too, in their nursery are some handsome young plants of *Zamia moutana*, a very rare species, and one of the noblest and most distinct of the genus. In a corner of the cool house are some cushion-like pans of the neat little *Sibthorpia europea variegata*, which seem to luxuriate here, although so many fail to grow the plant in anything like a satisfactory manner.

Injury to Orchid Roots.—Your able correspondent, Mr. O'Brien, directs our attention to the injury done by galvanized-iron wire to Orchid growths and pseudo-bulbs, and by decayed wood to their roots. I can endorse all that he says on the subject. We had growing in a basket a splendid plant of *Dendrobium Wardianum*, var. *Lowii*, with immense growths, which were looped to the wires of the basket to prevent their being broken; the consequence being that wherever the growths came in contact with the wires, they turned black and rotted off. It is a grave mistake, and I am sorry to say a very prevalent one, to encase an old basket with a new one, and in my humble opinion more so with those having plants of *Phalænopsis* for their occupants, than with any other species. The roots of *Phalænopsis* having such a tendency to cling to wood, are turned black, and rot whenever they come in contact with decayed matter. We grow our *Phalænopsis* in a specially designed pan, though made of the ordinary garden pottery clay; manufactured for, and sold by the Liverpool Horticultural Company, Garston. They are well adapted for this class of Orchids, for when once carefully potted, the plant itself never need be removed, as these pans are made in sizes ranging from 3 ins. to 14 ins. in diameter, so that they can be placed one inside the other should the plants require more root room, without the slightest injury to the roots, and this is undoubtedly a matter of great importance.

Ærides, *Vandas*, *Saccolabiums* and all Orchids having such-like tendencies do well in them. They will prove a great boon to Orchid growers, and when they are better known, I am sure will be universally used. — I.

Catasetum cassideum.—This singular and rare Orchid is in bloom with the New Plant and Bulb Co., Colchester. It has a stout spike of flowers, in which the only salient feature is the large wax-like lip shaped like an old-fashioned helmet, and coloured orange inside and greenish yellow outside; the small, acute, reddish green sepals are thrown back in a very curious manner. The flowers are, moreover, very sweet. Mention of it will be found in THE GARDENING WORLD, vol. ii., p. 28, where over forty other distinct species of *Catasetum* are enumerated.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The batch of *Cypripediums* in the stove are now approaching their best. The flowers are large in size, and of good colour, which should always be the case if they are not kept in too shaded a position; and one great aim of the cultivator should be to bring out to the utmost the greatest depth of colour. Attention to ventilation and the proper position of the plants will accomplish this. Attend carefully to the intermediate house, which, with the numerous occupants in flower, might be more fitly termed the show house. What with *Tydeas*, *Gesnerias*, *Cyclamen*, shrubby *Begonias*, and a host of other autumn and winter-flowering plants available for this structure, interspersed with Palms and Ferns, a show can readily be made; the temperature, too, is of just that degree in which one can enjoy a scrutiny of the occupants.

The long-continued spell of unsettled weather which we have experienced—nearly six weeks—has greatly retarded many things. *Poinsettias* are very slow in expanding their scarlet bracts; and, in fact, generally, sun is much required. Many things show signs of damping where of thin texture; *Primula* flowers, for instance, we find extremely liable to damp-off—in fact, they decay prematurely. We, last week, placed a good batch round the stage of the intermediate house, and much they appear to appreciate the change from a cooler temperature; the flower trusses are rising well above the foliage, and, in addition, they remain intact for many days.

Chrysanthemums are now, with us, at their best, and a very good show we have; we always grow ours as untrained, simply stopping in the season, and staking as growth proceeds. Formal training may be all very well in its way for single specimens required for special vases and so on, but nothing in our opinion so readily determines the true character of each or any variety as its natural style of growth. We have already taken cuttings of those which are forward enough to propagate, and shall continue to do so until sufficient stock is secured. Some care is necessary, for if the plants are allowed to remain in anything approaching a warm atmosphere, the new growths will be quite unfit for propagation, and, consequently, next season's stock will be less satisfactory. We generally insert our cuttings thickly in 60 pots, and partly plunge in a mild bottom heat where the temperature of the compartment can be kept cool, and where we always find they strike very readily. All the early-flowering section will give much better cuttings if removed entirely out of doors. The summer-flowering section we find succeed best if divided.

THE FORCING HOUSES.

Work in this department presents itself with increasing rapidity. Where early Grapes are required, the first Vinery should be started; many prefer placing fermenting manure on the inside border to help in maintaining a suitable atmosphere, and to assist the Vines in breaking into new growth; we never have recourse to such means, questioning the utility. If the Vine-rods are kept syringed five or six times a day, little more is required to encourage them to start; open the valve in the morning that the pipes may be well warmed before syringing is done, closing again early in the evening, as no fire-heat at night must be allowed for the first week or ten days. A few pot Lilacs, Azaleas and Roses should be placed in this house, which will prepare them for warmer quarters later on.

We have made up another Mushroom-bed, and shall continue to collect droppings as quickly as possible for succession beds. We have also put in a good batch of extra strong Asparagus roots—in fact, it is always advisable to select the strongest for the very earliest forcing, and if they were not cut from last season so much the better; generally, a bed or two can be spared if properly arranged. The tying of the early Peach trees should now be completed, although it is not necessary to start this house yet; still, for neatness sake, it should be done, and also to forward work. The almost utter absence of sun has made the winter set of Cucumbers look rather flimsy in the foliage; we keep the bottom-heat frequently renewed, so as to encourage good root-action, and the plants are making free growth, with plenty of fruit.

THE KITCHEN GARDEN.

From the continued rains which we have had, digging of all kind is suspended; for on our heavy land, unless care is taken in this respect, it is spoiled for the whole season. The staking and tying of the Raspberry quarter is being done, and where small birds are not too numerous, Currant bushes may be pruned, saving what cuttings are required as the work proceeds, and afterwards heeling them in for making in bad weather. The planting and transplanting of Roses should be completed without delay, as also all kinds of fruit trees; they are much more likely to succeed than if left until spring. We are busy planting some ornamental clumps and rows of Scotch and Corsican Firs; in fact, we hope to finish our forestry planting, for this season, before Christmas.

Should the weather take up, we shall commence levelling and relaying turf where necessary. On the walls we have made fairly good progress with the nailing, the weather keeping so mild. We have completed the planting out of our spring-flowering plants some time; and as the frost has spoiled all the occupants of the flower garden, they had much better be removed, and if not replanted, a good dressing of leaf-soil given, dug and all put in thorough order. Dahlias should be cut over about 6 ins. from the ground, but not lifted for a week or so afterwards; in storing, it will be found that if the roots are placed bottom upwards, they are less likely to rot; in fact, we never have any difficulty, and our stock is always treated in this way.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Liverpool Horticultural Association.—The first meeting of the session of this flourishing association was held on Saturday evening last in the Free Library, William Brown Street, when Mr. Thomas White, Fulwood Park, gave a descriptive account of the "Exhibits at the Royal Horticultural Society's Provincial Show." Mr. White prefaced his remarks on that great exhibition with a short history of the Royal Horticultural Society, alluding especially to the eminent men who were connected with it in the past, notably Thomas Andrew Knight, Dr. Lindley and Sir Joseph Paxton. Commenting upon the exhibition held at Wavertree Park, the various arrangements were reviewed, and the organisation generally was considered such as should have ensured a right royal success. The weather was all that could be desired; but the large plant marquee was considered to have failed in two important essentials, it was too low to show off the magnificent specimen plants to the best advantage, and the covering was too opaque to admit of the various tints and colours being seen distinctly. The various collections of plants were then passed under review in terms of high praise; and at the conclusion of Mr. White's remarks a lengthy discussion ensued, in which Messrs. H. Ranger, W. R. Ker, E. Bridge, R. G. Waterman and E. Bennett took part. Various opinions were offered as to the cause of the financial failure, which was generally attributed to the insufficient time allotted for making the necessary arrangements for an enterprise of such magnitude; to the gardeners of the locality not being taken into the confidence of the council of the society; to the date selected being too early for the district, and the enormous counter-attraction in the International Exhibition adjoining. The produce staged, however, was highly meritorious, and Lancashire growers were considered to have fairly held their own.

QUESTIONS AND ANSWERS.

FORCING STRAWBERRIES.—*N. B.*: The instruction you require cannot be given in the form of a few hints. Read Hind's "Strawberries All the Year Round," which you can obtain from our publisher for 1s. 1d., or get our number for March 13th last.

CHRYSANTHEMUMS.—*Walter Jones*: 1. You are not the only one who has this season lost the largest blooms through damping. Growers all over the country have experienced the same misfortune. 2. Mildew is brought about by cold and damp. It was an error of judgment, and especially in your part of the country, to syringe the plants after putting them under glass, as there is quite enough moisture in the atmosphere without that. Give plenty of air, and keep a little fire on, so as to get rid of the damp. Dust the mildewed leaves with flowers of sulphur.

NAMES OF PLANTS.—*R. Young*: *Maxillaria squallens*.

NAMES OF FRUITS.—*N. H. P.*: 1, Doyenne Gris; 2, Baronne de Mello. *A. F., Croydon*: We do not recognise either of them. *Mr. P., Harrow*: 1, Knight's Monarch; 2, Glou Morceau; 3, General Todtleben; 6, Van Mons. Leon le Clerc; 7, Duchess d'Angouleme; 8, Easter Beurre; 9, Beurre Rance; 10, Vicar of Winkfield; 11, Haeon's Incomparable; 12 and 18, Easter Beurre; 13, Napoleon; 15, Catillac; 16, Gansel's Bergamot; 19, Bergamotte d'Espereu. Others quite rotten.

COMMUNICATIONS RECEIVED.—*J. H.*—*W. H. E.*—*J. M.*—*M. T.*—*J. N.*—*H. Markham.*—*J. M. M.*—*G. T.*—*J. L.* & *Co.*—*C. H. P.*—*W. B. H.*—*G. Harvey.*—*J. C. & Co.*—*R. G. W.*

TRADE CATALOGUES RECEIVED.

R. B. LAIRD & SONS, Edinburgh.—Special Trade Offer of Nursery Stock.

LONDON SEED TRADE.

November 17th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a better enquiry for Red Clover owing to advance in prices on the Continent. Samples of new English Red, White and Alsike are now marketed, and show only medium quality, and meet with little attention. Rye Grasses continue firm. Canary is dearer and sells freely; other Bird seeds unchanged.

COVENT GARDEN MARKET.

November 18th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6	3 6	Peaches, per doz.	....	....
Cherries, $\frac{1}{2}$ sieve	....	....	Pine-apples, St.	....	....
Currants, $\frac{1}{2}$ sieve	....	....	Michaels, each	1 6	6 0
Grapes, per lb.	0 6	2 0	Pine-apples, Eng., lb.	1 6	2 6
Kent Cobbs, 100 lbs.	65	0	Plums, $\frac{1}{2}$ sieve	....	....
Melons, each	....	....	Strawberries, per lb.	....	....

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4	....	Lettuces, per dozen	1 6	....
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel	4 0	6 0
Carrots, per bunch	0 6	....	Parsley, per bunch	0 6	....
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	....
Celery, per bundle	1 6	2 6	Sea Kale, per basket	1 6	2 0
Cucumbers, each	0 6	0 9	Small salad, punnet	0 4	....
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	....
Herbs, per bunch	0 2	0 4	Tomatoes, per lb.	0 9	....
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.	....	....	Turnips, per bun.	0 6	....

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	....	....	Lilium longiflorum, 12 blooms	4 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Liliums in variety, 12 blooms	....	....
Azalea, 12 sprays	0 9	1 6	Marguerites, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	1 0	3 0
Camellias, 12 blooms	2 0	5 0	Parne Violets (French), per bunch	3 0	4 0
Carnations, 12 blooms	1 0	3 0	Pelargoniums, per 12 sprays	0 9	1 0
Chrysanthemums, 12 blooms	0 6	1 6	—scarlet, 12 sprays	0 3	0 6
Chrysanthemums, 12 bunches	1 0	4 0	Primula, double, bun.	0 9	1 6
Czar Violets (French), per bunch	1 3	1 9	—single, 12 bun.	4 0	6 0
Dahlias, 12 bunches	....	....	Pyrethrum, 12 bnchs.	2 0	4 0
Daisies, common, Epiphyllum, 12 blms.	0 6	1 0	Roses, 12 bunches	....	....
Eucharis, per dozen	4 0	8 0	Roses (coloured)	1 0	2 0
Gardenias, 12 blooms	3 0	6 0	Roses, Tea, per dozen	1 0	3 0
Gladioli, 12 sprays	....	....	Stephanotis, 12 sprays	4 0	8 0
Heliotropes, 12 sprays	0 6	1 0	Sweet Peas, doz. bch.	....	....
Lapageria, red, 12 blooms	1 0	1 6	Sweet Sultan, 12 bun.	....	....
Lapageria, white, 12 blooms	2 0	4 0	Tropeolums	1 0	2 0
	....	....	Tuberose, per dozen	1 0	1 6
	....	....	Violets, 12 bunches	1 0	1 6
	....	....	White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 6
Asters, per dozen	....	....	Foliage Plants, various, each	2 0	10 6
Begonias, per dozen	6 0	12 0	Fuchsia, per doz.	....	....
Bouvardia, per doz.	9 0	12 0	Gladioli, 12 pots	....	....
Chrysanthemums, doz.	4 0	18 0	Hydrangea, per doz.	....	....
Cyperus, per dozen	4 0	12 0	Liliums, per doz.	....	....
Dracena term., doz.	30	60	Marguerites, per doz.	6 0	9 0
—viridis, per dozen	12	24	Mignonette, per doz.	4 0	6 0
Epiphyllum, per doz.	18	30	Palms in variety, each	2 6	21 0
Erica gracilis, per doz.	9 0	12 0	Pelargoniums, doz.	....	....
—hyemalis, per doz.	12	24	Pelargoniums, scarlet, per dozen	3 0	6 0
—Reginians, doz.	9 0	12 0	Petunias, per doz.	....	....
—various, per doz.	8 0	24 0	Primulasinensis, p.dz.	4 0	6 0
Evergreen, in var., per dozen	6 0	24 0	Solanums, per doz.	9 0	12 0
Ferns, in var., doz.	4 0	18 0		....	....

XMAS ROSES.

All exceptionally fine strong stuff, full of flower buds, in the following varieties:—

MAJOR.—This, for general purposes, is the best variety in cultivation, producing beautiful large pure white flowers. *Fine strong clumps, 1s., 1s. 6d. and 2s. 6d. each; 10s., 15s. and 24s. per doz.*

MAXIMUS.—A robust variety, the largest of the group, and very ornamental as a foliage plant. The foliage is of a deep green, and the stems are large and beautifully mottled, reaching 2 ft. in height; the earliest in flower, very large attractive blossoms, pure white inside, partially shaded with rose on the exterior. *Fine strong clumps, 1s., 1s. 6d., 2s. 6d. and 3s. 6d. each; 10s. 6d., 15s., 24s. and 30s. per doz.*

CAUCASICUS.—An intermediate form between major and maximus, flowering very freely, producing large, very conspicuous, pure white flowers; flowering out of doors in January. *Fine strong clumps, 1s. 6d., 2s. 6d. and 3s. 6d. each; 18s., 24s. and 30s. per doz.*

ANGUSTIFOLIUS.—A very fine variety, having narrow deeply divided foliage, and producing very freely pure, shining, white flowers. *2s. 6d., 3s. 6d. and 5s. each; 24s., 30s. and 48s. per doz.*

NIGER.—This is the common form, perfectly hardy, robust, and producing quantities of white flowers. *Collected plants, fine strong stuff, 6s. and 9s. per doz.*

For other varieties and fuller descriptions see special Illustrated List of Hellebores, which may be had upon application to

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COCOATINA,

Anti-Dyspeptic Cocoa or Chocolate Powder.

Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocos thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.

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A CAPITAL COLLECTION for Rocks, Stumps, and Borders, from 25s. per 100, or 4s. per dozen.

Most of the plants being in pots, may be dispatched at any time, or by Parcels Post when fit.

RICHARD SMITH & Co.,

NURSEYMEN & SEED MERCHANTS,

WORCESTER.

Clapton Nursery, London, and Bush Hill Park Nursery, Enfield.

HUGH LOW, & Co.

Invite inspection of the stock in these Nurseries—immense in extent, fine in quality, moderate in price—comprising Azaleas, Camellias, Cyclamen, Coniferae, Epacris, Ericas, Ferns, Fruit Trees, Grape Vines, Greenhouse and Decorative Plants, Hardy Shrubs, ORCHIDS, Palms, Pelargoniums, Roses, Stove and Soft-wooded Plants, Tree Carnations, &c., &c.

Autumn Trade List on application.

274,600 SUPERFICIAL FEET OF GLASS.

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GARDENER, SCOTCH, Aged 40 years.—**EDWARD GEORGE**, for the last 6½ years gardener to T. W. Boord, Esq., M.P., Ockenden, Cuckfield, Sussex, and previously, for 11 years, gardener to the Earl of Clancarty, at Garbally, seeks another engagement, owing to his late employer leaving Ockenden through the expiration of the lease. Advertiser has had great experience in all branches of gardening, and has been specially successful in the profitable cultivation of fruits under glass. Reference kindly permitted to T. W. BOORD, Esq., M.P., 14, Berkeley Square, W.—21, Stamford Road, Fulham, S.W.

GARDENER (Head Working), age 30, to any lady or gentleman desirous of obtaining a steady, hard-working practical man; thirteen years' experience in all kinds of forcing, and the growing of fruits, flowers and vegetables; well up in kitchen garden; highest references as to ability and personal character.—Apply "GARDENER," Coln St. Aldwyns, Fairford, Gloucestershire.

XMAS ROSES.

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MAJOR.—This, for general purposes, is the best variety in cultivation, producing beautiful large pure white flowers. *Fine strong clumps, 1s., 1s. 6d. and 2s. 6d. each; 10s., 15s. and 24s. per doz.*

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For other varieties and fuller descriptions see special Illustrated List of Hellebores, which may be had upon application to

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LILIUM LONGIFLORUM FLORIBUNDUM.

This is the handsome free-flowering Easter Lily, imported direct from Bermuda; invaluable for pot culture, its pure white flowers being borne in the greatest profusion.

Flowering Bulbs, 24s. per dozen.

LILIUM AURATUM, by the dozen, hundred, or thousand, at 4s., 6s., 9s., 12s., 18s. and 24s. per dozen.

BULB CATALOGUE, containing Priced List of Lilies, free on application.

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ESTABLISHMENT FOR NEW AND RARE PLANTS,

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BARR'S DAFFODILS.

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BARR'S New or Rare Hardy Daffodils for Pot-culture, Flower Beds, Borders, &c., For Descriptive List of Varieties, see Advertisement in THE GARDENING WORLD, November 6th; or send for B. & S.'s Illustrated Daffodil Catalogue, free on application. These beautiful Daffodils surpass all other spring flowers for in and outdoor decoration, and as cut flowers rank with the Orchid and the Rose. In the London Spring Flower Shows for 20 years Barr's Daffodils have maintained a leading position, and are acknowledged the fairest of spring flowers.

BARR'S Inexpensive Hardy Daffodils in Beds surpass in beauty and effect all other spring flowers, and for Masses in Flower Borders, they have no equal. In Shrubberies they are most valuable, and when required as Cut Flowers, beds of these Daffodils should be planted in the Kitchen Garden. If as a Forced Flower they are wanted, plant thickly in boxes 9 ins. by 16 ins., and 4 ins. deep, and stand the boxes out of doors, covered with ashes or cocoa-fibre, till the boxes are full of roots. If for Pot-culture, plant three or more bulbs in a pot, and place them out of doors till the pots are full of roots. For Naturalisation, plant in grass or by lakes, streams and ornamental waters, and thus realise what Wordsworth saw when he penned the following:—

"I wandered lonely as a cloud
That floats on high o'er vales and hills,
When all at once I saw a crowd,
A host of golden Daffodils;
Beside the lake, beneath the trees,
Fluttering and dancing in the breeze."

The culture of the Daffodil is simple, growing in all soils and all situations; no amount of frost or unfavourable weather will injure bulb or flower. Those who have only an unheated greenhouse can keep it gay with these flowers from January to May.

For Descriptive List of inexpensive Daffodils, see Advertisement in THE GARDENING WORLD, Nov. 13th; or send for B. & S.'s Illustrated Daffodil Catalogue, free on application.

BARR'S ASSORTMENTS of INEXPENSIVE TRUMPET DAFFODILS, for beds, borders, shrubberies, pot culture, and for naturalisation in grass, woodland walks, beside lakes, streams, or ponds, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range in price from 4s. 6d. to 95s.

BARR'S ASSORTMENTS of NEW or RARE TRUMPET DAFFODILS, for beds, borders, and pot culture, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range in price from 7s. 6d. to 130s.

BARR'S ASSORTMENTS of INEXPENSIVE NONSUCH, PEERLESS, EUCHARIS-FLOWERED, &c., DAFFODILS, for beds, borders, shrubberies, pot culture, and for naturalisation in grass, woodland walks, beside lakes, streams, or ponds, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range in price from 3s. 6d. to 75s.

BARR'S ASSORTMENTS of NEW or RARE NONSUCH, PEERLESS, EUCHARIS-FLOWERED, &c., DAFFODILS, for beds, borders, and pot culture, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range in price from 5s. 6d. to 130s.

BARR'S ASSORTMENTS of POETICUS, GARDENIA-FLOWERED, PRIMROSE, PEERLESS, BURBIDGEI, &c., INEXPENSIVE DAFFODILS, for beds, borders, shrubberies, pot culture, and to naturalise in grass, woodland walks, beside streams, lakes, and ponds, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range in price from 4s. 6d. to 95s.

BARR'S ASSORTMENTS of NEW or RARE POETICUS, GARDENIA-FLOWERED, BURBIDGEI, &c., DAFFODILS for beds, borders, and pot culture, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range in price from 4s. 6d. to 42s.

BARR'S ASSORTMENTS of INEXPENSIVE DAFFODILS, embracing Trumpets, Nonsuch, Poeticus, &c., for beds, borders, shrubberies, pot culture, and to naturalise in grass, woodland walks, beside streams, lakes, or ponds, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range in price from 3s. 6d. to 150s.

BARR'S ASSORTMENTS of NEW or RARE DAFFODILS, embracing Trumpets, Nonsuch, Poeticus, &c., for beds, borders, and pot culture, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range from 5s. 6d. to 130s.

BARR'S COMMEMORATIVE "DAFFODIL CONFERENCE" set of choice Narcissus, embracing nearly all the sorts of Daffodils exhibited on the occasion of the sitting of the Conference, April, 1884, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range from 63s. to 300s.

BARR'S ASSORTMENTS of the MANY-FLOWERED INEXPENSIVE DAFFODILS (Polyanthus Narcissus), for beds, borders, and pot culture, fully detailed in THE GARDENING WORLD, Nov. 20th. The assortments range from 3s. 6d. to 21s.

CHOICE MIXED MANY-FLOWERED DAFFODILS, per 100, 12s. 6d.; per dozen, 1s. 9d.

FINE MIXED MANY-FLOWERED DAFFODILS, per 100, 10s. 6d.; per dozen, 1s. 6d. (Continued on p. 206).

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Next Week's Engagements.

MONDAY, Nov. 29th.—Meeting of General Committee of the National Chrysanthemum Society.—Bulb Sale at Stevens' and Protheroe & Morris's Rooms.

TUESDAY, Nov. 30th.—Special Sale of Orchids in Flower at Protheroe & Morris's Rooms.—Sale of Camellias, Azaleas, Roses, &c., at the Central Auction Rooms by Protheroe & Morris.

WEDNESDAY, Dec. 1st.—Sale of Lily Bulbs at Stevens' Rooms.—Sale of plants: Roses, Bulbs, &c., at Protheroe & Morris's Rooms.—Two days' Sale of Specimen Plants from the Colonial Exhibition and other Stock at the Pine Apple Nursery, Edgware Road, by Protheroe and Morris.

THURSDAY, Dec. 2nd.—Great Sale of Dutch Bulbs at Protheroe and Morris's Rooms.

FRIDAY, Dec. 3rd.—Important Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, Dec. 4th.—Sale of Dutch Bulbs at Protheroe & Morris's and Stevens' Rooms.



"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 27, 1886.

THE POTATO TERCENTENARY.—Whilst a pretence is being made in London to celebrate in some technical fashion, next month, what is assumed to be, in the present year, the tercentenary of the introduction of the Potato into this country, it happens oddly enough, and yet with unquestioned justice, that a really *bonâ fide* celebration of that interesting historical event has been in process of development elsewhere; not a mere spasmodic and dubious celebration, but one absolutely in accord with the requirements of the case. The peculiarity of that celebration is this, that although the Potato has been with us this 300 years, and has essentially become a most important and valuable food element, yet it has of late displayed tendencies of an epidemical form, which have in certain cold and comparatively sunless seasons been productive of great loss, and also of dismay amongst growers.

For some reason or other, probably climatic, but possibly from the enterprise of Potato raisers, we have for two or three years past found this epidemic shorn of its terrors, and its effects have been trivial. Still, we have seen in the plants, if not in the tubers this year, that the Peronospora was terribly lively, and may at any time, favoured by a cold summer, again almost decimate our Potato crops. How it was that after some 250 years of comparative health in the Potato plant, so far as we now know, this disease should have suddenly settled upon Europe, and proved so disastrous and alarming in its effects, it is hard to say; and the most learned, as well as the most fertile of fungologists have been at a loss to account for the appearance of the disease here some forty to fifty years ago. The fact remains that it was so; and although during that long period it has

been thoroughly diagnosed, and we know it fully in its worst aspects, yet its coming remains as much a mystery as does the probable date of its departure, should that desired event ever occur.

Varying in its dread effects, more or less, according to seasons, some three or four years since, after several seasons of distressing mischief to the Potato crop, the Royal Agricultural Society of England, under the inspiration of Lord Cathcart, promoted an inquiry into the disease, into modes of checking it, and also into the desirability of originating new varieties which might possess absolute disease-resisting properties. That such work, fraught as it was with interest to the entire nation, should have been undertaken by a comparatively private society rather than by the Government through its costly establishment at Kew, is as creditable to the former as it is discreditable to the latter. However, the work was undertaken, and on behalf of the society, by none with greater zeal and industry than by that eminent horticultural and agricultural seed firm, the Messrs. Sutton & Sons, of Reading. We would premise further observations by saying that some kinds of Potatoes—notably, *Magnum Bonum*, *Champion*, *Chancellor*, and others—have been put into commerce of late years, which have undoubtedly, but not absolute, disease-resisting powers, and the firm just mentioned merits the warmest thanks of the nation for having been the pioneers of this good work, in putting the first-named kind into commerce; for it is no figure of speech to say that the famous *Magnum Bonum* has been a great instrument in converting previously lean crops into breadths of wondrous abundance.

In spite of these benefits, however, it was felt of the first importance that the suggestions of Lord Cathcart's committee should be carried out, and in so doing the Messrs. Sutton became the chief and most intelligent agents. The Kew authorities, through Mr. J. G. Baker, published descriptions of various undoubted tuber-bearing species of the *Solanum* family, including *S. tuberosum*—the assumed (and, doubtless, correctly so) parent of our present edible Potatoes—*S. Fendleri*, *S. Jamesii* and *S. Maglia*; the latter a native of Chili, and believed, because coming from a colder region than *S. tuberosum* did, as most likely to give satisfactory results. Tubers, small and insignificant enough, seemingly, of what was said to be *S. Maglia*, were obtained from Kew by Lord Cathcart, in 1883, and that nobleman, in March, 1884, furnished Messrs. Sutton & Sons with some tubers about the size of boys' playing marbles. These were planted at Reading the same season, and grown with exceeding care under glass. It was late ere blooms, which would bear fertilisation, were produced; but, finally, after much trouble in finding pollen-bearing flowers on some garden Potatoes, flowers were eventually obtained from Mr. Robert Fenn, who had some on one of his Anglo-American cross products, a fine seedling, which he had named *Antagonist*—a longish white kind, rather rough looking, but of the finest table quality. Without doubt, the Messrs. Sutton were exceptionally fortunate in obtaining so useful a parent, because it possessed plenty of stout healthy pollen grains, and the cross in the case of the assumed *Solanum Maglia* proved to be eminently productive of seed. The assumed *S. Maglia*, it may be mentioned, as grown at Reading, proved to be very robust, and plainly evidenced characteristics almost identical with those seen in strong-growing Potatoes.

In 1885, the seeds saved from the cross were sown, and produced of tubers varying quantities per plant, from an ounce or two up to a couple or more pounds' weight. Some of the seedling plants were also much earlier than others, and altogether the influence of the pollen parent Potato was so manifest that the firm had every

reason to congratulate themselves on the marked success of their public-spirited efforts. Again, this year, the produce in tubers of all the seedlings was planted, with very varied results, some giving but a poor yield, others truly marvellous results, in some instances showing an increase of a hundredfold, 1 lb. 5½ oz. producing 120 lbs. 6 oz. of good tubers, as will be seen by the statistical details given on p. 199. In some cases the products are white, in others not unlike those of the *Early Rose*, in others roundish, and otherwise varied; some, indeed, both long and round, being quite handsome. Thus, as it were, in one single leap, simply by the application of the pollen of a first-rate modern cultivated Potato, we see created equal to what had been accomplished during nearly 300 years previously. Those who, like ourselves, were last week favoured with a view of these new cross products, could not but admit that a wonderful amount of interest has characterised the efforts of this eminent and public-spirited firm; and that the show of tubers, as presented to us at the Reading Nursery, was a remarkable one, because it afforded evidence that not only had a great effort been made to meet the suggestions of Lord Cathcart's committee, but also that the effort had resulted in marked success.

If we again remark upon the fact that a work of this kind should have been, as it were, left to the public spirit of a private business seed firm to carry out, at least we have the satisfaction of knowing that it has been done, probably, far better than would have been the case had the Kew authorities undertaken the task. Still farther, the Messrs. Sutton & Sons readily grant all possible information, and withhold nothing; hence it is that we are enabled to place the public in full possession of all the facts connected with this interesting and very important experiment. And now—thanks also to the frankness and fairness of the firm—we have to record an incident in relation to this matter which, whilst humiliating, is yet one which, in the end, may prove cause for congratulation. After all these three years of earnest labour, of anxious watching, and disinterested cultivation, it is found, on the authority of the Kew people themselves, that the assumed *Solanum Maglia* supplied by them to Lord Cathcart, and by that nobleman to the Messrs. Sutton & Sons, is but the progenitor of our present Potato, *Solanum tuberosum*; and it may be said the firm have been only travelling over the old road again. Mr. Arthur W. Sutton, who has been so earnest and active in supervising these experiments, not only drew Mr. Baker's attention to the species he had as *Maglia*, and which Mr. Baker pronounced to be *tuberosum*, but Mr. Sutton went to Kew, and there saw for himself that he had been on the wrong track. Not only were tubers of both *Maglia* and *tuberosum* sought for and found—the former, after some searching, proving small and valueless, whilst the latter gave fair-sized tubers in abundance—but cuttings of each kind were brought away also, and these being struck in warmth, were potted singly; and eventually it was found that whilst those of the assumed *Maglia*—the real *tuberosum*, as it proved—both made tubers and ripened off, the *Maglia* did neither, but continued to grow; and so far from being an herbaceous annual, is evidently a greenhouse perennial, and, maybe, will need Hop-poles to sustain the plants if grown on in heat through the winter.

These plants show very long intricate stolons, yet tuberless, to have been formed in the pots; but, at least, ample evidence has been afforded that, for all practical progenitive purposes, *Solanum Maglia* is valueless; and the congratulation referred to arises from the fact that, through an act of grave carelessness in

a national and costly establishment, and which concerned a matter of the greatest national importance—whilst all the hopes of the Messrs. Sutton and Lord Cathcart, in a certain direction, have been dispelled, they have at least been saved from disappointment of a more serious nature, as it is too plainly evident that any disease-resisting Potatoes of the future will never have *Solanum Maglia* as a parent.

It is obvious that the firm, feeling that some failure had thus attended their efforts, might have kept the results secret, and left the public none the wiser. That might have seemed a politic, but it would not have been a honest course to adopt; and with that candour and probity which has ever characterised the Messrs. Sutton, nothing has been held back, nothing kept secret. In spite of the disappointment which has resulted from the error, they are pleased beyond measure; they think their experiments, even though conducted with Sir Walter Raleigh's *S. tuberosum*, have been wonderfully successful, and so do we, and, therefore, offer them hearty congratulations. It is worthy of note that Lord Cathcart himself is not only positive that he sent the firm tubers of the kind received from Kew as *Solanum Maglia*, but also adduces corroborative evidence from his employés to that effect. Naturally the public will look for some enquiry into the way in which work, which so greatly concerns their welfare, is performed at the Kew national establishment. We have been somewhat prolix, perhaps, in referring to this subject, but we conclude, as we began, by saying that what has been so well done at Reading by the Messrs. Sutton & Sons, forms by far the best and most useful national celebration of the Potato tercentenary.

WE regret to hear that, on account of serious ill-health, Mr. Edward Tidswell, who succeeded the late Mr. Wrench, as Treasurer of the GARDENERS' ROYAL BENEVOLENT INSTITUTION, has felt it necessary to resign that office. His resignation was accepted with deep regret at a meeting of the committee of management, held on the 18th inst.; and Mr. Harry J. Veitch, of Chelsea, was unanimously elected to the office. We congratulate the committee on their selection, than which no better could have been made. Mr. Veitch's unique position in the horticultural world, his admirable business qualities, his well-known sympathy with the objects of the Institution, and his personal influence with the craft eminently fits him for the duties of the office; and we trust for many years to come another change will not be necessary.

At the same meeting of the committee it was decided to make another addition of ten pensioners to the list in January next, six to be admitted without election according to rule 6, they or their husbands having been subscribers for fifteen years; and four out of a list of seventeen candidates will be elected by vote.

WE understand that Mr. C. HAYCOCK, lately gardener at Barham Court, near Maidstone, has been engaged as gardener to R. Smith, Esq., Goldings, Hertford, and that he has been succeeded at Barham Court by his foreman, Mr. Woodward.

It has been arranged that, during the ensuing winter session of the Manchester Horticultural Improvement Society, Mr. Booth shall speak about Chicago, its parks and boulevards; Mr. Abraham Stansfield will offer some suggestions as to the best town trees; Mr. Petch will have something to say about fruit trees, their selection and culture; Mr. Birkenhead will give a few thoughts on Ferns and their culture; Mr. Forrester and Mr. Cashell will address the members on some of our common insects and garden aquatic plants respectively; Mr. E. G. Hughes will speak about horticultural manures; and at the final meeting of the session, Mr. Butterworth and Mr. Hadfield will read papers on the fertilization of plants, and clay soils and their improvement respectively.

THE Twickenham Chrysanthemum Show, held on the 17th and 18th inst., was one of the finest exhibitions that has yet been held there; the collections of cut blooms, vegetables, &c., surpassing all previous displays.

A MEETING of the general committee of the National Chrysanthemum Society will be held at the "Old Four Swans," Bishopsgate Street, City, on Monday evening next, at seven o'clock.

MESSRS. LUCOMBE, PINCE & Co., of Exeter, have a fine private exhibition of Chrysanthemums, which, we understand, occupies one of their largest houses.

MR. J. A. CROWE, Her Majesty's Commercial Attaché, states that one of the causes which led to a bad Grape harvest in France is mildew, by which the provinces of Champagne, the Orléanais, Anjou, and the Nantais have more particularly suffered. Contemporary with the failure of the vintage as a whole is the failure of the Apple crop in Normandy and Brittany, where the fruit is neither abundant nor cheap.

At the annual dinner of the Royal Jersey Agricultural and Horticultural Society, on the 18th inst., it was stated that the POTATO EXPORT TRADE this year brought in £200,000. The total area in the island available for the crop is 20,000 acres. Gen. Ray, governor of the island, exhibited samples of Tobacco grown and cured by himself.

THE second edition of Mr. Lewis Castle's treatise on ORCHIDS being exhausted, a new edition will be published in a few days.

MR. D. McFARLANE, florist, Olive Mount, Wavertree, Liverpool, died suddenly in the stoke-hole adjoining his dwelling-house on the 20th inst. He was formerly gardener for some years at Knowsley Cottage, and was highly respected by the local horticulturists.

MR. C. E. BROOME, of Elmhurst, near Bath, the well-known authority on Fungi, died in London on the 15th inst., aged seventy-four years.

WE regret to hear that Mr. CHARLES GREEN, formerly gardener to the late Mr. Wilson Saunders at Hillfield, Reigate, and to Sir George Macleay at Pendell Court, Bletchingly, died on the 10th inst.

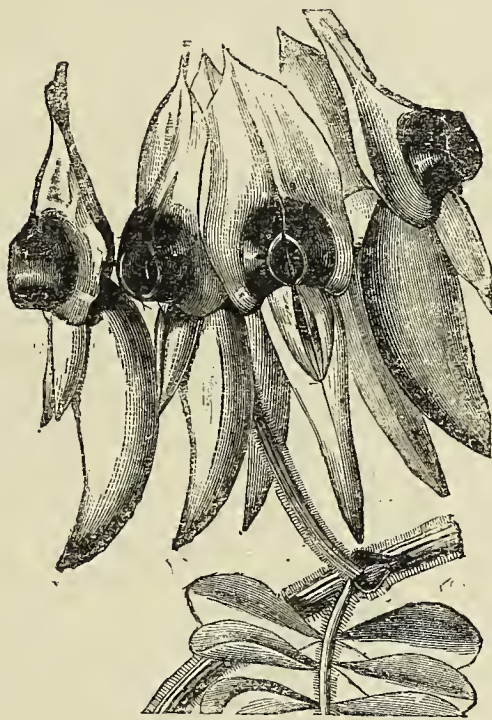
A FLOWER SHOW ON EEL PIE ISLAND.—The well-known Eel Pie Island, an eyot in the River Thames, at Twickenham, was, on Friday and Saturday of last week, the scene of a capital little exhibition of Chrysanthemums, fruits, vegetables, &c., the first of its kind ever held on the Island, which we are glad to see is being altered and greatly improved by Mr. Clifford, the proprietor. The exhibition was held in the billiard-room, which was decorated with flags for the occasion. In the open classes Mr. G. Allen, gardener at the Island, took the first prizes for Chrysanthemums, fruit and cut flowers, and also won the Silver Cup for the best collection of vegetables. In the cottagers' classes Mr. J. H. Gilbert took first for Potatoes, Cabbages and four kinds of vegetables; Mr. Phillips took first for Onions and Parsnips, and Mr. Mason for celery. Mr. W. Gordon, nurseryman, Twickenham, showed a pretty group of Chrysanthemums, Orchids, Palms, Ferns, &c.

PLANTING TREES AND SHRUBS.

WHAT to plant is as important a subject as when and how to plant. Which are the trees and shrubs that should be selected depends mainly on the size and purpose of the intended plantation; and partly, too, on its soil and the climate. There is a great variety in the objects for which planting is undertaken, and the special scope of each should be kept in view when selecting the subjects regarded as most appropriate. It is not necessary that any allusion should be made to forest planting in this relation beyond this, that in order to do it well, the same minute care recommended in planting ornamental trees cannot be extended to forest planting, as in such an undertaking it would involve too heavy a cost. And then, in reference to park planting, to lay out and plant a park artistically is the highest effort of the landscape gardener's art. Some men are born with a peculiar aptitude for seizing at a glance all the salient features and inherent capabilities which a given area presents for the exercise of their natural taste and development of natural beauties. No written directions can supply the place of a practical man, gifted with good taste, and possessed of experience.

But in the matter of planting pleasure grounds and shrubberies, we may venture upon a few remarks. Much depends upon the size and area to be planted. The more spacious it is, the more of the larger kinds of trees will be required. In a long border of simple width, the background should be formed of the tallest coniferae, interspersed with deciduous trees of the

greatest size. In front of these should come an admixture of deciduous trees of the second size, mingled with coniferae and evergreens of corresponding height; whilst the foreground will consist of the smallest species of evergreen and flowering shrubs, tapering off with a border some 8 ft. or 10 ft. wide, to be devoted to herbaceous and other dwarf plants. Formality and stiffness should be avoided by irregularity of distances between the trees, so as to present nothing like the appearance of rows or straight lines. A few (not many) Lombardy Poplars thrown in at irregular intervals will contribute to break the lines. In these, and, indeed, in all plantations, those trees, which from their beauty or rarity, or other claims to preference, it is intended should be permanent, should be planted at such intervals as that, when they attain their full maturity, they shall not interfere with each other; and the less valuable trees that meanwhile fill the spaces between them, can be removed gradually as they become too crowded. The planter should not, therefore, place very choice trees or shrubs too near each other in any plantation, large or small. The above directions as to the mode of planting large spaces can be applied to smaller borders, and to clumps and shrubberies of all shapes. Specimen trees on lawns, &c., need to be planted with much discretion, and with due regard to the fitness of things. It is a mistake to unduly cut up grassy



CHRYSANTHUS DAMPIERII.

expanses by dotting too many single specimens about them, or worse still, too many flower beds in small clumps over its surface. What single specimens are planted should be of the very best for the purpose, and be also rare in character. If conifers, the lowermost branches should feather to the ground; if deciduous trees, they should be of such a character of growth, as that when the branches are allowed to ramify 5 ft. or 6 ft. high on the trunk, they should dip to the ground, as in the case of the Tulip tree, the Catalpa, Horse Chestnut, and many others. Amongst these may also be interspersed a few pendulous trees, which, when not too numerous, add a peculiar grace to the scene. A tall tree, with a straight unbranched trunk, that rears its head aloft, and forms a head 50 ft. or 100 ft. above our reach, is, indeed, a noble object, but would be quite out of place in the centre of a lawn.

THE GLORY PEA.

As in my experience so many gardeners fail to grow the very handsome Chrysanthus Dampieri successfully, may I hint that the most probable cause of failure is the too short season of growth allowed, owing to the wrong season of sowing which many adopt. I am very successful with the plant myself, and my practice is to sow the seeds singly in small pots at this season of the year, placing them on a shelf near the glass in a warm greenhouse, where germination takes place towards the beginning of the new year. When the plants are an inch or so in height, I shift them into large 60's, and

afterwards, when they are strong enough and only just rooted through the soil, I give them their final shift into 10-in. pots, taking care in this, as at the former potting, not to break the ball. The compost I find them do best in is two parts turfy loam, one of peat, and the remainder of leaf soil and sand in equal proportions, the whole being broken and mixed by the hand and not chopped up. Until seen to be vigorously growing the plants require to be carefully and even sparingly watered, but afterwards plenty of rain water may be given them. It need hardly be said that once the plant is established it is, strictly speaking, a cold and rather dry house plant.—*Austral.*

CHRYSANTHEMUM MONO-GRAPHICUM.

THE editor of the GARDENING WORLD, in calling my attention to a leading article bearing the above title which appeared in this journal on the 13th inst., has desired me, as one much interested in all concerning what is there very aptly described as a democratic flower, to give him such observations as might occur to me upon the subject. It is with no small degree of satisfaction that I accede to his wish, because it has frequently been a source of wonder to me that some such publication as is now suggested has not already become *un fait accompli*.

With regard to the enormous popularity acquired by the Glorious Queen of Autumn, as our American cousins delight to call it, nothing need be said, as there are but few persons connected with the horticultural world who would venture to dispute the assertion that no other flower of modern times can claim to be a rival in the hold it has taken upon the million, and it is open to question whether even the inhabitants of the Flowery Land can vie with us in the enthusiastic admiration displayed in this country for their favourite flower.

Chrysanthemum cultivators are now a large and important section of the floricultural world, and, in their interest, a magazine, either weekly, monthly, or quarterly, well illustrated and produced in first-class style, would undoubtedly be supported in a liberal manner. It would be the means of not only imparting much useful information on many points, but would settle queries regarding the origin, parentage, and dates of distribution of the multitude of flowers, both ancient and modern, and of which we know so little.

The Chrysanthemum magazine might be made the medium of disseminating a better knowledge of some of the older forms of flowers, long since departed from the collections of the growers of these latter days. Then, again, experienced hands might detail special points of culture regarding certain capricious varieties, of which there are some which never appear to thrive with any satisfaction to the average grower, and only bloom once in a lifetime. Hints, advice, precautions to be taken and a mine of useful knowledge, might be relegated to their proper columns in the new periodical, and a mass of matter only acceptable to the genuine Chrysanthemum grower might find a place in this special journal, which matter may now very often not be considered suitable for the generality of the subscribers to the established organs of the horticultural press.

We should, however, be compelled to insist upon a special column which could bear the appropriate heading of the "Literary bear garden," in which those who desire to disport themselves in print could have their fill. All kinds of questions, stupid and otherwise, would be asked and answered by "Constant Readers," "An Old Grower," "Mr. Dunderhead," "Mr. Know All," "Mr. Gratte Papier," *et hoc genus omne*.

The National Chrysanthemum Society, it is true, might embark upon such a venture, but it is doubtful whether it could spare the necessary funds, for some years to come at least, to produce, as a matter of speculation, a magazine or review of the nature now suggested; and the coloured illustrations, it ought also to be borne in mind, is so serious an item in the way of prime cost, that I am sure the first estimate for that part of the business, would be a subject for very grave consideration.

I do not quite agree with the statement made by the leader writer, when he says "that it is unfortunate that we have on paper scarcely any record of the development of the Chrysanthemum pictorially." There are many illustrations of this flower in the different works

on horticulture, but they are hardly known. There is, certainly, one member of the national society who has a large number of coloured engravings of the "Mum." To my knowledge he has nearly all of the published plates of the very old varieties which came originally from China towards the end of the last, and the beginning of the present century, besides numerous others of more modern times.

Should they be likely to prove of any service in the preparation of a work like that contemplated by the writer of the article now under consideration, there is no doubt but that the owner of this collection would give his co-operation to anything tending to the achievement of that object.

I cordially endorse the assertion that the Chrysanthemum merits a monograph, and a really good one too, and to this end perhaps some of the readers of THE GARDENING WORLD will favour us with their views upon what is one of the most valuable propositions that has emanated from the pages of the gardening press for many years past.—*Chrysanthemophile*.

RENOVATING VINES.

HAVING been very successful in lifting and replanting a house of Muscat Vines here, the results already being considerably above my expectations, it has occurred to me that the details on our mode of procedure may, perhaps, be of use to some of your readers. Having found the Vines to be much subject to shanking, that the wood did not ripen properly, and that, consequently, the crops for some previous years had not been at all satisfactory, I determined upon lifting the roots, in view of ascertaining and correcting the cause if possible. The Vines are old, some of the individual stems measuring 9 ins. to 10 ins. in girth, and they are planted on an inside border 5½ ft. wide and 3½ ft. deep; it was in the first week of October of last year that the operation was performed. Having decided upon lifting the roots, a short time previous to disturbing them I allowed all the young growths the Vines were disposed to make to extend, so as to keep the sap in motion as much as possible. The soil I had prepared in readiness was made up at the rate of five cartloads of sound sweet loam to one of wood-ashes and lime-rubble, and a good rich sprinkling of ½-in. bones, all thoroughly mixed together. I then had the remainder of the Grapes cut and bottled in the usual way, and heavily shaded the Vines, so that on exposing the roots we should have little, if anything, to hinder us, as to lift and replant the roots as quickly as possible is, in my opinion, a matter of considerable importance.

I then, using a four-tined fork, opened a narrow trench half-way along the border, opposite the Vines, and removed a considerable amount of soil before we came upon any roots worthy of being so called. These we carefully tied up; but on approaching the stems of the Vines, we found, and not to our surprise, that nearly all the principal roots had penetrated the drainage, and got down into the cold sub-soil, which doubtless was the entire cause of the shanking. The roots, however, were traced as far as possible, and then cut off and tied together with the rest to the stems of the Vines, which were at once syringed and covered up with wet mats. When the drainage had been put right, and the border refilled with the new compost, I made an examination of the roots, and those that I found had been injured, I had cut off with a keen-edged knife, and all along the long bareless ones I made incisions at intervals of 8 ins. to 10 ins. The roots were then evenly spread over the border, and covered up to the depth of 6 ins. to 8 ins. The other half was done in precisely the same manner.

After completing the whole of the border, one good watering was given with tepid water, and no more till spring; but the border was heavily mulched. I kept the house entirely closed for a few days, syringing the Vines two and three times a day, according to the state of the weather. The young growths that were allowed to extend previously to disturbing the roots, flagged for a few days, but soon recovered and grew away freely. The shading was then gradually reduced, and air given, and increased until the Vines had sufficiently recovered to withstand ordinary treatment. The only different treatment that they subsequently received was that they were not hurried into growth in the spring; they were cropped somewhat lighter, and each Vine was allowed to make a young rod, and considerably more foliage, to encourage root action as much as possible to

finish off the crop, which is excellent considering those of previous years. I forward you No. 1, a piece of lateral growth which has already carried a nice even bunch; No. 2, a piece of a young rod, 15 ft. long, and also a few berries.—*H. Markham, Mere worth Castle*. [The practice was sound, and the results admirable.—*Ed.*]

ASCOT IN SUMMER AND WINTER.

For a few days in the month of June, royal Ascot is the scene of one of the gayest, wealthiest and most exciting gatherings in the world; perhaps it is one of the largest also. In any case, just then all the world seems attracted to this Berkshire heath; but the attraction is fleeting, the few days soon pass, and once more all is quiet and subdued. How many of those, who, under the exciting influence of the racing, pause to admire the very charming views of Windsor Forest, the heath itself and the large expanse of beautiful country spread out before them, it would be hard to say; but it must be admitted that the sport, such as it is, can hardly find charms so enjoyable as the scenery. And yet we greatly doubt whether even leafy June, with all its rich verdure and glowing sunshine, produces so much of varied colour in the foliage and beauty in the landscape, as was to be seen on the morning of November 17th.

It is true the early morn was miserably wet, and calculated to damp the enthusiasm of the warmest admirers of beauty, whether of flower or of scenery. Happily the sun broke through later, and then the visit to the royal heath and an ascent to the top of one of the lofty stands which command the race-course, was well repaid by the prospect. All over a wide extent of woodland, many miles in area, the Oak, Elm and Beech, were of a glorious yellow, buff, or brown, and intersected with these tints were the heavy and beautifully contrasting greens of Fir so abundant in this quarter. The sweet serene peacefulness incidental to the place stood in strange contrast to the hideous din, the terrible pandemonium of which the stand we were on, and the enclosure beneath, was the scene in the month of June; and, instead of hundreds of thousands of persons, forming a moving kaleidoscope, hardly a living being was to be seen. Ascot in June may be a wonderful sight; Ascot in November certainly is a very peaceful and lonely one, and, to us, far the more enjoyable.

But we are in danger of forgetting that our mission here was not to indulge in pastoral reveries, but rather to partake in the more prosaic work of reporting the proceedings of a Chrysanthemum exhibition; for the floral fever which rages so strongly in the kingdom has not left Ascot and its neighbourhood unscathed. Indeed, so far from this being the case, we have cause to marvel at the large number of growers of the Chrysanthemum in this comparatively thinly populated district, and still more to appreciate the exceeding beauty found in the exhibits. Success in flower-growing has no royal road, but certainly royal Ascot seems to have found the way with considerable ease. The exceedingly extensive area of the ground and buildings attached to the Ascot grand stand would astonish many persons, and the huge dining-hall affords ample area for the cut flowers and fruits with many of the plants; whilst the groups were disposed in an entrance corridor.

Lighting arrangements are quaint in these days of gas and electricity, for the famous firm of Price's Patent Candle Company had been laid under contribution to furnish some hundreds of their admirable composite candles, and these, lit up later in the day, gave a weird and yet pleasing light, which was most enjoyable. In out-door places Chinese lanterns were brought into play, with excellent effect. Probably, few Chrysanthemum shows have been held this season under stranger or more interesting auspices. The arrangements we regret to refer to without approbation. Owing to extreme laxity on the part of the committee and exhibitors, the judging could not commence till mid-day, and did not conclude till late in the afternoon; the work, especially in the cut-flower classes, proving very heavy. Still farther, the system of ticketing the exhibits—about the worst in the kingdom, which must be costly and very troublesome—seemed fashioned to create work and annoyance. Each exhibit was marked by a ticket bearing the exhibitor's number in the entry book, the exhibitor's and gardener's name being placed on each exhibit, but no address was given. Finally, the prize cards, in various hues, printed in gold and absurdly expensive, also

with the exhibitor's name only on them, were added; and reporters striving for information were terribly hampered. The prize cards were of such hues that the writing on them was peculiarly indistinct. The whole arrangement was born of distrust and ignorance—distrust of the undoubted honour and integrity of the judges, of which all honest men should be ashamed, and ignorance of the commonest elements in flower show management.

One simple and clearly printed set of entry cards, in plain black and white, prepared at the secretary's leisure, with a space on each on which to gum the prize labels as fast as the awards are made, is the plan in operation at all the leading shows, and if good enough for these, it certainly might answer even for such a superior exhibition, as is that at royal Ascot. We have referred somewhat forcibly to these defects, because it is a misfortune when a good show—and one calculated to grow into a leading show—should be injured by such weaknesses.

Briefly, now, we must mention that the groups of Chrysanthemums were excellent, the best, having superb blooms, coming from Mr. Hughes, gardener to D. F. Paravicini, Esq., Ascot; whilst Mr. Lane, gardener to Miss Smith, ran him close, having dwarfier plants with fine blooms a little past. Mr. Lane, however, was first with six trained plants, really good, and also with three fine standards. Pompons were very good indeed, and also table plants: Chinese Primroses, Solanums, &c., wonderfully plentiful and good. The best decorative group of mixed plants comprised many singularly valuable and beautiful Orchids, set in good foliage plants, sent by Mr. Paine, gardener to S. D. Bowring, Esq., Windsor Forest. There were several of these groups, and Messrs. J. Standish & Co., Ascot had a large group of Chrysanthemums, set in Palms, Ferns, Bonvardias, &c.; and some bunches of Bonvardias which were most beautiful. Messrs. Sutton & Sons, Reading, staged a fine collection of sixty dishes of Potatos, with some handsome hardy Kales; and Mr. Collings, of Sunninghill, sent a fine mixed collection of garden produce.

Cut flowers were unexpectedly fine, the best eighteen incurved and eighteen Japanese coming from Mr. Tomline, gardener to T. Ashby, Esq., Sunninghill; the best eighteen incurved from Mr. Strong, Wellington College; and Mr. Lane the best twelve blooms, whilst the best six incurved of one kind were grand: Empress of India and the duplicate class of Japanese, Belle Pauline, Japonaise and J. Délaux, were very beautiful. Mr. Page, gardener to A. Southerd, Esq., had the best eighteen Japanese, grand blooms; and Mr. Lane the finest twelve blooms. All the other classes were good and well filled. Fruit was good, Mr. Lane having the best black Grapes in Alicante; and Mr. Wells the second best in Cooper's Black, and was also first for six vegetables. White Grapes, Apples, Pears, &c., were fine and plentiful.

GARDENING NOTES FROM SCOTLAND.

North of Scotland Horticultural Society.

—At the monthly meeting of this society, held in the Christian Institute, Aberdeen, on Friday evening, 19th inst., Mr. Alexander Cumming, forester, Huntly Lodge, Huntly, Aberdeenshire, read a very interesting paper on "The Effects of Trees and Plantations on Climate and Crops." Mr. Cumming described trees as a provision of nature to make the earth a fit habitation for man, and proceeded to speak of the influence of trees on our climate. Trees absorb moisture and the means of subsistence from the earth and the atmosphere. But although rooted to the earth, and taking a certain amount therefrom, they draw the greater part of their nourishment from the atmosphere. Speaking of the office of trees in distributing carbonic acid gas, he explained that their leaves under the influence of sunlight draw in carbonic gas to the extent of one part of carbon to two parts of oxygen. The carbon is retained, and the oxygen given out again to purify the atmosphere and sustain man. In the darkness, also, the leaves of trees and plants give off carbon, but in much smaller quantities. Again, the moisture which trees absorb from the earth is discharged into the air, thus promoting that genial moisture which is so conducive to healthy life. Trees and plants being so beneficial to the atmo-

DEVELOPMENT OF SILLOTH.—The public who are on the outlook for new watering places, will be glad to learn that the directors of the North British Railway Company have just taken a step towards the development and improvement of Silloth, with a view to increase the attraction of the general public, and to induce builders to provide further much-needed accommodation. The directors have sought the advice of Messrs. Little & Ballantyne, of Carlisle, who have executed a plan for providing shelter and ornament, by breaking up the great stretch of green sward, between the parade and the sea, by ornamental belts, mounds, rockeries and clumps of flowering and evergreen shrubs. The health-giving Pine, so great an attraction at Bournemouth, will be largely employed, and the whole appearance of the town and recreation grounds will be completely altered and largely extended. A public meeting has just been held at Silloth, in order to support the movement of the railway directors, by resolving that a small rate be levied to provide funds for planting all the streets of the town with avenue trees, and thus give them the appearance of eontiuental boulevards. The trees will be planted 30 ft. apart, and will line each side of the whole of the streets. They will consist of Sycamores, Norway Maples, Elms, Chestnuts, Limes, &c. Much satisfiaction was expressed by the citizens at their meeting, of the action taken by the railway company, and of the general scheme as proposed by Messrs. Little and Ballantyne.

PEARS v. PEACHES.

I AM constrained to say in reply, "Tardy Mr. Simcoe," and to attribute the tardiness, not to others having refrained from criticising my notes, but from the summer of 1886, in addition to that of 1885, having proved so very favourable to the ripening of the wood of Peaches cultivated out of doors; hence Mr. Simcoe's gratifying results. My notes were made as the result of several years' close observation, and may be taken as applying to very many, for it is generally acknowledged that in a great many localities it is next to useless to attempt to grow good Peaches out of doors. Seasons, no doubt, when unfavourable at certain stages, render extra care absolutely necessary, more particularly after the fruit is set; but when I tell Mr. Simcoe that I have purchased the very best trees procurable at most of the leading nurseries, have carefully planted them in good maiden loam, and every after attention has been paid to them, at the end of five years I have been compelled to remove those same trees and re-plant, without so much as having had a single fruit from them—this season I have already removed two such delinquents in Hale's Early and Marquis of Downshire—surely I may be pardoned for having advocated the planting of our better sorts of Pears in lieu of Peaches, when, with all the care bestowed, no benefits accrue.

Mr. Simcoe is evidently "in Clover without the lay." To such my notes were not addressed, but only to those placed in similar difficulties to myself. My garden is in close contiguity to the vein of brine, upon which is founded the famous Droitwich baths, and not far from the garden we have two springs; probably, these may have something to do with the failure of the cultivation of the Peach; added to which, our natural soil is very shallow, resting on a bed of fiery marl. At any rate, it is most unsatisfactory, after devoting every attention—giving due protection and so on—to have, comparatively, no return.

This season, in common with most others, we have gathered more than usual; but still no reliance can be placed upon the out-door crop, whereas, with, as I before said, trees under glass certainty is assured. I reiterate my remark as to the four v. fourteen trees. I have taken this past season over twenty dozen fruits from some of my in-door trees; by simple multiplication it will be readily seen that my remarks were fully justified, even though Mr. Simcoe appears so gratified at having gathered over 1,000 from "sixteen trees." I ought to add—in reply to his remarks on Peach culture, almost insinuating a lack of knowledge or energy—that I have some trees on the south wall now which have been systematically lifted and root pruned where necessary every two years, and these are equally as unsatisfactory as the rest, with the exception of one tree of Early York, which has this year made what I will term fairly good wood.—W. C.

STOKE-HOLES AND HEATING BY HOT WATER.

SINCE this matter was first introduced in your columns, several correspondents have given notes relative to it; but as yet none have hit upon the point where opinions, I mean practical as against theoretical, are found to differ. The practice of sinking the boiler several feet below the level of both flow and return pipes, has been so long in use, and is so generally recognised as being essential to a proper circulation of the water, that it almost seems a piece of heresy to dispute it. And if the subject is ever approached with a view of questioning the soundness of the practice, it is almost certain to call down upon us the condemnation of the theoretical, or I may say, the scientific party.

I think all who have had to do with a system of heating by means of hot-water pipes are thoroughly agreed as to the soundness of the principle that a rise in the pipes is necessary to ensure a good circulation—I will not say a rapid one; but it is here that the engineers and what I may call the new school of practitioners choose to differ. And the real point at issue is this, whether in doing away with deep stoke-holes and so fixing the boiler at, say, 1 ft. below the level of the return pipe, as good and as rapid circulation cannot be ensured as by the older system. In other words, instead of having the pipes fixed so as to have a continuous rise throughout their whole length, would

the circulation not be as rapid in having that rise made vertically, or as near to the boiler as possible? No doubt in certain cases a deep stoke-hole is necessary, as, for instance, where the pipes have to be carried under paths or doorways in their progress from the boiler to the buildings to be heated.

In case I may be misunderstood, however, let me say that by the vertical rise, the hot column of water will be carried to its highest level at a point as near to the boiler as possible, and that, thereafter, the pipes would practically form return pipes, being either fixed at a level or with a gradual descent. By this means it is urged, and with every show of reason, that the return current in the flow pipe, and which is admitted to take place to a greater or less degree in all pipes having a continuous rise would be altogether avoided.

There can be no doubt that this return current in the flow pipe must be the great hindrance in the rapidity of the circulation; and it is almost obvious that the longer the distance the pipes are carried, and the higher the gradient, the greater will be the resistance of the return current. The hot water, on issuing from the boiler, will naturally seek and travel along the upper part of the inside of the pipe; while it is just as natural, according to all laws of gravitation, that this return current, being to a certain degree colder, will run down the plane, thus causing opposing currents in the pipe.

It is also an accepted theory with houses built on different levels, that as the highest point of the pipes is generally the hottest, so, accordingly, those houses placed on the highest level will be the hottest. But this is not always the case, as I can cite instances to the contrary; as also to the theory of the highest point of the pipes being the hottest. One notable instance of the latter was in a stove of 30 ft. in length by 13 ft. in width, in which the pipes at the highest end were scarcely heated, unless by exceptionally hard firing, although the rise was about 18 ins.; but the fault of this lay in the fixing of the pipes, necessitating a dip at about one-third of their length. In another instance, where the pipes were fixed in the same way, the result was the same; but upon being altered and placed on a level, with a gentle fall in the return pipe, the difference in the temperature of the pipes was scarcely perceptible to the touch throughout their length, and, in addition, not requiring over two-thirds of the fuel formerly used to keep up a sufficient degree of heat.—R. Stevens, Paston.

HUNTROYDE PARK.

BEING in the neighbourhood of Burnley a few days ago, I paid the gardens at Huntroyde, the seat of Col. Le Gendre Starkie, a visit, on purpose to have a look at the Chrysanthemums and other things of interest in this well-known place; for it was here that *Viola cornuta* was brought out to such perfection as a bedding plant, some twenty-five years ago. So far as I could learn, the grounds have undergone almost a transformation since that time, and in place of many unsightly corners and rough pieces of ground, new walks and ornamental plantations have been added. A very choice collection of conifers has been planted here, and they all appear to be taking well to their new quarters. Mr. H. Lindsay, the able gardener, who has been here about twenty years, is having all these choice plants properly labelled with an imperishable label, so that all who see them now, or come hereafter, may know what plants they are gazing upon; it would be better if many other places would follow this example. At the time of my visit, all bedding-out stuff was past its best, and both beds and borders had begun to assume their wintry garb. It was thus that the choice conifers, and especially some good plants of *Cupressus*, showed up to advantage.

Passing through several ranges of Vineries, all of which have had abundant crops of fruit, we entered a tall lean-to well filled with a general collection of useful decorative and winter-flowering plants, including a large lot of Chrysanthemums, all grown purposely for making large flowers. All the best varieties are grown; but one object is kept in view, this is to grow only such varieties as are distinct in colour. This house has every bit of space utilised, all the main rafters being covered with some useful plant for cutting flowers from, such as Tea Roses, Ivy-leaved Pelargoniums, Clematis indivisa lobata, and Lapagerias, the back wall being covered with Camellias.

Large and useful pits and frames are well filled with winter Lettuce, Parsley, French Beans, &c., and a very fine lot of Strawberries, in pots for early forcing, stand in a yard between this house and a range of stoves, Pineries and Peach houses. The Pine beds are well-filled with both fruiting and succession plants in a healthy condition. The stoves, as well as the front part of the Pineries, are well filled with a fine lot of young plants, comprising Crotons, Dracænas, young Palms, &c., all kept in small pots for table and room decoration. Several plants of *Philodendron Carderii* were beginning to make up into nice specimens.

On the roofs of these houses, and planted in the beds, are *Bougainvillea glabra*, loaded with flowers, *Passiflora princeps* and *Allamandas*. One of the houses contains a choice collection of Orchids, a specimen of which was pointed out as exceptionally rare, and had one flower open; this was *Trichocentrum albo-purpureum*. Good plants of *Phalænopsis amabilis* in flower, and *P. Schilleriana* showing flower, all very healthy; *Saccolabiums*, *Aërides*, *Angræcum sesquipedale*, *Vandas*, *Cœlogynes*, *Calanthes* and *Dendrobiums*, make up a very choice collection. The Peach houses are promising well for next season's crop, and the occupants of the early house are already swelling their buds.

This district is not a very genial one for a gardener having early forcing to do, the large quantity of rain and dull weather to be contended with not being suitable for this early work. The large Black Hamburgh Vine, which has been planted 114 years, has a house devoted specially to it. It seems to enjoy the treatment it is receiving at Mr. Lindsay's hands, and yields a good substantial crop every year; in fact, it sets such a vast lot of bunches that great quantities have to be taken off to allow the average crop to mature itself; this season over 1,100 bunches were thinned away. The whole of the glass is heated with two powerful Trentham boilers, and they appear to be doing their work well.—W. G.

THE SWEET POTATO.

THE sweet Potato (*Batatas edulis*) is, according to the *European Mail*, the main food crop at Barbadoes, where the yam is little known, whereas at Jamaica the converse is the case, the Yam (*Dioscorea*) being very largely grown all through the interior hills, while the cultivation of the sweet Potato is confined to a few places in the lowlands. The following information was obtained by the editor of the *European Mail* from Mr. D. Morris, late director of the Public Gardens, Jamaica, and now of the Royal Gardens, Kew. Since the large emigration of negroes to the Isthmus of Panama, there has arisen a considerable trade in Yams between Jamaica and Colon, to the manifest advantage, in present cash returns, of the former country. Unfortunately, the cultivation of Yams entails the cutting down of forest year by year, as good Yams seldom do well, in the manner cultivated at Jamaica, except by the "rotation of land"—a peculiar negro mode of interpreting the European idea of "rotation of crops." Hence it is not very desirable, from a general economic point of view, to extend or encourage the cultivation of Yams. With the sweet Potato, however, it is different. This can be grown without the sacrifice year by year of valuable virgin forest, and it is, in many respects, a crop well adapted to all the lowlands, not only of Jamaica, but also of the West Indies generally.

Besides being utilised directly for food purposes, it would appear that a new demand is likely to arise for the tubers of the sweet Potato in connection with the production of alcohol. The first notice of the sweet Potato being utilised in this manner appeared in a report to the Foreign Office given by Consul Hertslet on the trade and commerce of the Azores for 1884.

Owing to a variety of causes, it appears that cultivators at St. Michael's and other Islands of the Azores, who had hitherto looked upon Oranges as their staple production, were so disheartened by low prices and the diminished crops yielded by their trees, that they resolved to clear their land of everything, and plant it afresh with sweet Potatoes. The whole of the crop thus raised was used in the preparation of alcohol. During the year 1884, 1,826 pipes of alcohol, of the value of £40,518, made from sweet Potatoes, were exported from the Azores to Lisbon, and subsequently, the trade assumed still larger proportions.

Encouraged by the success of the enterprise at the Azores, it appears that a French chemist, Monsieur

A. Ralu, having much experience in chemistry, as connected with distillation, and possessing extensive relations with the West Indies (Martinique), has taken out patents:—(1) for utilising as a commercial and industrial substance sweet Potatoes as Yams, by means of desiccation and conversion into flour; and (2) for distilling alcohol from the above flour.

The sweet Potato at present cultivated in Jamaica is mostly intermingled with other plants in the provision grounds of the negroes. Hardly any is cultivated by Europeans. No definite area is returned as exclusively devoted to this cultivation, and no returns of yield per acre are available from authentic sources. A negro in the same ground will have Yam (*Dioscorea*), corn (Maize), sugar cane, and possibly, also, two or three other plants, such as Bananas, Plantains, Cocos (*Colocasia*). Sweet Potatoes thrive best in rich friable soil free from clay. At the foot of the Linguanea hills, and, indeed, in most localities with the soil indicated above, they are found to thrive. They are easily

Those who have not the means of forcing it in a house or frame, usually adopt the old plan of covering the crowns with pots, and then the whole with fermenting material. This, I believe, is still the most common way of forcing it, but I prefer forcing it in pots or boxes in the Mushroom house, or in pits or frames—in fact, anywhere where a moist temperature of 55° to 60° can be maintained, of course always keeping it in darkness. By so doing, the number of crowns requiring to be forced annually will have to be grown during each summer.

This can easily be done by saving the cuttings of the roots each season, the strongest and straightest pieces being, of course, the best; cuttings should be made 5 ins. or 6 ins. in length, with the tops cut straight across, and then covered over in a warm border, where they will form eyes by the spring. A well-manured piece of ground will be most essential to their making good strong crowns for the next season's work. About March they may be planted out in rows 2 ft. apart, and

being placed in a cold shed or frame, or plunged out of doors in leaves.

If bottom-heat can be obtained, the pots may be plunged, as I find it quickens the growth, thereby rendering the young shoots more tender. Some place it in stoves, and cover it over with an empty pot which answers as well; in fact, it will do anywhere where the temperature can be maintained. Sea Kale can be had in six weeks from the time of starting in the temperature named, and a succession can easily be maintained provided enough crowns are at command. This method of forcing I prefer to the old plan, as I think the trouble is less, and the knowledge of the number of crowns you have renders the task of keeping up a succession much easier.

Sea Kale can easily be raised from seed, and the best month for sowing is March; but I think the crowns are longer in coming to maturity than by the cutting process. Those, however, who adopt the plan of sowing seed must give the plants particular attention when



CYCAS UNDULATA.

propagated by slips, or portions of the stem planted in rows or in hills. The roots come to maturity in three or four months, and the cultivation is continued by covering up the stems when digging up the more perfect roots for use. The crop comes in practically all the year round. There is no regular season for it, and hence it can be best harvested by examining the state of the roots, and taking out those that are found perfectly ripe. The crop may be gathered at least three or four times in the year, but as to the amount or value of each cropping no data are immediately available.

CULTURE OF THE SEA KALE.

PROBABLY no other vegetable is so welcome, or more appreciated during the winter months than Sea Kale. It may be had by all who have a small plot of ground to devote to its culture, and the little attention it requires during the summer months renders its cultivation quite easy, even to the greatest novice. There are, however, various methods of forcing it, thereby rendering its cultivation different in some respects,

cuttings that have more than one crown appearing may have all surplus ones removed, leaving, of course, the strongest and most prominent, the object being to insure one good strong crown. Care must be taken in planting not to bury the crowns too deep, the slightest covering only being necessary; and nothing more is needed during the summer than to keep the plants clear of weeds, and to remove any surplus crowns.

Where beds are to be made, and there is no place at command to force in, the crowns will require to be placed three or four in a bunch, to allow the pots to be placed over them; and I would advise those who have the opportunity to make the beds outside the garden walls, in any back ground, as they are so apt to give the garden an untidy appearance, especially in windy weather and if leaves are used. At forcing time the crowns may be all dug up, provided the foliage be decayed, and the roots trimmed in and placed thickly in 12-in. pots or boxes, saving all cuttings, as before advised. Any rough soil may be used, old potting soil being as good as anything, just covering the crowns; a good watering may be given, and as many as are wanted may be placed inside for forcing, the others

small, and assist them in dry weather with water; but when they have made a good start, no more attention will be needed than that before advised—viz., to keep clear of weeds.—*Wales.*

CYCAS UNDULATA.

AMONG the whole of the elegant fine-foliaged greenhouse plants grown for conservatory or indoor decoration, few can compare in beauty, durability and usefulness with that excellent introduction of Mr. B. S. Williams', *Cycas undulata*, which has now been in cultivation sufficiently long to prove that it is not only one of the most handsome, but also most distinct of Cycads. As will be seen by reference to the accompanying illustration, it differs from *Cycas circinalis* and other members of the genus in its broader and more elegant growth, and more particularly in the wavy margins of the leaflets, which suggested the specific name of the plant. *C. undulata* is of easy cultivation, thriving well in any ordinary warm conservatory or plant house, and will grow almost as well in a hall or other comfortable apartment, if well looked after.

GARDENING MISCELLANY.

Primula floribunda.—Some plants of this lovely gem, raised from seeds sown in spring, are now blooming freely in our cold house; its golden blossoms contrast with the last remains of zonal Pelargoniums and other things. With the aid of a little genial warmth, there can be no difficulty in having it in flower all the year round. *P. obconica* is bearing it company, but the cold temperature does not appear to suit it so well as *P. floribunda*. Both should have a little warmth during winter, as they are not hardy enough to stand much frost. They form an excellent pair of what may, without charge of exaggeration, be termed perennial-blooming Primulas.—*R. D.*

Moss-covered Stones.—When pieces of stone, especially sandstone, are used about a garden for the shelter or general good of plants, they will be found in some situations to be completely coated with bright green moss. Having at Oakwood a large mound in full view of the cottage windows, on which it was desirable to put some stone to prevent the soil washing away from the plants, I collected moss-covered pieces of stone and sunk them about half their depth in the soil. The moss, though dried up in summer, has become again bright green, so that in place of bare stone we have quite a pretty object to look at when flowers are almost over. It is possible that this may give a hint useful to some of your readers.—*George F. Wilson, Heatherbank, Weybridge, Nov. 23rd.*

Abutilon Boule de Neige.—This, I think, is the best of the Abutilons. Its flowers are large and white; it blooms throughout the whole year, and, therefore, is alike desirable for the conservatory or garden. Its growth is rapid, small plants attaining the height of 4 ft. to 5 ft. during the summer months. In autumn it may be cut back to any desired size, and potted up for the winter, when it will quickly recover its symmetry, and resume its ever-blooming habit. Its quick growth and exceeding popularity is a sufficient guarantee of its merits.—*A. R., Oakfield Gardens.*

Classification of Pears as to Quality.—Has any one classified Pears as to quality? If they have, as the planting season has arrived, and selections must be made, I would suggest that you place it before your readers. The suggestion is made from recently visiting gardens and fruit collections, and finding, in the vast majority of cases that all the Pears grown, with few exceptions, came either under the head of "gritty" or "buttery." There are, probably, people who like those buttery (Beurré) Pears—Messrs. Saunders, of Cork, have sixteen in their list—and strange as it may seem, others must give a preference to the gritty ones, or they would be expunged from fruit catalogues, and cease to be grown. For my part, and all the gardeners I mentioned the matter to agree, quality should be the primary consideration for judges at shows, and that they should cut and taste any they may have a doubt about, giving a preference to quality, and not to size, shape or colour. I may be singular, but I would give the premier place to Marie Louise in its season.—*W. J. Murphy, Clonmel.*

Floral Descriptions.—Simplicity of description can hardly be found in that given by a well-known German seed house to the flowers of the pretty *Phacelia campanularia*, as being "infundibuliform." If these flowers had been described by some matter-of-fact person, it would have read "cup-shaped," and would thus have conveyed the impression rightly, that they resembled in form those of the pretty blue *Nemophila*. The learning displayed by the German describer would seem to be quite "profoundibuliform."—*Rustic.*

Peas: Four-hundredfold, Fortyfold, and Champion of England.—It is often asked, "What's in a name?" and the answer is generally, "a great deal," and very frequently, "nothing." I am very partial to a variety I have grown this last three seasons under the name of Four-hundredfold; it is not included in the Pea lists of the generality of catalogues, and, in order to obtain it, it has to be specially asked for, as was my case last spring. Seeds were sent and sown in due course, but when the haulms advanced in growth, and cropping time came round, to my disgust the sort proved to be not the Four-hundredfold that I wished for, but Fortyfold. How was this? The con-

signee, evidently thinking there was a mistake on my part of a cipher too many, in order to appease his customer added a cipher to the label, making it Four Hundredfold. These two Peas are as distinct in character as can be; but close by its side was growing another favourite Pea, Champion of England, which was the exact counterpart of Fortyfold, alias Four-hundredfold. This was extremely annoying, one Pea under three names, and all coming into bearing at the same time. Fortyfold and Champion of England are one and the same Pea, and anyone asking for one or the other will get it under the name he gives, although out of one bag. The sooner this practice is done away with the better.—*B. S.*

Sharp Work with Beetles.—Noticing the figure you gave of Messrs. Birkenhead's trap in a recent number, and seeing it in reality in a seedsman's shop window, the will to have it exerted its force, and I soon found myself coming out of the shop with the trap in my hand, and 2s. less in my pocket. But what of that? I considered I had bartered well, and knowing where an army of beetles existed, I determined, if possible, to thin their ranks. I had, in fact, likened our place to Bishop Hatto's tower, which we read of in the famous legend on the Rhine, only with this difference, the destructive beetles were in one place and sensible rats in the other. The following is the result of using the trap:—The first morning we caught 123; second, 117; third, 134; fourth, 75; fifth, 110; sixth, 94; seventh, 123; eighth and ninth, 140; total, for nine mornings, 926. These facts speak for themselves, and I conclude the trap is a good thing. How long the slaughter is going to last I know not; but if it continues I shall begin to fear that our army is only a contingent on its way to Sale to tackle the manufacturers. Be this as it may, I can well recommend its adoption to such of your readers as are troubled with these destructive pests. It certainly does "Catch 'em all alive, O!"—*X. Y.*

Remarkable Box Trees.—Should any of your readers visit Hitchin, let them enquire for and wend their way to Hermitage Street, where they will find a row of remarkable Box trees overhanging the path, some twenty-four of which are over 30 ft. high. I have never before in my travels seen anything like them, and should be pleased if someone in the district would give some information respecting their history. It would be gratefully received.—*A. O.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

We are now experiencing fully the dreary month of November, with its short days and almost interminable fogs, making it all the more necessary for extra vigilance to keep things bright and clean in this department. Take care that the pipes in almost all structures are kept warm in the early part of the day to drive out the damp, or mildew will make sad havoc. Where Roses may be planted inside, care must be taken that the borders in which they are planted do not become too dry; the heating of the pipes will contribute towards this, and when the blossoms appear next spring, wonder will be expressed that they are not so good as usual. The roots being generally under the stages occupied by plants, are neglected, probably, until new growth commences, when the border is deluged, as it is found it has become very dry. This treatment, allow me to say, is too late for the production of good flowers, so kindly take the hint.

The stock of Gardenias being now at rest, will afford a good opportunity to give a thorough cleansing; generally speaking, work in this department is not so pressing but that time may be devoted, and the work thoroughly done. By this means endless trouble will be saved when the flowers appear, as nothing is more disgusting than the stench from mealy bug, particularly when one is naturally led to hope for a sniff of perfume. The *Calanthes* are throwing up their spikes very stoutly, they are nearly 2 ft. high, and promise very good. They are staged on the shady side of the stove, near to the stock of *Anthurium Scherzerianum*, which are also making a good growth after their potting. A good growth now, and onwards, ensures an abundant show of their spathes later on.

The *Celogyues*, too, are now fast throwing out their racemes of flower, and truly beautiful they are, the

extreme chasteness and delicacy of colouring rendering them always acceptable. No one with ever so small a stove should be without a few pans of this lovely Orchid, and, withal, one so easily grown. A few pots of *Dendrobium nobile*, according to stock, may now be induced to start, so that the season of flowering may be prolonged, rather than all should be allowed to flower at the same time.

THE FORCING HOUSES.

Although our roots of Asparagus were only put into the forcing-pit on the 13th inst., we are enabled to cut some very good "grass," and hope, by successional lots, to keep up a continuous supply throughout the season. Another batch of roots will be lifted towards the end of this week, and by this means good dishes can be sent to the kitchen. The pit devoted to French Beans has served a good purpose, by enabling us to keep up a continuous supply. Those sown in pots and grown on in the Cucumber house now furnish a supply, consequently, the pit will be turned out, and refilled with slightly fermenting material ready for planting successional Potatoes. It is most necessary due attention should be paid to the early preparation of pits, for if too much bottom heat prevail the crop is certain to fail, and failure at this season is oftentimes attended with serious results. We are also cutting Sea Kale from the earliest batch, which comes in as a most useful adjunct to the dining-table just now, particularly as the late batch of Cauliflower was injured by the frost, and, consequently, the supply shortened.

We are busy carrying out and completing the operations enumerated in last week's calendar, such as connected with the early Vineries and Peach houses. The Tomatos which we grew on in pots we have put on the kerbs in the Cucumber houses to ripen up the fruit; by this means the supply will be maintained until the new year. In case of desiring to perpetuate any variety, cuttings should be inserted, which will prove most valuable for the very earliest supply in the spring of next year. We have made another sowing of French Beans in pots, placing them on the shelves in the Cucumber house. The Roman Hyacinths we find do not open at all well so far; it is rather early, but still they are disappointing. The main batch of bulbs must now be attended to, and those sufficiently advanced removed into the north pits.

THE KITCHEN GARDEN.

We are now proceeding with the manuring and digging of vacant squares, dressing as before advised, according to the crops proposed to occupy them. For Potatoes we use no manure whatever, always relying upon what was given for the preceding crop, together with a liberal addition of burnt ashes; this never fails in giving us a good crop of sound clean tubers. The border for the earliest planting of Myatt's will be dug and ridged as soon as possible, so that the action of the weather may have time to thoroughly pulverize the soil. We do not make a November sowing of either Peas or Beans; there is so much risk attending them, and so very little to be gained in this district, that for first early work we prefer making a good sowing in pots, and our first out-door sowing as early in the year as the state of the ground and weather will permit.

We have lifted and stored the Salsafy, Chicory, and Jerusalem Artichokes, so that now digging may proceed regularly, weather permitting. This is of vast importance on heavy land, as, unless it is turned up early in the season, it is most difficult to obtain a good seed-bed. We shall double-dig the Parsnip and Carrot squares; the square devoted to Onions we shall heavily manure, and, as the work proceeds, give a good sprinkling on the surface of gas lime; this effectually prevents the attacks of grub and wire-worm. As we have a fairly good supply of dry soot, a coating will be added to assist as a fertilizer.—*Walter Child, Croome Court.*

TEA CULTIVATION IN CEYLON.—The French Consul-General at Calcutta states that recent statistics show the cultivation of Tea in Ceylon to have increased very considerably; while, on the contrary, the cultivation of Coffee has shown a great falling off, which may be attributed, in great measure, to the diseases of the Coffee plant. At the present time, the extent of land devoted to the cultivation of Tea is nearly as great as that under Coffee; 50,000 acres of Coffee plantations have disappeared since 1883, whilst during the same period Tea plantations have increased by 70,000 acres. It is estimated that at the end of the year the Coffee plant, which occupied 270,000 acres in 1877, will not cover more than 100,000.

ORCHID NOTES AND GLEANINGS.

Dendrobium hercoglossum.—This last of Messrs. F. Sander & Co.'s additions to the useful genus *Dendrobium* proves to be a very distinct, pretty and floriferous plant. The plants at St. Albans, which are only 1 ft. or 15 ins. in height, have been covered with sprays of three and four blush-white flowers. The flowers at first sight remind one of those of *D. aduncum*; but those of *D. hercoglossum* are larger and have a peculiar inflation of the labellum and lower sepals enclosing its base. The violet-coloured cap to the column adds much to the attraction of the flowers, which will prove useful for all those purposes for which neatly-formed flowers are required. It has also been in flower with Mr. John Laing, at the Forest Hill Nurseries, for some time.—*James O'Brien*.

Epidendrum xanthinum.—A grand inflorescence of this rare and pretty Orchid grown by Mr. Spencer, the gardener at Goodrich Court, Ross, is submitted to us for inspection. It consists of a dense terminal head of about 200 bright golden yellow flowers, each 1 in. across, and even with this large number of flowers the point of the spike shows indications of its having stopped long before all the buds were put forth. The three-lobed labellums are curiously fringed, and a peculiar prominent tubercle occupies the centre of the lip. It has the habit of *E. ellipticum* (*crassifolium*), and was originally named *E. ellipticum flavum*, but the plant is so distinct that it cannot easily be confounded with any other species. It lasts a long time in flower, and is a very desirable plant.

Cymbidium affine.—The true variety of this, which received a First Class Certificate at the Royal Horticultural Society three years ago, and was figured in the *Orchid Album*, is again in flower in the collection of G. Nevile Wyatt, Esq., Lake House, Cheltenham, under Mr. Simcoe's care. The noble plant has seven spikes of flower, averaging ten blooms on a spike. The expanded flowers are 4 ins. across, pure white, with the exception of the broad three-lobed labellum, which is blotched and spotted with crimson up to the base, a double ridge of yellow also running up the middle of the lip. Single blooms of some of the varieties of *C. Mastersii* may be taken for *C. affine*, but when seen in the presence of the true plant, they cannot be mistaken for it.

Angraecum sesquipedale.—The large importation of fine specimens of this plant, which is now to be seen in the Orchid houses of Messrs. Hugh Low & Co., at the Clapton Nurseries, will be a welcome sight to many who have long coveted a good example of this grand Orchid, but have been prevented from obtaining it on account of the high price really good plants have hitherto realised. A good many of the specimens recently imported by Messrs. Low are equal in vigour to the best-grown established plants, and far preferable to many established specimens. A grand lot of the true *Angraecum Ellisii*, the pure white *A. articulatum*, the rare and pretty *Aëranthes Curnowiana* and other rare and some probably new Madagascarian plants, also came in the same importation, and travelled so well, that their numerous flower-spikes are pushing as vigorously as possible.

Labelling Plants in Pots.—I wish some of your correspondents would tell me the best means of naming or numbering my plants so as to secure the identity of each. I am a beginner, but have already collected enough plants to experience some difficulty in the matter, and to see that it is time to grapple with the question. Doubtless some of your correspondents will kindly assist me through your columns.—*R. N.*

Orchid Prices.—At Mr. Stevens' sale of flowering Orchids, &c., on the 18th inst., a magnificent specimen of *Lælia anceps Sanderiana*, with 150 bulbs, twenty-four leads, and fine extra strong flower spikes, realised 44 guineas. A plant of *Cypripedium Boisierianum*, in flower, fetched 18 guineas.

CHRYSANTHEMUM SHOWS.

The National.—*Nov. 24th.*—The Floral Committee of this society held a meeting at the Royal Aquarium on Wednesday, and a more miserably foggy day for holding a meeting of this kind can scarcely be conceived. The light was so bad that it was with the utmost difficulty that the colours could be distinguished,

and this will, in some measure, account for the small number of First Class Certificates awarded; and it is just possible that out of the very large collection of flowers sent up, in a good light, some that were passed over in the fog, will obtain the honours they deserve.

Syringa, a large lilac-rose Japanese, with twisted incurved florets, exhibited by Mr. Martin, of Dartford, was commended. Mr. R. Brocklebank, a rich golden sport of *Meg Merrilies*, retaining the habit of the parent, a plant exhibited by Mr. Worksworth, of Liverpool, received a First Class Certificate. *D. B. Chapman*, a large full flowered rose-carmine Japanese, exhibited by Mr. Sullivan, of Roehampton, also received a First Class Certificate. *Pelican*, a variety which received a First Class Certificate last year, seems very much inclined to vary its form; it is a large creamy white, with twisted and curly petals; and both Robert Bottomly and Mrs. H. Cannell (*Cannell & Son*), were considered not sufficiently distinct to receive attention. Charles Hale, a Japanese, exhibited by Mr. T. S. Ware, Tottenham, was commended. *Ioua*, an orange-brown fimbriated hybrid, sent by Mr. Ware, was commended as a decorative variety; *Rubra perfecta*, a dark velvety brown reflexed pompon, exhibited by Mr. W. E. Boyce, of Highgate, received a First Class Certificate; Mr. Norman Davis, a very pretty yellow sport from *Princess Teck*, exhibited by Mr. Mizen, of Mitcham, also received a First Class Certificate. Mr. Owen, of Maidenhead, staged a very good white reflexed flower, under the name of Mrs. Glover, which was considered to correspond in every degree with *La Vierge*, and not distinct enough for an award. For the following, two First Class Certificates were awarded to Messrs. Canuell & Son, Swanley:—Mrs. William Holmes, a lilac anemone, said to belong to the large-flowering varieties, but as shown, although a compact flower, can scarcely be classed as an exhibition bloom; *L'Or du Japon*, a Japanese, with broad bronze petals, shading to gold in the centre. *Moonlight*, a pure white Japanese, and a very full flower of excellent merit, was exhibited by Mr. Kendall, of Roehampton, and received a First Class Certificate.

Liverpool.—*Nov. 23rd and 24th.*—In the dreariest of November weather, this show was opened in St. George's Hall, and "Better than ever" was the general verdict. Great credit is due to Mr. Bridge, the energetic secretary, and the committee for the perfect arrangements they made for the benefit of all. The attendance was very large, and we trust the results may be beneficial to the society, for it well deserves it.

Miscellaneous stove and greenhouse plants were shown well, especially the first prize six, exhibited by Mr. Cox. Table plants were staged in quantity, and good in quality. Orchids were shown well if not numerous, and the first prize for three went to Mr. Edwards, gardener to H. Tate, Junr., Esq., Allerton, who had a magnificent *Oncidium varicosum*, with two large branching spikes; *Cattleya intermedia alba* and *Phalænopsis grandiflora*. Primulas and Cyclameu were only fair, as were Poinsettias, except those awarded the first prize, which were good. Roman Hyacinths were shown in great quantities, the first prize lots being good. There were nine competitors. Tree Mignonette was done well, as were also Epiphyllums.

Than the first prize lot of forty-eight blooms, twenty-four Japanese and twenty-four incurved, we have never seen better. They were staged by Mr. Roberts, gardener to W. D. Holt, Esq., West Derby; the flowers were large, well-developed and beautifully put up. The premier flowers of the show in incurved and Japanese were both found in the first prize stand in the other class, exhibited by Mr. Wilson, gardener to J. Reynolds, Esq., Sandford Park, the incurved being a grand Lord Alcester, and the Japanese, *Boule d'Or*. We have seen better specimen incurved plants, but never such fine pompons; these were splendidly done, as were also the standards.

As regards cut flowers, never were the like seen here before, as the incurved were better than those we have seen at the southern shows, and the Japanese were good too. The quantity shown was far in excess of any seen here previously, and the competition very keen. The prize offered for six incurved and six Japanese—for those who have never won a prize—brought forward many new beginners, showing how popular this winter favourite is held in the neighbourhood; and the manner in which many exhibited for this their maiden attempt, was highly creditable, and in the future we may expect to see them holding prominent positions.

Again, in the case of fruit, never was there a finer lot all round, seen in the hall than that staged at this show. There were 150 bunches of Grapes alone, and the quality, considering the quantity, was excellent. The same may be said of the collection of Apples and Pears—fine clean fruit of the latter and wonderfully well coloured. The Muscats from Sir Thomas Moss, Otterspool (Mr. Lindsay, gardener), were very fine in bunch and well-finished; the Mrs. Pince, from Mr. Hollingsworth, we seldom see so fine, either in bunch, berry or finish. The Gros Colmar, from Mr. Goodacre, were similar to those shown by him at the Aquarium, which were so much admired; this exhibitor was also successful in the collection of twelve dishes.

Messrs. Kerr & Sons put up one of the finest groups ever seen in the hall, consisting of well-grown Cyclamen of a very fine strain, beautiful Roman Hyacinths, &c. These were splendidly arranged, the ground-work being composed of Maiden-hair, nicely relieved with Cocos Weddeliana. This was deservedly awarded a very Highly-Commended Certificate. The Liverpool Horticultural Co., Garston, received a similar award for a collection of Chrysanthemums (miniature), well-grown and exceedingly well-flowered; also some good Heaths, Ferns, etc., producing a fine effect. Messrs. F. & A. Dickson, Chester, were highly commended for a group of Carnations well-flowered, a collection of fruits, &c. Messrs. H. Fislock & Sons were highly commended for wreaths, crosses, sprays, well done; Messrs. W. Cutbush & Son, of London, received a similar award for miscellaneous plants. Fruit was shown also by Messrs. Rylance and Mr. George Smith, consisting of many fine samples; and Messrs. E. Webb & Sons also showed collections of Potatoes from Stourbridge.

St. Peter's, Hammersmith, and District.

—*Nov. 11th.*—Small exhibitions have their uses as well as large ones, because they are designed to encourage local efforts, and this is one of the main objects kept in view by this society. It is an humble but honest endeavour to encourage the culture of these, and provide an exhibition of the same in one of the most unlovely parts of the metropolis. A few working men banded together to let a little sweetness and light mingle with the lives of the inhabitants of the St. Peter's district; and that, too, at a season of the year when rain, fog and dull dark days shut out from view almost every aspect of natural beauty. These working men are philanthropists in the truest sense of the word, and it is a source of sorrow to me that they are not supported, as they deserve to be, by the better class of inhabitants.

St. Peter's schoolroom is hardly a cheerful one at best, but it looked pretty and bright when we walked into it on the above date, though the rain fell, and the lowering clouds appeared to frown upon the efforts of Mr. Finch and his helpers. Plants at the sides, with cut flowers and fruit down the middle, had taken the place of boys poring over their lessons with Mr. Davey in supreme command. The principal class was for twelve incurved and twelve Japanese varieties, open to Hammersmith and the adjoining parishes, and here Mr. Davis, gardener to H. G. Lake, Esq., Fairlawn House, South Acton, was first; second, Mr. Stanton, gardener to H. Smith, Esq., Griffin Brewery, Chiswick; third, Mr. Wood, gardener to Mr. Sanderson, Heathfield Terrace, Chiswick. In the division open only to gardeners, the best six incurved and six Japanese came from Mr. Lampard, gardener, Chiswick, and Mr. Stanton. The best six Japanese, one variety, came from Mr. Wood, who had charming blooms of *Mdlle. Lacroix*; Mr. Lampard being second with *Album plenum*. Mr. Lampard had the best six incurved of one variety, having *Empress of India*; Mr. Wood being second with *Eve*.

In the amateurs' class for six incurved and six Japanese, Mr. Farrow, St. Peter's Grove, Hammersmith, was first; and Mr. Woodhouse, St. Peter's Grove, second. Mr. Jones, St. Peter's Grove, had the best six of each section in the competition confined to members only; second, Mr. Woodhouse; third, Mr. Nelson, 21, St. Peter's Road. In the way of plants, the best twenty Chrysanthemums in pots, arranged for effect, came from Mr. Finch, West End, the hon. secretary, he being the only exhibitor, and they well deserved the prize awarded to them. The best eighteen in the amateurs' class came from Mr. Thompson, Flora Gardeus, Dalling Road, Hammersmith; second, Mr. Nelson; third, Mr. Woodhouse. Mr. Wood had the best three Primulas, Mr. Lampard being second. Mr. Woodhouse had the best three Selaginellas, Mr. Nelson being second. Mr. Farron had the best three Isolepis, Mr. Woodhouse being second. In the amateurs' class for three Primulas, Mr. Jones was first, and Mr. Woodhouse second.

Certificates of Merit were awarded to Mr. D. Dowell,

West End, Hammersmith, for artistic tile pots and other pottery; and to Mr. R. Dean, Raueagh Road, Ealing, for seven dishes of Potatoes, including Harvester, London Hero, Rufus, Bedford Rose, Recorder, &c. The following were highly commended:—A collection of Ferns from Mr. Bulled, 196, King Street, Hammersmith; Apples, Pears and Gourds from Mr. Wells, Goldhawk Road, Hammersmith; and a collection of ornamental plants from Mr. Smith, King Street, Hammersmith, which were stood along the centre of the table. In the evening, the prizes were distributed by Mr. R. G. Tautz, Goldhawk Road, Hammersmith. —E. W.

Devizes.—Nov. 16th.—This is now annually held in the Corn Exchange, in connection with a bazaar in aid of the funds of the Benevolent Society of Devizes, an institution something like a century old; the object of which is to relieve the necessities of the poor during the winter months. The Chrysanthemum show, which is in reality an off-shoot from the Benevolent Society, was instituted five or six years ago, and has proved eminently successful. It is carried out by Mr. C. N. May, of the Elms, Devizes, an enthusiastic and successful amateur, and Mr. Thomas King, the able gardener at Devizes Castle—the latter having to deal with the arrangements of the show. About two-thirds of the building was occupied by the Chrysanthemums, the plants being arranged at the sides, and the cut-flowers on a table in the centre, the remaining portion being utilized by the bazaar.

Let me say at once that the plants—scarcely excepting those staged at the Royal Aquarium—were the best I have seen this season, admirably grown and flowered. The best six large-flowered on single stems came from Mr. Hall, gardener to C. N. May, Esq., and they averaged 4 ft. through, and carried some remarkably fine flowers; the sorts, Mrs. Forsyth and Christine, and the following incurved varieties, viz., Mr. Bunn, a grand plant, Hereward, Lord Wolseley, and Pink Venus. Mr. H. Clocks, gardener to C. E. Colston, Esq., Roundway Park, Devizes, came in a good second with capital plants of Golden Christine, Prince Alfred, Mrs. Dixon, Barbara, White Glohe and Bronze Jardin des Plantes. In the class for four plants, Mr. G. Tucker, gardener to Major W. P. Clark, Trowbridge, was a good first in the highly praiseworthy plants of Mrs. Dixon, Mrs. Ruudle, Princess of Wales and Golden Christine. Second, Mr. J. Webb, gardener to W. Stancomb, Esq., Blounts Court, Devizes, with smaller samples of much the same varieties.

Pompons were also remarkably well shown, and here Mr. May was again first with large and freely-grown and flowered specimens of Miss Steward, St. Michael, Dick Turpin, Golden Mdle. Marthe, Boh and Sœur Melaine. Second, Mr. Clack, with only just inferior plants of Mdle. Marthe, Calliope, Rosamond, Bob, Sœur Melaine and Amarantine. Mr. Tucker had the best four specimens, showing Rosamond and Amarantine, grown as charming pyramids, Mdle. Marthe and its golden varieties as low-trained specimens. Second, Mr. Burgess, gardener to the Rev. C. E. Barnwell, Southborrow Vicarage, Devizes.

Specimen Japanese Chrysanthemums were also very good, large, well grown, and carrying fine heads of bloom; in all cases trained like the incurved varieties. Here Mr. May was again first with Soleil Levant, Hiver Fleur, Madame Bertha Rendatler, Peter the Great, Lady Selborne and Bouquet Fait. Second, Mr. Clack, with Madame C. Audiguier, grandly grown and flowered; Peter the Great, Madame de Sevin, Alhum plenum, Madame B. Rendatler, and Fair Maid of Guernsey. In the class for four plants, Mr. Tucker was first with Hiver Fleur, Madame Bertha Rendatler, Madame de Sevin and Brise du Matin. Second, Mr. W. Stancomb, with Soleil Levant, Hiver Fleur, Roseum superhum and Madame Bertha Rendatler. An extra prize was awarded to the Rev. C. E. Barnwell. There was also a class for three plants, to consist of Mrs. Geo. Rundle, Mrs. Dixon, and George Glenney. Here again Mr. May was first with exceptionally good examples, carrying very fine flowers. Mr. H. Clack being a close second.

Of cut flowers there was an excellent display. The premier prize was a silver cup, given by the late Mayor, for twenty-four blooms, twelve incurved and twelve Japanese, distinct. This brought a very spirited competition, the first prize going to Mr. Wildsmith, gardener to Lord Eversley, Heckfield Place, Winchester, Hants, who had a very fine lot, consisting of Golden Empress, White Empress, Queen of England, Baron Beust, Lord Alcester, Lady Carey, Emily Dale, Lord Wolseley, Jeanne d'Arc, Cherub, Princess of Wales, Jardin des Plantes and the following "Japs."—Fanny Bouchardat, Mdme. C. Audiguier, Thunberg, Maiden's Blush, Mdle. Lacroix, Meg Merrilies, Japonais, Mons. J. M. Pigmy, Mons. Astorg, L'Adorable, Dolores and Bouquet Fait. Second, Mr. G. Tucker, with a good lot of incurved blooms, but weak "Japs."; of the former he had Jeanne d'Arc, Empress of India, Hero of Stoke Newington, Lord Alcester, Nil Desperandum, Barbara, Princess of Wales, Prince Alfred, Mrs. Dixon, Baron Beust and White Glohe. His best "Japs." were Hiver Fleuri, Meg Merrilies, Mdme. C. Audiguier, Mdme. Sevin, Ambrose Brugger and Yellow Dragon. Third, Mr. E. S. Cole, gardener to W. Pethick, Esq., Old Sneyd Park, Bristol, with fine "Japs." but weak incurved.

The class for twelve blooms of incurved, in three varieties, four of each, brought a good competition, and here Mr. Wildsmith was first with fine examples of Princess of Wales, Baron Beust, Jeanne d'Arc and Golden Empress. Second, Mr. E. Miller, gardener to F. Tagam, Esq., Old Sneyd Park, Bristol, with Empress of India, Lord Wolseley, Princess of Teck and Cheruh. In the class for twelve incurved, distinct, Mr. C. N. May was first with a remarkably good lot of blooms, consisting of Empress of India, Lord Wolseley, Jardin des Plantes, Queen of England, Lady Hardinge, Prince Alfred, Princess of Wales, Mr. Howe, Cberub, Mr. Heale, Mr. W. Shipman and Pink Venus. Second, Mr. Wildsmith, with Queen of England, Jeanne d'Arc, Beauty, Baron Beust, Princess of Wales, Golden Empress, Alfred Salter and Jardin des Plantes as his leading flowers. Then followed a class for twelve flowers, shown with 4 ins. of stem and foliage, distinct, and here Mr. C. N. May put up a fine lot, consisting of Barbara, Golden Empress, Mr. Howe, Queen of England, Alfred Salter, Princess of Wales, Pink Venus, Empress of India, Cheruh, St. Patrick and Mr. Heale. Second, Mr. Wildsmith, his leading flowers being Mabel Wood, Venus, Lady Carey and Nil Desperandum.

Japanese Chrysanthemums made a fine display; they were numerous and very good. The best twelve came from Mr. W. Pethick, who had Japonais, Fair Maid of Guernsey, Mdme. C. Audiguier, Triomphe de la Rue des Châlets, Comtesse de Beauregard, Bronze Dragon, Jeanne Délaux, Fanny Bouchardat, Gloriosum, Belle Paule, Mdme. Féral and Thunberg. Second, Mr. W. Wildsmith, with Mons. J. M. Pigmy, Thunberg, Mons. Burnet, Maiden's Blush, Mdle. Lacroix, L'Adorable, Mons. Astorg and Jeanne Délaux.

Anemone-flowered varieties were in excellent form, and here, as in the Japanese class, it was a matter for regret, on the part of the judges, they could not give more prizes. In the best stand of not less than four varieties, Mr. W. Pethick was first with Fabian de Médiana, Empress, Mons. B. Pigmy, Ratapoi, Lady Margaret, Gluck, Sœur Dorothee Souillé and George Sands; and Mr. G. Tucker second, with King of Anemones, Lady Margaret, Empress, Mons. Goodereau, Fabiau de Médiana, Louis Bonamy and Madame Theresa.

A very fine lot of reflexed Chrysanthemums, staged by Mr. Wildsmith, not for competition, was highly commended by the judges.

In the class for a vase or epergne of cut blooms or foliage for table decoration, Mr. Walter King, Devizes Castle Gardens, was first, with a charming arrangement; Mr. W. Pethick being second; and Mr. Pinney, Manor House, Marden, third. Another class, for a basket of hardy autumn foliage, with or without berries, brought a large number, in most cases charmingly arranged, and here Mr. Walter King was again first; Miss Laura Robbins, Spitalcroft, Devizes, second; and Miss Mary Giddings, Devizes, third. The show proved a financial success, and the funds of the Benevolent Society gained thereby. —R. D.

Salisbury.—Nov. 11th and 12th.—The first Chrysanthemum show that has been held in Salisbury was opened in the Council Chamber, by permission of the Mayor (Mr. Fred. Griffin), on the 11th inst., and was continued over the following day. Although rain fell heavily on both days, the exhibition—consisting of plants, cut blooms and fruit—was well attended, the visitors taking great interest in the specimen blooms, which many of them saw for the first time. It is, therefore, to be hoped that the interest thus excited in the minds of the residents of Salisbury and neighbourhood in favour of the Chrysanthemum will be maintained, and that in future Salisbury will take her due place in the horticultural world, by holding a Chrysanthemum show as well as a summer exhibition.

In addition to the two telling groups staged, but not for competition, by the Messrs. Brittain & Son, of the Waterloo Nursery, Salisbury, there were eleven good groups of plants exhibited in the large banquetting-room, two classes being provided for them in the schedule—one to consist chiefly of Chrysanthemums, and the other to be composed of miscellaneous plants arranged for effect in a half-circle. In the former class, Dr. J. W. Coates, Salisbury, was first, with a good arrangement of well-flowered plants, the flowers being large for bush plants, and fresh. Mr. James Chalk, gardener to G. Read, Esq., Westwood, Salisbury, and W. A. Curtis, gardener to C. H. Radcliffe, Esq., being equal second; Mr. Fred. Smith, Palace Gardens, Salisbury, and Mr. J. W. Lovibond, St. Anne's Street, equal third. Mr. E. S. Brown, Portland Place, Salisbury, had the best group of miscellaneous plants, great taste being displayed in not only selecting the plants, but also in the manner in which they were arranged. Mr. James Chalk was the only exhibitor of four plants of incurved Chrysanthemums, and a like number of Japanese varieties; he was awarded first honours in each class.

Seven classes were provided for cut blooms, and a first class, though limited, number of specimen blooms were staged. In the class for twenty-four blooms, Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, was first; Mr. Charles Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, was a good second; Mr. Thomson, gardener to W. Baring, Esq., Norman Court, Romsey, being awarded a Certificate of Merit. Mr. Ward was

the only exhibitor of twelve incurved blooms of not less than nine varieties, and he was awarded first position for a good, all-round, even lot of fresh blooms. The same exhibitor was again first for a stand of six incurved blooms, and also for twelve Japanese, not less than nine varieties. With six Japanese Mr. Ward was first again, as also in the two classes for six reflexed distinct, and six blooms of Anemone-flowered varieties, showing in every class good blooms of the leading varieties.

Fruit, like cut flowers, was shown in the Grand Jury Room, and it made quite a good show. Mr. Ward was the only exhibitor of a collection of six kinds, showing a good all-round lot of fruit, consisting of Queen Pine, Muscat of Alexandria and Mrs. Pièce's Black Muscat Grapes, Longford Perfection Melon, Chaumontel Pears and Cox's Pomona Apples. Grapes were shown well; Mr. Warden had the best two bunches of Alicante out of three stands put up, showing neat well-finished bunches. In a like competition Mr. Warden was first again for two good bunches of Muscat of Alexandria. For any other white than Muscat of Alexandria Mr. Ward was a good first, showing highly finished bunches of Trebbiano; and for any other black than Alicante Mr. Warden scored another victory with Gros Colmar, good in bunch and berry, being closely pressed by Mr. Ward's Gros Guillaume.

Apples and Pears were also shown well: Mr. C. W. Gater, Oakley, Salisbury, had the best three dishes of dessert Apples; Mr. Fred. Smith had the best three dishes of cooking Apples; Mr. F. Thomson was a capital first for Pears. We must not omit mention of the fact that the entrance hall of the Council Chamber, gallery, &c., were adorned with well-grown and profusely-flowered Chrysanthemum plants kindly sent by the well-known firm of Keynes, Williams, & Co., and these were effectively arranged and greatly admired by those visiting the show. We may also say that Mr. W. H. Williams, of that firm, deserves great praise, as also does the gentlemen (including his worship the Mayor) who worked so heartily with him, for the manner in which the details of the exhibition were planned and carried out on so short a notice.

Watford.—Nov. 16th and 17th.—The Watford Chrysanthemum Society has only been somewhat recently formed, but we are pleased to hear that its first exhibition, held on the above dates, was a very successful one. The society appears to be well supported by the gentlemen and gardeners residing in the locality, and in Mr. C. R. Humbert it is fortunate in having a secretary whose untiring energy has led to such good results.

In the centre of the hall was a group of plants sent by the Earl of Clarendon (Mr. Myers, gardener), of which Chrysanthemums were the principal feature. Around were the different groups comprised in the schedule, and others displayed by nurserymen of the neighbourhood. Of the latter, Messrs. Lane & Son, Berkhamstead, had a group of many sorts, and Mr. Darby, of the Hertfordshire Nurseries, Watford, had more than one, well arranged; and another came from Messrs. Nicholson, Estcourt Nurseries, Watford. The group which took the first prize in division two, from Cassiobury, the production of Mr. Pitt, was much admired. The adjoining one from Mr. Hegan's, would have been better had the flowers not been somewhat past their best. The variation in the size of plants told with the next two groups, those from Mr. Stephens, Finchley, and Mr. H. Thompson, Bushey Heath, being not so tall as those around them. The miscellaneous group which took the first prize for Mr. Beckett, gardener to H. H. Gibbs, Esq., Aldenham House, was of admirable arrangement, being well filled up. A group sent by E. H. Loyd, Esq. (gardener, Mr. A. Smith), not for competition, was a capital display; the neighbouring one, belonging to the Earl of Essex, was comprised of superb blooms, and at the end was the fine collection belonging to C. R. Humbert, Esq. Individual plants in other classes, trained in different styles, showed in how many ways the Chrysanthemum may be made a thing of beauty.

The cut flowers were staged in one of the galleries, and this part of the show was good throughout. The greatest admiration was expressed for the magnificent blooms brought by Mr. Beckett from Aldenham House, and which took the first prize in class 3 (incurved). The same gardener was also successful in winning the first prize in class 2 with equally splendid blooms. The Japanese varieties staged by Mr. Beckett showed the same experienced treatment. Primulas were shown by the Rev. K. F. Gibbs, Mr. W. F. D. Schreiber, Mr. C. R. Humbert and Mr. R. M. C. James, Huskards, Watford. In the fruit classes Apples were well represented. Messrs. Lane, of Berkhamstead, sent a large assortment. There were also splendid collections of vegetables. Of Grapes there were seven stands; six of black and one of white. There was also a fair show of table plants. Among the miscellaneous exhibits was a monster Cabbage from Cassiobury, and some Pines from Captain Edwards, of Heydon Hill, Eastcote. There were only a few entries each of button-hole bouquets and single stands of cut flowers and foliage—classes open to ladies only. From the Earl of Clarendon was sent a splendid assortment of Apples and Pears, named, not for competition; and Mr. Moon, of Cassiobridge House, also sent excellent specimens of Apples.

Sheffield and West Riding.—*Nov. 19th and 20th.*—This society held its second annual exhibition in the Corn Exchange, Sheffield, and was opened by the mayor, Henry Stephenson, Esq., who was accompanied by the ex-mayor (Alderman Pye Smith), the mayoress and others. The committee may justly be proud of having got together such a fine display of exhibits, there being forty-six classes, and with one or two exceptions they were well contested. In the open classes for cut blooms, there were six competitors for both incurved and Japanese, amongst them being some fine examples of good cultivation. For twenty-four incurved Chrysanthemums Mr. J. Edwards, gardener, Allerton, Liverpool, who staged some excellent blooms, was first; and Mr. E. Greeu, gardener to J. Woolwright, Esq., Liverpool, a very good second. Mr. J. Lambert, gardener to Colonel Wingfield, Onslow Hall, Shrewsbury, was first for twenty-four Japanese, not less than eighteen varieties, staging some splendid blooms; and Mr. E. Green was again second.

In the district class for twelve incurved Chrysanthemums, Mr. W. K. Woodcock, gardener to Mrs. Firth, Oakbrook, was first with some compact well-finished blooms; Mr. Wainwright, gardener to G. H. Le Tall, Esq., coming in second. Mr. Woodcock was also first for twelve Japanese, and Mr. Wainwright second. Mr. H. Broomhead took the first prize in the amateurs' class for twelve incurved, also for Japanese; Mr. J. Harrison being second in each class. Mr. Broomhead also obtained the National Chrysanthemum Society's Certificate for the premier bloom in the exhibition. In the groups of Chrysanthemums arranged for effect, occupying a space not exceeding 81 sq. ft., three good lots were shown. Mr. J. Harrison obtained the first honours, Mr. Woodcock being second. There were also three splendid groups of miscellaneous plants staged for effect, Mr. Pidsley, gardener to Mrs. Wilson, Westbrook, obtaining the first position; and Mr. Collier, gardener to John Eaton, Esq., Sharrow Bank, the second, with very bright and well-arranged groups.

In the class for trained specimen plants, there was a scarcity of competitors, and only one exhibitor of six plants, Mr. J. Walker, gardener to B. P. Broomhead, Esq., Broomhall Field, who was worthily awarded the first prize for neat and well-flowered plants.

In the class for three trained specimen pompons, Mr. Walker was again first, also obtaining the National Society's Certificate for a plant of White Cedo Nulli, the premier specimen in the exhibition. Mr. Pidsley was second in this class. British Ferns were well represented: Mr. Eadon, Meersbrook, was first with twelve good plants; Mr. H. Davy, Pitsmoor, second, and Mr. Newsham, third. Of amateurs' groups of miscellaneous plants there were five lots staged, affording proof, at all events, that there is no lack of competition amongst those who do not employ gardeners; Mr. J. H. Roberts was first, Mr. J. S. Stocks second, and Mr. J. Harrison third. Primulas were quite a feature in the exhibition, and Mr. Collier was first with twelve plants, and Mr. Pidsley second. In the class for six plants, Mr. Stocks was first with very fine plants, and Mr. Collier second. Messrs. Fisher, Son & Sibray, Handsworth, contributed a very fine group of miscellaneous plants, consisting of Orchids, Ferns, Rhododendrons and fine foliage plants. Mr. Shaw, Richmond nursery, and Mr. Seagraves, Gleadless nurseries, also contributed some very effective and well-arranged groups. Mr. Duncan Gillmour exhibited two fine bunches of Barbarossa Grapes, for which he obtained the first prize; Mr. Wainwright was second. Mr. Udale, gardener to Howard F. Paget, Esq., contributed a collection of twenty-eight dishes of Apples, Pears and a dish of very fine red Currants, not for competition. Amongst the Apples and Pears there were some very fine specimens. Mr. J. Wright, Sutton Bridge, Lincolnshire, also contributed some fine samples of Apples.

Hitchin.—*Nov. 18th.*—The first Chrysanthemum show held here, took place on the above date in the Corn Exchange, a splendid building for such purposes; and considering that this was a maiden effort, the secretary and committee are to be congratulated upon the large measure of success they achieved, and which will, no doubt, be the means of encouraging and stimulating many in the neighbourhood to grow this favourite winter flower. Plants were shown in quantity, but in quality not equal to what we usually see at places where exhibitions are regularly held. For six dwarf specimens, the best came from Mr. Upchurch, gardener to F. Lucas, Esq., Hitchin; while Mr. Beale, gardener to J. D. Radcliffe, Esq., had the best three standards; and Mr. Springham, gardener to J. H. Juke, Esq., the best four dwarf trained.

The cut blooms were fair, the Japanese being the best, as is usually the case this season. For twenty-four incurved varieties, Mr. Springham was an easy first, as also for the same number of Japanese; Mr. Kipling, gardener to Earl Lytton, Knebworth, second; and Mr. A. Cannon, gardener to H. Blundell, Esq., third. For twelve incurved, Mr. Hartless, gardener to Mrs. Wilson, was first; as also in the corresponding class for twelve Japanese. The amateurs and cottagers showed in very good form, and there was a good competition in both sections for the numerous prizes offered. Mr. Kipling showed, not for competition, boxes of Japanese, incurved and Pompons, which added materially to the interest of the show.

Putney.—*Nov. 16th and 17th.*—The ninth annual exhibition of this society was held in the Assembly Rooms, Putney, a place far too small to contain the exhibits that were brought together; the crowded state of the plants completely spoiling the effect that might otherwise have been made in a more capacious building, besides being more convenient for the visitors. The secretary also would do well, another year, to either have the dirty pots and packing material cleared away from under the benches, instead of being left in full view of everybody, or to get some green baize and hide them. For a collection of Chrysanthemums arranged for effect, 40 sq. ft., a fine lot of well-grown plants, nicely flowered and well arranged, from Mr. C. Knowles, gardener to Mrs. Egerton, Putney, was first; the second prize going to Mr. Newell, gardener to Sir E. Saunders, Fairlawn, Wimbledon; and the third to Mr. Batten, gardener to A. Venables, Esq. For four large-flowering plants, single specimens, two Japanese, Mr. Bentley, gardener to Sir Thos. Gabriel, Wimbledon, was awarded the first prize, as also for a single specimen Japanese, for four Pompons, &c. For twenty-four cut blooms, incurved, the competition was only second-rate, after what we had already seen, and the first prize was awarded to Mr. Batten, for twelve incurved; Mr. Bentley was second. For six, Mr. C. Knowles, who came in first, had in his stand a splendid-shaped flower of Empress of India. For six Anemones, Mr. Sullivan, gardener to D. B. Chapman, Esq., was first, as also for six Japanese Anemones. For twenty-four Japanese, distinct, a fair lot from Mr. Sullivan were first, and his stand produced the premier bloom in this section, a fine flower of Boule d'Or. Prizes were offered for stove and greenhouse plants, &c. For four, Mr. Methven was first; for four Ferns, Mr. Bentley was first; for six table plants, a grand half-dozen from Mr. Sullivan were first; and for berried plants, six Capsicum, Princess of Wales, from Mr. Newell, gardener to Sir E. Saunders, were first. Primulas and Pelargoniums were but poorly represented. Fruit was sparingly shown, and also vegetables; but the prizes offered for single-handed gardeners and amateurs were well contested.

Lincoln.—*November 16th and 17th.*—The fourth annual exhibition was held in the Corn Exchange on the above dates, and was well attended. This is the best exhibition the society has yet had, the average quality being greatly superior to that of past years. Benefiting by experience, the Committee have been successful in producing a most beautiful effect, charming groups of plants being arranged on all sides, and the whole balanced by a magnificent group of plants in the centre of the hall, and breaking the monotonous and flat appearance of the centre tables. The plants composing this group were kindly lent by N. Clayton, Esq., and grown and arranged by his clever gardener, Mr. Wipf. A charming group of Chrysanthemums and miscellaneous plants were also sent, not for competition, by Messrs. Pennell, of Gowts Bridge Nurseries, Lincoln; both these groups were highly commended by the judges.

There was close competition in the groups of Chrysanthemums and other plants arranged for effect, the first prize being awarded to H. Greenham, Esq. (gardener, Mr. Foster), who had a group well balanced in flowers and foliage, plants clean, fresh, of superior quality, and not too massive, all bearing close as well as distant inspection. J. Warrener, Esq. (gardener, Mr. Mitchell) was a very close second, with a more massive and gayer group, but lacking the absolute "finish" of the first prize group, and containing a bad Pelargonium and several inferior Chrysanthemums. S. Lowe, Esq. (gardener, Mr. Herring, jun.) was third with an excellent group of healthy and clean plants. Groups of Chrysanthemums were well contested, T. C. Bourne, Esq. (gardener, Mr. Brown) being first with a splendid group, well arranged, and containing well-flowered and very healthy plants; S. Lowe, Esq., and J. Warrener, Esq., running each other very closely for second and third honours.

In the class for thirty-six cut blooms, eighteen incurved and eighteen Japanese, distinct, W. Ashley, Esq. (gardener, Mr. Bugg) was first with very good incurved flowers, and nice Japanese; second, J. Warrener, Esq.; third, Mr. Brailsford. For twenty-four incurved, in eighteen vars., W. Ashley, Esq., was first, his Lord Wolseley, Prince Alfred, Mrs. Heale, Jean d'Arc, and Nil Desperandum being very good; S. Lowe, Esq., a close second; J. Warrener, Esq., third. Twenty-four Japanese, eighteen vars.: First, W. Ashley, Esq.; second, J. Warrener, Esq. Twelve reflexed: First, J. Warrener, Esq.; second, W. Ashley. Twelve incurved: First, T. C. Bourne, Esq.; second, Mr. Brailsford. Twelve Japanese: First, T. C. Bourne, Esq.; second, S. Lowe, Esq. Three specimen large-flowering Chrysanthemums: First, Mr. Brailsford; second, W. Ashley, Esq. Three specimen Japanese: First, Mr. Brailsford. Three specimen pompons: First, Mr. Brailsford; second, W. Ashley, Esq. Best arrangement of flowers for dinner-table decoration: First, Miss Pennell; second, Miss Hamilton Holmes with a most exquisite arrangement, but too sombre, owing to the use of too much Fern and a deficiency of bright colour. The classes devoted to Grapes were the weakest in the exhibition. For two bunches of White Grapes, Mr. Neville was first with two small

but well-finished Muscat of Alexandria, possessing the delicate pale amber tint peculiar to a well-finished sample of this Grape; second, Col. Sharpe with larger bunches. Four bunches of Grapes, distinct varieties: First, R. C. Neville, Esq. (gardener, Mr. Hare).—*J. U.*

Luton.—*Nov. 17th.*—The third annual show of this society was held in the Plat Hall, Luton, a capital place for exhibitions of this description, there being plenty of room for the exhibits and ample accommodation for a numerous company. The committee are very anxious to establish this society on a firm basis, and we are glad to see that, encouraged by the success of this and the previous exhibitions, they are likely to succeed; great praise is due to Mr. Gardner, the hon. secretary, and his committee—who work well together for the object they have in view. Groups arranged for effect were very good and competition keen, so much so, that the judges could not decide as to who was first, and awarded equal first prizes to Mr. Plummer (gardener to E. Doupees, Esq.), and J. J. Kersbaw, Esq. For six specimens Mr. J. J. Kershaw was first. Cut blooms were only fairly represented; and the Japanese were far superior to the incurved.

For twelve incurved: first, Mr. Jarvis, gardener to Baron Dimsdale. For twelve Japanese: first, Mr. Kershaw. For twenty-four blooms, Mr. Hogg and Mr. Gibbon took the leading prizes; and for four blooms Mr. Kershaw was first again. The amateurs showed well all round; and encouragement was also given to cottagers, most of whom showed very creditably. Fruit, on the whole, was not particularly meritorious, but a good response was made for the prizes offered for vegetables. Prizes were offered for wild fruits and berries, &c., and a good competition ended in the award being made to Master James Bloomfield, who showed over fifty sorts, legibly named and nicely put up.

Finchley.—*Nov. 12th and 13th.*—The first exhibition of this society was held in the National Schools, Church End, Finchley. The principal class for plants in pots was for the best group of Chrysanthemums covering a space of 60 square ft., for which the first prize (given by the treasurer, H. C. Stephens, Esq.) was gained by Mr. Mobbs, gardener to Mrs. Linford, Elm Grange, Church End, Finchley, with an admirably arranged group; a close second being Mr. Walter, gardener to H. C. Stephens, Esq., Avenue House, Finchley; Mr. Witty, gardener, The Cemetery, Highgate, being third. These three groups attracted great attention, and were much admired. In the class for three plants, Mr. Rowe, Cyprus Road, Church End, Finchley, was first, the second and third prizes going to Mr. Lilley, 41, Flask Walk, Hampstead, and Mr. Linfield, 20, Vernon Terrace, Long Lane, Finchley. For four plants, Mr. Brooks, gardener to W. Reynolds, Esq., The Grove, Highgate, first; Mr. Mobbs, second. Mr. Brooks was also first, and Mr. Mobbs, second, for a single specimen Japanese; Mr. Taylor, gardener to — Johnstone, Esq., Hampstead, third. For four Japanese plants, Mr. Mobbs was again first, and for a single specimen plant, Mr. Mobbs, Mr. Taylor, and Mr. Linfield, were first, second and third, respectively. For four trained Pompons, Mr. Brooks was first, and Mr. Taylor second. For a single specimen Pompon, Mr. Brooks was first, and Mr. Mobbs second; and amongst the other prize winners in the classes for plants were Messrs. J. Smith, D. B. Crane, C. F. Rowe, C. Halsey, J. Smith and R. Mingay. In the classes set apart for cut blooms there were some good flowers exhibited. In the premier prize for thirty-six blooms, distinct, eighteen incurved, and eighteen Japanese, Mr. Brooks was first with a well-finished lot; Mr. Mobbs being second, both collections doing these exhibitors great credit. For twenty-four cut blooms, Mr. Brooks was again first; Mr. Turk, gardener, Cholmoley Lodge, Highgate, second; and Mr. Butcher, gardener to — Cusins, Esq., The Priory, Hadley, third. In the other classes for cut blooms, Mr. Walker, Mill Hill, was first for twelve Japanese; — Lawrence, Esq., Woodside Park, being second; and Mr. Turk, third. For six Japanese Mr. Turk was first; Mr. Neary, Hornsey, second, and Mr. Williams, Hampstead, third. Twelve incurved, first, — Lawrence, Esq.; second, H. Oliver, Esq., Alexander Grove; and third, Mr. Neary. Six incurved, first, Mr. Turk; second, H. Oliver, Esq.; third, Mr. Williams. Six anemone, first, Mr. Brooks; second, H. Oliver, Esq.; third, Mr. Mobbs. Six reflexed, first, Mr. Mobbs; second, Mr. Williams; third, Mr. Taylor. Other prize winners in the cut bloom classes were Messrs. J. Smith, A. Battson, D. B. Crane, and E. Linfield.

Fruit and vegetables were also well shown, and made a good display. Miscellaneous contributions were sent by Mr. B. S. Williams, of Holloway, which greatly helped to decorate the rooms. Some excellent stands of blooms from Mr. A. R. Rundell were highly commended, as was likewise six stands of blooms exhibited by Mr. W. E. Boyce, Highgate, consisting chiefly of new sorts of this year's introduction, amongst which was a new Japanese variety, named Niuus, which will make a good exhibition bloom; also new pompons, Sablon, Mrs. Mardlin, and Rubra perfecta, which latter was much admired, the blooms being very like Cullingfordii in colour and shape.

QUESTIONS AND ANSWERS.

WORMS ON LAWNS.—As my lawn is much disfigured by worms, I have been intending for some weeks to ask the question put by "H. A. W." in your issue of 13th inst. I should esteem it a favour to be informed the proportional quantities of lime and water; for example, what weight of lime would be sufficient for—say—ten gallons of water?—*Cornwall.* [Four pounds.]

TENNIS COURT.—*W. D.*: You cannot have a hard firm surface that will allow water to drain naturally through it. Tar and lime mixed with the ashes will bind firm enough, but you must have drains to carry off the surface water. If the club will not go to this expense, they must be content with an ordinary cinder court, kept level by constant rolling. To make a good one at first would be much the cheapest in the end.

ADIANTUM FARLEYENSE.—*W. G.*: This plant occasionally bears spores, but the plants raised from such spores, so far as we know, always revert to the normal form, *A. Ghiesbreghtii* or *A. scutum*.

NAMES OF PLANTS.—*Mrs. Leadbetter*: 1, *Cattleya guttata*; 2, *Liparis longipes*. *Reginald Young*: 1 and 2, *Lælia albida*, 1 good, 2 below the average; 3 and 4, *Odontoglossum grande*, 3 we consider the better form, it is a grand flower, 6 ins. across, and very rich in colouring; 5, *Odontoglossum Rossii majus*, specially good; 6, *Cymbidium Mastersii*. *Wahsdarb*: *Cattleya Gaskelliana*. *Apprentice*: 1, not recognised; 2, *Stachys laurata*; 3, the Spindle-tree, *Enonymus europæus*; 4, *Cineraria maritima acanthifolia*; 5, *Coccoloba platyclada*.

NAMES OF FRUITS.—*G. H.*: 1, *Doyenné Boussoch*; 2, *Comte de Lamy*; 3, *Marie Louise*; 4, *Comte de Flandres*; 5, *Beurre Diel*; 6, *Ribston Pippin*. *Constant Reader*: The Pear is *Viear* of Winkfield. The flower of *Empress of India* is very good, but not equal to a first-rate exhibition bloom.

LAMBETH CHRYSANTHEMUM SHOW.—*ERRATUM.*—We regret that in our report of the above show, we inadvertently gave the name of Mr. John Hole as the winner of the third prize instead of the first for the best group of plants.

COMMUNICATIONS RECEIVED.—*G. P. D.* (many thanks)—*H. M.*—*W. B. H.*—*Jonathan.*—*T. J.*—*W. P. R.*—*H. W. W.*—*M. T.*—*G. F.*—*R. & S.*—*G. S. A.*

LONDON SEED TRADE.

November 24th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate trade in Red Clover, and at rates current last week. English Trefoil has advanced 2s. per cwt., the new crop proving under average. No change in value of White or Alsike. Canary is again dearer, and in request. Hemp Seed and Linseed more slowly at low prices. Blue Peas sell freely owing to colder weather.

COVENT GARDEN MARKET.

November 25th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1	6	3	Peaches, per doz.	
Cherries, $\frac{1}{2}$ sieve				Pine-apples, St.	
Currents, $\frac{1}{2}$ sieve				Michaels, each	1 6 6 0
Grapes, per lb.	0	6	2	Pine-apples, Eng., lb.	1 6 2 6
Kent Cobbs, 100 lbs.	65	0		Plums, $\frac{1}{2}$ sieve	
Melons, ... each				Strawberries, per lb.	

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3 0 5 0
Beans, French, per lb.	0	4		Lettuces, per dozen	1 6
Beet, per dozen	2	0	3	Mushrooms, p. basket	1 0 2 0
Cabbages, per doz.	2	0	2	Onions, per bushel	4 0 6 0
Carrots, per bunch	0	6		Parsley, per bunch	0 6
Cauliflowers, English, per dozen	3	0	5	Radishes, per dozen	1 6
Celery, per bundle	1	6	2	Sea Kale, per basket	1 6 2 0
Cucumbers, each	0	6	9	Small salad, punnet	0 4
Endive, French, doz.	2	6	3	Spinach, per strike	2 0
Herbs, per bunch	0	2	4	Tomatoes, per lb.	0 9
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.				Turnips, per bun.	0 6

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4	0	6	Liliums in variety, 12 blooms	
Azalea, 12 sprays ...	0	9	1	Marguerites, 12 bun...	3 0 6 0
Bouvardias, per bun.	0	6	1	Mignonette, 12 bun...	1 0 3 0
Camellias, 12 blooms	2	0	5	Parma Violets(French), per bunch	3 0 4 0
Carnations, 12 blooms	1	0	3	Pelargoniums, per 12 sprays	0 9 1 0
Chrysanthemums, 12 blooms	0	6	1	— scarlet, 12 sprays...	0 3 0 6
Chrysanthemums, 12 bunches	1	0	4	Primula, double, bun.	0 9 1 6
Czar Violets (French), per bunch	1	3	1	— single ...12 bun.	4 0 6 0
Dahlias ..12 bunches				Pyrethrum, 12 bnchs.	2 0 4 0
Daisies, common, 12 blms.	0	6	1	Roses (coloured) ...	1 0 2 0
Epiphyllum, 12 blms.	4	0	8	Roses, Tea per dozen	1 0 3 0
Eucharis, per dozen..	4	0	8	Roses, red (French), per doz.	1 6 2 0
Gardenias, 12 blooms.	3	0	6	— Saffrano (French), per doz.	0 6 2 0
Gladioli .. 12 sprays	0	6	1	Stephanotis, 12 sprays	4 0 8 0
Heliotropes, 12 sprays	0	6	1	Sweet Sultan, 12 bun.	1 0 2 0
Lapageria, red, 12 blooms	1	0	1	Tropæolums, ...	1 0 2 0
Lapageria, white, 12 blooms	2	0	4	Tuberose, per dozen.	1 0 1 6
Lilium longiflorum, 12 blooms	4	0	6	Violets ..12 bunches	1 0 1 6
				White Jasmine, bun.	0 6 0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	Ficus elastica, each	1 6 7 6
Asters, per dozen				Foliage Plants, various, each	2 0 10 6
Begonias, per dozen	6	0	12	Fuchsia, per doz.	
Bouvardia, per doz.	9	0	12	Gladioli, 12 pots	
Chrysanthemums, doz.	4	0	18	Hydrangea, per doz.	
Cyperus, per dozen	4	0	12	Liliums, per doz.	
Dracæna term., doz.	30	0	60	Marguerites, per doz.	6 0 9 0
—viridis, per dozen	12	0	24	Mignonette, per doz.	4 0 6 0
Epiphyllums, per doz.	18	0	30	Palm in variety, each	2 6 21 0
Erica gracilis, per doz.	9	0	12	Pelargoniums, doz.	
—hyemalis, per doz.	12	0	24	—scarlet, per doz.	3 0 6 0
—Regemians, doz.	9	0	12	Petunias, per doz.	
—various, per doz.	8	0	24	Primula sinensis, p. dz.	4 0 6 0
Evergreens, in var., per dozen	6	0	24	Solanums, per doz.	9 0 12 0
Ferns, in var., doz.	4	0	18		

BARR'S BEAUTIFUL HARDY DAFFODILS.

(Continued from p. 195.)

BARR'S ASSORTMENTS OF MANY-FLOWERED DAFFODILS (*Polyanthus Narceissus*), for pot culture, fully detailed in THE GARDENING WORLD, November 20th. The assortments range from 3s. 6d. to 22s.

A Few very Cheap and very Beautiful Daffodils.

Well adapted for naturalisation, shrubberies, flower borders, &c., and most useful for cut flowers.	Per 100. doz.	
CHOICE MIXED DAFFODILS for naturalisation or for shrubberies	5 6 1 6	
FINE MIXED DAFFODILS for naturalisation or for shrubberies	4 6 1 2	
GREAT NONSUCH DAFFODILS, mixed varieties, valuable for naturalisation and cutting,	per 1000, 63s.	7 6 1 3
" second-sized bulbs	per 1000, 30s.	4 6 0 9
LENT LILIES OF ENGLAND, petals white, trumpet yellow, valuable Daffodils for naturalisation	per 1000, 25s.	3 0 0 6
" second-sized bulbs	per 1000, 15s.	2 6 0 4
GARLAND LILIES OF SCOTLAND, petals white, trumpet yellow, valuable Daffodils for naturalisation	per 1000, 42s.	5 6 1 0
" second-sized bulbs	per 1000, 21s.	3 0 0 6
PRIMROSE PEERLESS, 2, 3, or 4 flowered, petals pure white, cup yellow	per 1000, 30s.	3 6 0 6

Trumpet Daffodils.

Cheap and beautiful for naturalisation, beds, borders, pot culture, and for cut flowers. Full description in THE GARDENING WORLD, November 13th.		
OBVALLARIS (Tenby Daffodil), very early flowering, uniform petal and trumpet	12 6 2 0	
extra-sized bulbs	17 6 2 6	
SPURIUS, rich full yellow petals and trumpet, large-flowered	15 0 2 6	
second-sized bulbs	10 6 1 6	
CAMBRICIUS, sulphur-white petals, yellow trumpet	15 0 2 6	
PRINCEPS, sulphur-white petals, very large yellow trumpet	12 6 2 6	
second-sized bulbs	10 6 1 6	
PALLIDUS PRÆCOX, a great beauty, uniform pale sulphur petals and trumpet	15 0 2 6	
TELAMONIUS PLENUS, strong-flowering bulbs	7 6 1 3	
" very large bulbs	10 6 1 6	

Chalice Cup-shaped Great Nonsuch Daffodils.

For naturalisation, beds, borders and for cut flowers. Fully described in THE GARDENING WORLD, November 13th.		
CONCOLOR, second-sized flowering bulbs	12 6 2 3	
EDWARD HART, second-sized flowering bulbs	21 0 3 6	
FRANK MILES, second-sized flowering bulbs	21 0 3 6	
FIGARO, second-sized flowering bulbs	15 0 2 6	
FAIRY, second-sized flowering bulbs	8 6 1 6	
GLOW, second-sized flowering bulbs	7 6 1 3	
SUNLIGHT, second-sized flowering bulbs	7 6 1 3	
SULPHUREUS, second-sized flowering bulbs	7 6 1 3	
ASTREA, second-sized flowering bulbs	7 6 1 3	
JOHN BULL, second-sized flowering bulbs	15 0 2 6	
LONGSHANKS, second-sized bulbs	12 6 2 6	
SANCHO, second-sized bulbs	7 6 1 3	
ALBIDUS, second-sized bulbs	7 6 1 3	
ANNIE BADEN, second-sized bulbs	12 6 2 6	
CYNOSURE, second-sized bulbs	12 6 2 6	
LORENZO, second-sized bulbs	21 0 3 6	
STELLA, second-sized bulbs	10 6 1 6	
BARRI, GOLDEN MARY, second-sized bulbs	5 6 1 0	
SULPHUREUS, second-sized bulbs	7 6 1 3	
ADA, second-sized bulbs	10 6 1 6	

The Eucharis-flowered Daffodils.

LEEDSI DUCHESS OF BRABANT, second-sized bulbs	21 0 3 6	
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Sundry Daffodils.

For naturalisation, beds, borders and for cut flowers. Fully described in THE GARDENING WORLD, November 13th.		
HUME'S SULPHUR, second-sized bulbs	10 6 1 6	
ODORUS, second-sized bulbs	5 6 1 0	
REGULOSUS, second-sized bulbs	5 6 1 0	
EGGS AND BACON, second-sized bulbs	7 6 1 3	
CODLINS AND CREAM, second-sized bulbs	21 0 3 6	

Burbidge's Daffodils.

For naturalisation, beds, borders and for cut flowers. Fully described in THE GARDENING WORLD, November 13th.		
BURBIDGEI, second-sized bulbs	7 6 1 3	
BOZ, Yellow Poeticus, second-sized bulbs	15 0 2 6	
DANDY, White Poeticus, second-sized bulbs	10 6 1 6	
MARY, White Poeticus, second-sized bulbs	12 6 2 6	
ROBIN HOOD, White Poeticus, second-sized bulbs	12 6 2 6	

Poet's Daffodils.

POETICUS ANGUSTIFOLIUS, second-sized bulbs	8 6 1 6	
ORNATUS, second-sized bulbs	8 6 1 6	
POETICUS OF GARDENS	3 6 0 6	
GARDENIA-FLOWERED DOUBLE WHITE DAFFODIL	7 6 1 6	
smaller bulbs	5 6 1 0	
THE TRIPLE-GASHED DAFFODIL	15 0 2 6	
second-sized roots	10 6 1 6	

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BARR'S BULBOUS IRIS, in separate or mixed colours; per 100, 2s. 6d. to 21s.; per doz., 6d. to 3s. 6d.

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BARR'S PLANTAIN LILIES, in assortments, 2s. 6d. to 21s.

BARR'S LARGE DOUBLE HANDSOME PEONIES, old-fashioned red, rose and white, per dozen, 10s. 6d. to 21s.; each, 1s. to 2s. Full particulars in Barr's Bulb Catalogue.

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ELWES' large giant SNOWDROP, per 1000, 42s.; per 100, 5s. 6d.

CHIONODOXA LUCILIE, per 1000, 42s.; per 100, 5s. 6d.

SCILLA SIBIRICA, per 1000, 30s.; per 100, 4s.

Beautiful varieties of Wood HYACINTHS, in colours and mixtures; prices range from 31s. per 1000, and per 100, from 3s. 6d.

Strong clumps LILY OF THE VALLEY, per dozen, 12s. 6d. to 15s.; each, 1s. 6d. and 1s. 9d.

Strong Berlin crowns LILY OF THE VALLEY, per 1000, 63s.; per 100, 7s. 6d.; per bundle of 25, 2s. 3d.

DIELYTRA SPECTABILIS, for forcing, per dozen, 5s. 6d. and 7s. 6d.; each, 6d. and 9d.

Strong clumps SPIRÆA JAPONICA, for forcing, per dozen, 7s. 6d.; each, 9d.

Beautiful IXIAS, SPARAXIS, BABIANAS and TRITONIAS, for pot culture, or to grow in sheltered raised beds out-of-doors, in mixed colours, or separate colours, per 100, 5s. 6d. to 21s.; per dozen, 1s. to 3s. 6d.

ANEMONE FULGENS, the most beautiful of all ANEMONES, for effect in the garden, or to cut for vases, per 100, 7s. 6d. to 12s. 6d.; per dozen, 1s. 3d. to 2s.

ANEMONE, double beautiful varieties, all colours, mixed, per 1000, 36s. to 50s.; per 100, 4s. 6d. to 7s. 6d.

ANEMONES, single, all colours, mixed, per 1000, 30s. to 42s.; per 100, 3s. 6d. to 5s. 6d.

ANEMONE STELLATA, the beautiful Windflower of the Riviera, mixed colours, per 100, 10s. 6d.; per dozen, 1s. 6d.

RANUNCULUS, the great Turco-Persian varieties in mixed colours, per 1000, 30s.; per 100, 3s. 6d.

GLADIOLUS, early-flowering sorts, ready to plant out now, or for pot-culture, in mixed colours, per 100, 10s. 6d. to 15s.; per dozen, 2s. to 2s. 6d.; or assortments of separate colours, 4s. to 21s.

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Free on application, a General Catalogue of Bulbs for all seasons. Free on application, an Illustrated Daffodil Catalogue.

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Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoas thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

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650 BULBS for 21s.
CARRIAGE FREE.

24 Hyacinths, 32 Tulips (various), 87 Narcissus (various), 200 Crocus (all colours), 25 Anemones, 37 Ranunculus, 27 Iris (various), 6 Gladiolus, 6 Lilies (various), 75 Snowdrops, 50 Star of Bethlehem, 6 Alliums, 75 Hepaticas.

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SITUATION WANTED.

GARDENER, SCOTCH, Aged 40 years.—EDWARD GEORGE, for the last 6½ years gardener to T. W. Boord, Esq., M.P., Ockenden, Cuckfield, Sussex, and previously, for 11 years, gardener to the Earl of Clancarty, at Garbally, seeks another engagement, owing to his late employer leaving Ockenden through the expiration of the lease. Advertiser has had great experience in all branches of gardening, and has been specially successful in the profitable cultivation of fruits under glass. Reference kindly permitted to T. W. BOORD, Esq., M.P., 14, Berkeley Square, W.—21, Stamford Road, Fulham, S.W.

BARR'S
BEAUTIFUL HARDY
DAFFODILS,
"That come before the swallow dares, and take
The winds of March with beauty."



BARR & SON, 12, King St., Covent Garden, W.C.

BARR'S NEW OR RARE HARDY DAFFODILS

For Pot-culture, Flower Beds, Borders, &c., For descriptive List of Varieties, see Advertisement in THE GARDENING WORLD, November 6th; or send for B. & S.'s Illustrated Daffodil Catalogue, free on application. These beautiful Daffodils surpass all other spring flowers for in and outdoor decoration, and as cut flowers rank with the Orchid and the Rose. In the London Spring Flower Shows for 20 years Barr's Daffodils have maintained a leading position, and are acknowledged to be the fairest among spring flowers.

THE ALDBOROUGH COLLECTION OF CHOICE DAFFODILS—TRUMPETS, NONSUCH, PEERLESS, EUCARIS-
FLOWERED, NELSON'S, BARR'S, BURBIDGE'S, &c.

3 each of 50 varieties	...	...	63s., 84s. to 105s.
1 " " "	...	...	21s., 30s. to 42s.
3 each of 25 varieties	...	...	30s., 42s. to 63s.
1 " " "	...	...	10s. 6d., 16s. to 25s.
5 each of 12 varieties	...	...	15s., 21s. to 30s.
2 " " "	...	...	10s. 6d., 15s. to 21s.
3 " " "	...	...	7s. 6d., 10s. 6d. to 15s.
1 " " "	...	...	5s. 6d. to 7s. 6d.

BARR'S INEXPENSIVE HARDY DAFFODILS,

In Beds surpass in beauty and effect all other spring flowers, and for Masses in Flower Borders they have no equal. In Shrubberies they are most valuable, and when required as Cut Flowers, beds of these Daffodils should be planted in the Kitchen Garden. If as a Forced Flower they are wanted, plant thickly in boxes 9 ins. by 15 ins., and 4 ins. deep, and stand the boxes out of doors, covered with ashes or cocoa-fibre, till the boxes are full of roots. If for Pot-culture, plant three or more bulbs in a pot, and place them out of doors till the pots are full of roots.

For Naturalisation, plant in grass or by lakes, streams and ornamental waters, and thus realise what Wordsworth saw when he penned the following:—

"I wandered lonely as a cloud
That floats on high o'er vales and hills,
When all at once I saw a crowd,
A host of golden Daffodils;
Beside the lake, beneath the trees,
Fluttering and dancing in the breeze."

The culture of the Daffodil is simple, growing in all soils and all situations; no amount of frost or unfavourable weather will injure bulb or flower. Those who have only an unheated greenhouse can keep it gay with these flowers from January to May.

ASSORTMENTS OF INEXPENSIVE DAFFODILS, EMBRAC-
ING TRUMPETS, NONSUCH, POETICUS, &c.

1000 in 10 varieties, 84s.; in 20 varieties, 120s.; in 30 var., 150s.	
500 in 10 varieties, 45s.; in 20 varieties, 63s.; in 30 var., 80s.	
100 in 10 varieties, 10s. 6d.; in 20 var., 15s.; in 30 var., 21s.	
50 in 10 varieties, 7s. 6d.; in 17 var., 9s.; in 25 var., 12s. 6d.	
30 in 10 varieties, 4s. 6d.; in 15 var., 7s. 6d.; in 30 var., 12s. 6d.	
12 in 10 varieties, ...	3s. 6d., 4s. 6d., 5s. 6d. and 7s. 6d.

VERY CHEAP & BEAUTIFUL DAFFODILS

For naturalisation, shrubberies, flower borders, &c., and most useful for cut flowers.

CHOICE MIXED DAFFODILS for naturalisation	Per 100.	doz.
or for shrubberies	s. d.	s. d.
FINE MIXED DAFFODILS for naturalisation or	...	...
for shrubberies	...	...
GREAT NONSUCH DAFFODILS, mixed varieties,	...	...
valuable for naturalisation and cutting,	...	...
" " " second-sized bulbs	per 1000, 63s.	7 6 1 3
" " " second-sized bulbs	per 1000, 30s.	4 6 0 9
LENT LILIES OF ENGLAND, petals white,	...	...
trumpet yellow, valuable Daffodils for naturalisa-	...	...
tion	per 1000, 25s.	3 0 0 6
" " " second-sized bulbs	per 1000, 15s.	2 6 0 4
GARLAND LILIES OF SCOTLAND, petals white,	...	...
trumpet yellow, valuable Daffodils for naturalisa-	...	...
tion	per 1000, 42s.	5 6 1 0
" " " second-sized bulbs	per 1000, 21s.	3 0 0 6
PRIMROSE PEERLESS, 2, 3, or 4 flowered, petals	...	...
pure white, cup yellow	...	...
OBVALLARIS (Tenby Daffodil), very early flower-	...	...
ing, uniform petal and trumpet	...	...
extra-sized bulbs	12 6 2 0	
SPURIUS, rich full yellow petals and trumpet,	...	...
large-flowered	...	...
second-sized bulbs	15 0 2 6	
...	10 6 1 6	

CAMBRICUS, sulphur-white petals, and yellow	Per 100.	Per doz.
trumpet	s. d.	s. d.
PRINCEPS, sulphur-white petals, very large yellow	...	...
trumpet	...	...
PALLIDUS PRÆCOX, a great beauty, uniform pale	...	...
sulphur petals and trumpet	...	...
TELAMONIUS PLENUS, strong-flowering bulbs	...	...
very large bulbs	...	...
INCOMPARABILIS, mixed vars., per 1000, 42s.	5 6 1 0	
" FIGARO	...	...
" FAIRY	...	...
" GLOW	...	...
" SUNLIGHT	...	...
" SULPHUREUS	...	...
" ASTRÆA	...	...
" JOHN BULL	...	...
" SANCHE	...	...
" ALBIDUS	...	...
" ANNIE BADEN	...	...
" STELLA	...	...
BARRIL GOLDEN MARY	...	...
" SULPHUREUS	...	...
" ADA	...	...

Above fully described in Advertisement of THE GARDENING WORLD, Nov. 13th; or Barr's Illustrated Daffodil CATALOGUE, free on application.

BARR & SON,
12, King Street, Covent Garden, W.C.

BEAUTIFUL HYACINTHS
TULIPS, CROCUS, SNOWDROPS,

CHIONODOXA, ANEMONES, IRIS, PÆONIES, LILIES,
IXIAS.

BARR & SON, 12, King St., Covent Garden, W.C.

BARR'S BEAUTIFUL LARGE-FLOWERING HYACINTHS,
for pot culture, glasses, vases, bowls, &c., bulbs of finest quality.

12 finest varieties	...	5s. 6d., 7s. 6d. to 9s. 0d.
25 " " "	...	10s. 6d. to 15s. 0d.
50 " " "	...	30s. to 42s.
3 each 12 finest varieties	...	15s. to 21s. 0d.
3 " 25 " "	...	30s. to 42s. 0d.
3 " 50 " "	...	84s. to 105s. 0d.

BARR'S BEAUTIFUL LARGE-FLOWERED RAINBOW
MIXTURE OF HYACINTHS, for beds and borders, per 100,
12s. 6d. and 21s.

BARR'S BEAUTIFUL LARGE-FLOWERED HYACINTHS,
in distinct colours, for beds and borders.

6 each 10 varieties	...	10s. 6d.
12 " 10 " "	...	21s. 0d.
20 " 10 " "	...	35s. 0d.
30 " 10 " "	...	45s. 0d.
40 " 10 " "	...	63s. 0d.
50 " 10 " "	...	84s. 0d.

BARR'S BEAUTIFUL EARLY-FLOWERING TULIPS.

5 each 20 varieties	...	7s. 6d. to 10s. 6d.
10 " 20 " "	...	14s. to 21s. 0d.
20 " 20 " "	...	25s. to 35s. 0d.
40 " 20 " "	...	42s. to 63s. 0d.

BARR'S CROCUS, large-flowered named sorts.

10 each 15 varieties	...	4s. 0d.
20 " 15 " "	...	7s. 6d.
30 " 15 " "	...	10s. 6d.
40 " 15 " "	...	15s. 0d.

Large bright yellow CROCUS, per 1000, 10s. 6d. to 15s.; per 100,
1s. 3d. to 2s.

BARR'S BEAUTIFUL ENGLISH and SPANISH IRIS.

3 each 24 varieties	...	10s. 6d.
5 " 24 " "	...	17s. 6d.
10 " 24 " "	...	25s. 0d.
15 " 24 " "	...	35s. 0d.

BARR'S BEAUTIFUL LARGE-FLOWERED BEARDED IRIS,
per dozen, 3s. 6d., 5s. 6d., 7s. 6d. and 9s.; per 100, 21s., 30s.
and 42s.

BEAUTIFUL IRIS RETICULATA, per dozen, 5s. 6d.; per
100, 30s.

BARR'S IXIAS, SPARAXIS, TRITONIAS and BABIANAS,
each sort in splendid mixed colours, per 100, 5s. 6d.; per
dozen, 1s.

Assortments, 3 each, 30 vars., 15s.; 5 each, 30 vars., 21s.
10 " 30 " 35s.; 15 " 30 " 42s.

SNOWDROPS, double or single, for edgings, per 1000, 21s.; per
100, 2s. 6d.

GALANTHUS ELWESI, the giant Snowdrop of the Taurus
Mountains, the largest, most distinct and beautiful of the
family, very hardy and splendid for edgings, per 1000, 42s.;
per 100, 5s. 6d.; per dozen, 1s.

CHIONODOXA LUCILLE (the Glory of the Snow), flowers
intense Nemophila blue, with a clear white luminous centre,
a grand border plant, and to naturalise, per 1000, 42s.; per 100,
5s. 6d.; per dozen, 1s.

WOOD HYACINTHS, to naturalise, in mixture, per 1000, 21s.;
per 100, 3s. 6d.; per dozen, 8d.

WOOD HYACINTHS, for flower borders, in ten named beautiful
sorts, per 100, 10s. 6d.; per 25, 3s.

LEUCOJUM VERNUM (Spring Snowflake), a beautiful early
spring flower, per 100, 6s. 6d.; per dozen, 1s.

ANEMONES, double or single, all colours, mixed, per 100, 3s. 6d.

ANEMONE PULGENS, rich beautiful scarlet, per 100, 7s. 6d. and
10s. 6d.; per dozen, 1s. 3d. to 1s. 6d.

LILY OF THE VALLEY, strong clumps for forcing, per dozen,
12s. 6d. and 15s.

LILY OF THE VALLEY, strong crowns for forcing, per 100,
7s. 6d.

SPIRÆA JAPONICA, strong clumps for forcing, per doz., 7s. 6d.

BARR'S LARGE DOUBLE PÆONIES, new Chinese vars., as-
sortments, 7s. 6d., 10s. 6d., 15s., 21s., 42s., 63s. and 84s.

BARR'S NEW SINGLE PÆONIES in assortments, 7s. 6d.,
10s. 6d., 15s., 21s. and 42s.

OLD-FASHIONED DOUBLE RED PÆONY, per doz., 10s. 6d.
" " ROSE " " 15s.
" " WHITE " " 21s.

BARR'S BEAUTIFUL LILIES, assortments for out-doors or
indoors, 5s. 6d., 7s. 6d., 10s. 6d., 15s., 21s., 42s. and 63s.

Descriptive Catalogue, with prices, free on application.

BARR & SON,
12, King Street, Covent Garden, W.C.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m.,
in the Lindley Library; Fruit and Floral, at 11 a.m., in the
East Crush Room, Royal Albert Hall, on TUESDAY next,
DECEMBER 7th.

Next Week's Engagements.

MONDAY, Dec. 6th.—Sale of Dutch and other Bulbs at Stevens',
and Protheroe & Morris's Rooms.
TUESDAY, Dec. 7th.—Meeting of Fruit and Floral Committees of
the Royal Horticultural Society at 11 a.m.
WEDNESDAY, Dec. 8th.—Sale of Trees and Shrubs, Bulbs, &c.,
at Stevens' Rooms.—Sale of Lilium auratum Bulbs, &c., at
Protheroe & Morris's Rooms.
THURSDAY, Dec. 9th.—Sales of Imported Orchids at Stevens'
Rooms; and Dutch Bulbs at Protheroe & Morris's Rooms.
FRIDAY, Dec. 10th.—Sale of a wonderful importation of Cattleya
Lawrenceana at Protheroe & Morris's Rooms.
SATURDAY, Dec. 11th.—Sale of Trees and Shrubs, Bulbs, &c., at
Stevens' Rooms; and Dutch Bulbs at Protheroe & Morris's
Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 4, 1886.

SIGNS OF THE TIMES.—The announcement made last week by our old and esteemed contemporary, *The Gardeners' Chronicle*, that its price will shortly be reduced, affords fresh evidence that the day of dear papers is fast coming to an end. The democratic coin is the penny—rather a vulgar one, perhaps, but certainly the popular one, and we may say, also, almost a magical one. The penny papers which adorn our breakfast tables, or issue in such vast numbers from the press weekly in all sorts of forms, and catering for all sorts of interests, present productions such as excite the wonder and admiration of millions.

The humble penny has proved the royal path to success and popularity. It is not high prices but numbers that make papers profitable; hence we see a revolution proceeding in the prices of serial publications, and which must inevitably lead to the penny becoming the universal, or almost universal, unit of charge for all ordinary weekly publications. The weeklies in existence a few years ago, killed the monthlies whose prices were a trifle higher; and now, in turn, they are themselves feeling the pinch of competition with the penny papers. That our venerated contemporary is in this position the notice of a reduction abundantly proves, for there is no benevolence in journalism. A paper must pay in a commercial sense or drop out of the running, and if it will not pay at one price another must be tried; but the public are quite shrewd enough to know what such alterations mean.

Other of our older contemporaries did well, or, at least, we presume they did well, to sustain their reputations by adding to their issues other and cheaper ones. *The Gardeners' Chronicle*, though having a splendid opportunity, failed to read the signs of the times and follow suit, and now, doubtless, much regrets its want of foresight. In any case we have done our best to fill the void, and we claim to have achieved, in so doing, a very considerable amount of success; for we know that *THE GARDENING WORLD*, even though published at the small cost of one penny, yet ranks with the best of the older papers in the estimation of its readers, who, we may add, are scattered over all English-speaking countries. Without doubt, the readers of gardening papers, and especially those who are gardeners, have a strong preference for subjects of practical interest over dry scientific details or uninteresting technicalities; and a journal that desires to become popular, and secure for itself a large circulation, must cater for the many and not for the select few, who themselves make somewhat wry faces over the poverty of interesting matter found in their favourite pages. The botanical world is a very restricted one, and far from being a pleasant one to be associated with either, the refinings and hair splittings, with petty jealousies and quibblings, being far too often painfully *en évidence*. Botany and natural history are beautiful sciences, full of sublimity and grandeur, and should, in their study, serve to broaden and expand the mind, and enlarge the heart; but somehow or other such anticipation does not always result, and less pleasing effects are seen than in gardening pure and simple, because here study is more matter-of-fact, and work seems to be of the every-day world.

We venture to think that, whilst botanical journals will find their own limited range of readers, gardening papers, or those professedly horticultural, find prosperity in chiefly catering for the lovers of gardening, and these are found more abundant amongst the masses than in the select scientific world. We have no doubt whatever that many gardeners will rejoice to learn of our contemporary's intentions; but, probably, more would have rejoiced had the change been made a few years earlier. The penny papers in general, and *THE GARDENING WORLD* in particular, have become serious competitors with the higher priced ones; and with so many in the field, readers, anxious to have the largest sources of information at their disposal, have been unable to bear the cost of several dear ones, whilst the introduction of penny papers has enabled them to secure all they desire at an insignificant cost—to men who have none too much of wealth even for newspapers.

MEMBERS OF THE FRUIT AND FLORAL COMMITTEES of the Royal Horticultural Society should make a note of the fact that the meetings on Tuesday next will be held in the Crush Room, Royal Albert Hall, and not in the large Conservatory.

THE Annual General Meeting of the NATIONAL AURICULA and NATIONAL CARNATION and PICOTEE SOCIETIES, will be held in the East Crush Room of the Royal Albert Hall, as soon after twelve o'clock as possible on Tuesday next.

THE LIVERPOOL HORTICULTURAL ASSOCIATION has much reason to be gratified with the results of the autumn exhibition held last week, which shows that public interest is still on the increase, even in that Chrysanthemum-loving centre. Last year the number of visitors was 5,291, and the amount taken at the doors £154. This year the total number was 7,300, and the entrance money over £228, the number paying for admission being over 4,000.

IN THE INSURANCE YEAR-BOOK, Messrs. Simpkin, Marshall & Co. have just issued a most useful and instructive guide for persons effecting insurances. It contains a great amount of official information, and seems to have been compiled with great care.

MR. A. HUME, late gardener to Sir Croker Barrington, Bart., Glenstal, Co. Limerick, has been appointed steward and forester to the Earl of Gosfort, Gosfort Castle, Market Hill, Co. Armagh, Ireland.

WE are pleased to learn from our correspondent, Mr. W. J. Murphy, that the recent CHRYSANTHEMUM SHOW AT CLONMEL was the most successful ever held in that town, the attendance of visitors being large, and the quality of the flowers first-rate. Mr. Murphy has done much to create a love for floriculture among his fellow-townsmen, and it must be gratifying to him to know that his labour has not been in vain. We regret that the demand on our space precludes the possibility of our giving anything like a report of the exhibition.

ON November 18th, a number of friends foregathered at the Crown Hotel, Dundee, to say farewell to Mr. JOHN DOWNIE ADAIR, prior to his departure for New Zealand. Mr. Adair served his apprenticeship to the late firm of Downie and Laird, then was with Mr. John Downie for a time, and for the last twelve months has been with Messrs. Storrie & Murray, Dundee. An enjoyable evening was spent, and Mr. Adair carries with him hearty good wishes for his future prosperity.

THE ninth monthly reading in connection with the Preston and Fulwood Horticultural Society, will be given this (Saturday) evening in the large room of the Legs of Man Hotel, Fishergate, when Mr. John Atherton will give his reading, "AN HOUR WITH THE CACTUSES, AND OTHER SUCCULENT PLANTS."

A MEETING of the general committee of the NATIONAL CHRYSANTHEMUM SOCIETY was held on Monday evening last, under the presidency of Mr. Ballantyne, who took the chair in the unavoidable absence of the president through indisposition. The business was of a purely routine character, and included the election of a number of members, which brought the roll up to 399. It was decided that the annual dinner, always a popular event with the members, should be held on Monday, December 13th, at the "Old Four Swans," Bishopsgate Street, Within, at six o'clock precisely. It was also proposed, duly seconded and carried by acclamation, "that a cordial vote of thanks be tendered to Mr. Holmes, for the very able manner in which he carried out the arrangements at the society's recent and most successful annual exhibition at the Aquarium." We may also add that the prizes will be distributed at the annual dinner.

THE POTATO TERCENTENARY EXHIBITION opened at St. Stephen's Hall, Westminster, on Wednesday, as far as the number of exhibits were concerned, was much more successful than was generally anticipated. For the medals offered there were thirty competitors, and the Gold Medal was won by Mr. E. Chopping, Milton, Sittingbourne; the Silver Medal by Mr. Diver, Pitshill, Petworth; and the Bronze Medal by Mr. W. Kerr, Dargavel, N.B.; Mr. Hughes, Eydon Hall, Byfield, and Mr. Wiles, Edgecote, Baubury, were highly commended. Collections were staged by Messrs. Hooper & Co., Covent Garden, Messrs. Vilmorin Andrieux & Co., Paris and Mr. Watkins, Pomona Farm, Hereford. We shall report more fully on the exhibition in our next.

MINIATURE TREE FERNS.

HOW TO MAKE THEM.

A VERY interesting and novel experiment for young gardeners to practice, is the making up of miniature Tree Ferns in the following manner. Shake all the soil away from any young plants of *Dicksonia antarctica*, *Alsophila excelsa*, *Lomaria Gibba*, or any other species of similar habit, so as to get the roots free from soil. Take a good stout stake rather longer than you would like the stem to be, lap moss on this to within a few inches of the bottom, and tie it on with matting; perch the plant on the top of the stake, and arrange the roots equally round it, then lap enough moss all over the roots to completely cover them, and bind all tightly together with copper-wire. Stand the base of the stake, the part not mossed, in about a 6-in. pot, and fill it up with rough soil, such as Ferns are usually potted in, and place it in a good stove temperature in the shady part of the house. Syringe the moss well a few times daily, and the roots will soon begin to work into it.

As soon as they begin to show on the outside of the moss, add another good layer, and bind on as before, still keeping the syringe at work. In a few months you will have a good stem of roots, and the pot filled as well, and in two years, if the moss be well attended to,

a good firm stem will be made. Never let the stems suffer for the want of water, as it is only by giving plenty that the roots can be induced to grow freely. I have seen drain pipes used for this work, but I prefer the moss, as roots and moss all grow together and form a solid mass. It is essentially necessary that live moss should be on the stems of Tree Ferns, for I have always noticed that the stems best covered with live moss always make the best fronds; it shows they are having water enough on the stems, a matter very often too much neglected.

While on this subject I may as well describe a plan I have adopted of putting moss on large stems when they require it. The moss we get from the woods in as large patches as possible; I then make a lot of wooden pegs about 2 ins. and 3 ins. long—old stakes cut up—and pointed. I then commence at the bottom of the stem by placing a patch of moss against it, and push a few pegs into it, and drive up close with a hammer, and so all the way to the top. This might be termed nailing it on. I have never yet perceived any evil result from the practice, and the job looks much more tidy when finished than when either wire or matting is put round the stems to hold the moss on, and by the time the roots get well hold of the moss the wooden pegs have decayed. I have never seen this done anywhere else. The idea occurred to me some time back, when I was cutting a tall stem through to make it lower, and being pushed for time I adopted this plan, with the result that it was done much quicker than if I had tied it on in the old style. After my first attempt I feared that fungus might appear from the wooden pegs, but I am pleased to say that I have never seen the slightest appearance, and the moss progressed so favourably that I have adopted the same plan on several stems since—all with good results.—W. G.

A NOTE ON PEARS.

THE Pear crops in our changeable climate are, to say the least, precarious, and the varieties are almost as uncertain as their crops, that is to say, comparatively few of them can be relied upon being good in all apparently favourable soils or situations. From this cause there is, and always must be, a diversity of opinion respecting the value of individual kinds, and a difficulty in the selection of varieties that will give satisfaction in a locality, the particulars of which are unknown to the selector. A case of this description came under my notice recently: a gentleman was complaining of the manner in which he was treated by a well-known authority on pomology, by his recommending, amongst others, some that proved useless or second-rate after waiting for years for the trees to become established and productive. Possibly, complaints of this kind, which appear unreasonable, are not uncommon, and may not be as long as cultivators can be found to do their best to help their fellows in this way.

One of the difficulties which sometimes fall to the lot of young gardeners on taking charge of fruit gardens situated in a district which they are unacquainted with, lies herein. If on reflection, or on reference to notes, they recollect kinds that were satisfactory in places where they have been employed, they will, in all probability, become mystified, as some that were excellent in one place would be found to be indifferent in another, and should books or calendars be consulted, it is found that no two selections correspond. Perhaps the best plan to adopt is to visit the most immediate neighbours, and gather from them the names of the varieties that succeed best in the neighbourhood, and make choice accordingly. This may not, in all cases, prove absolutely satisfactory; but it will, at any rate, be of assistance. The flavour of some Pears vary in a remarkable manner when gathered from the same garden, the aspect to which the trees are exposed being a sufficient cause to make a marked difference in quality; and not only are some much better in one locality than in another, but some kinds are excellent in districts where it could scarcely be expected.

I have seen the Jargonelle, for example, simply perfect in Aberdeenshire; the best Williams' Bon Chrétien that have come under my notice were growing in Cornwall, and the finest Glou Morceau in Suffolk. The sorts, above all others, that I have found constantly good under all conditions are Marie Louise and Josephine de Malines. I observe in a contemporary one of our most celebrated fruit cultivators remarks that his Marie Louise and Pitmastou Duchess are

mealy, and, consequently, deficient of flavour, and he attributes the cause to delay in gathering. There is no question but that gathering at the nick of time has a marked influence upon the quality of some varieties. We had a fine lot of Flemish Beauty upon a young tree last year; the fruits were very large and highly coloured, yet proved to be flavourless and of no service. No doubt, the defect was in consequence of their being allowed to hang too long upon the tree, as this season we gathered earlier, having seen somewhere such practice recommended to insure success with this noble-looking fruit; and by adopting this treatment we secured good flavour. Pitmaston Duchess—with us, this autumn, grown in pots—was acid, so much so that its value was greatly lessened thereby.—*Mon.*

GAWTHORPE HALL.

THIS ancient hall is situated about two miles from Burnley, and is the residence of Sir U. J. Kay Shuttleworth, Bart., M.P., the present member for this division of Lancashire. This generous proprietor affords the public of the district the pleasure of walking through his grounds during the summer season, and right well they appreciate the boon bestowed upon them, as witness the numbers who flock there to see the beautiful gardens. At the present time he allows the public to enter his grounds and conservatory to see, perhaps, one of the finest displays of Chrysanthemums ever seen in this district. The Queen of Autumn was to be seen in all her glory at the time of my visit, and Mr. McMasters is to be congratulated upon the success he has achieved in bringing his 800 plants to such a high state of cultivation. The tall conservatory in which these plants were packed was a complete blaze of colour, every available inch being occupied; the blooms being almost a mass from floor to roof. Mr. McMasters grows the majority of his plants on the tall system, and, of course, goes in for large flowers. The cream of the exhibition varieties are grown, and if he would but come out and stage some of his flowers I think he would be difficult to beat.

There were splendid flowers of Jean d'Arc, Mrs. G. Rundle, Empress of India, Mr. Bunn, Jardin des Plantes, Hero of Stoke Newington, Lord Wolseley, Barbara, Alfred Salter, White Globe and many others; also a good collection of Japanese varieties. A lot of plants of Sœur Melaine and M^{de}me. C. Desgrange are grown for cutting purposes; this allows the exhibition in the conservatory to remain intact till their season is past. A Fernery and stove at the back of this house are well packed with useful decorative and flowering plants, the Fernery being a mass of rockwork, and planted about it are a few very good tree Ferns, such as *Cyathea dealbata*, *Alsophila excelsa*, *Cibotiums*, &c.; the remaining portion being filled with a miscellaneous collection, dotted here and there with a few ornamental-leaved *Begonias*.

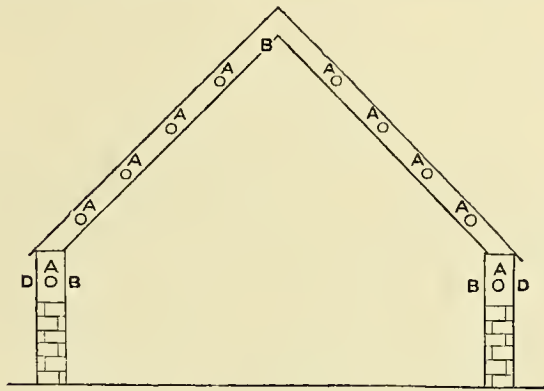
There is no great amount of glass here for the quantity of plants that have to be annually produced, some thousands of bedding-out plants having to be cared for and got to perfection fit to plant out in the spring time. Two Viueries, a Cucumber and Melon-house are the only available places to rear and keep this stock, and it speaks well for the gardener that he can bring his plants to such perfection, as the bedding-out witnessed here last summer was good proof, the carpet portion in front of the hall being admired by all who saw it. The grounds are well wooded, and *Rhododendrons* seem to thrive amazingly, there being a large quantity of very fine plants. The kitchen garden is a large one, and good crops are annually got from it, as well as good fruit from the walls which enclose it.—*W. G.*

SUGAR CULTIVATION IN MAURITIUS.—The Sugar crop for 1885-6 is estimated to amount to 120,000 tons, which is 10,000 tons less than had been anticipated, and 12,000 tons less than the yield of last season. This deficit can, for the most part, be attributed to climatic influences. At the commencement of the year, when the young plants needed water, the colony suffered from a very severe drought, which was followed by continuous rains, the growth of vegetation being thereby promoted with exceptional vigour; but these rains also prevented the Sugar Cane from arriving at maturity before passing to the manufactory, the result being a lack of juice in the Canes. The economy which several of the planters have been obliged to practice in the plantations, as well as in the manuring and draining of the fields, has also been a cause of loss.

HEATING AND VENTILATING.

THE systematic cultivation of exotics under glass dates from about the year 1723, or about 165 years; and the buildings utilised for the purpose present a striking contrast to the light airy structures with which we are now familiar. Some of us can remember seeing in our boyhood so-called Orangeries, which were the pride and boast of our ancestors, the fronts being some 12 ft. to 15 ft. in height, with solid opaque roofs, made of slate or tiles, as the case might be. The front lights were heavy cumbrous affairs, made to move up and down like the window-sashes of a dwelling-house. These, from about the early part of the eighteenth century, were gradually superseded by glass roofs. It is quite possible that a few samples of this style of garden architecture may yet be in existence in some out-of-the-way places.

The most general plan of heating them was by flues, and of these many of the present generation of gardeners have had some experience. The next step in the upward path was heating by steam; this had a comparatively short-lived career, the plan of heating by hot water being very soon brought into competition with it, and being found less troublesome and more reliable, soon displaced it. The plan of heating, generally followed out now, was first introduced into public notice about the year 1821. The Polnaise system of heating by hot air caused a considerable amount of discussion between 1845 and 1855; but since then little has been heard of it as applied to heating garden structures. The hot water system has had the field almost to itself since, and unless we except the plan known as the one-boiler system, and Mr. Cannell's mode of heating from the top, that of heating by hot water is essentially the same as it was



Suggested Plan for Heating and Ventilating.

from almost the first, notwithstanding that gardeners have had offered to them boilers in an almost infinite variety of forms and capacity—valves valuable and valueless, various forms of expansion-joints, &c.

Now, although we have better arranged pipes, and more efficient valves, our system of heating remains virtually the same as it was fifty years ago. Will this always be so? Have we reached the climax in our plans of heating and ventilating our plant houses? Will the plan of heating from the top lead to a yet farther development, which, though entailing a larger expenditure at the outset, may, by a diminished consumption of fuel—the ensuring of more equable conditions of temperature and moisture, rendering our plant houses more healthy homes for their occupants—recoup the extra cost incurred? At present, as is well known, the heat from the pipes, and the condensation of the vapoury particles of the air on the glass during cold weather, dries the air to a very injurious extent, demanding the utmost attention to damping of walls and passages, and the frequent use of the syringe to correct the aridity of the atmosphere within, which is so favourable to the development of red-spider and other insect pests.

Our present system of heating is based upon the assumption of the necessity of directly warming the whole number of cubic feet of air contained in the structure, as it loses its heat by radiation through the glass. Would it not be worth while to try double glazing, and heat the thin layer of air enclosed between the two glass roofs by means of hot water in gas-piping? This, I think, would lead to a diminished consumption of fuel, and an almost absolute absence of drip. There are two objections against this plan which will readily present themselves. The first is the increased cost of the building; the other, obstruction of light through

the accumulation of dirt between the two layers of glass. The first objection, will, I think, only be disposed of by some one putting it to a practical test; the other, now that we have so many plans of glazing in vogue which admit of the glass being readily removed and replaced, is easily disposed of.

The idea underlying this proposal, is to prevent the cooling of the inside air by the intervention of a heated strata of air enclosed by the two glass roofs; to better illustrate it the enclosed sketch is sent showing the proposed methods of ventilation in cold and warm weather. The letters A represent the hot-water pipes; B, B, B, are ventilators to be used in cold weather to promote a circulation of air, and have no direct communication with the outside unless the outside ones, D, are opened at the same time; if the bottom B ventilators are closed and the D ones opened in warm weather, the top B ones being open, the air will rush in between the two layers of glass; thus the sudden changes in the atmospheric conditions, often found when ventilating our glass-houses under our present system, would be greatly modified. For houses of moderate dimensions it is probable that an opening in the angle of the roof at each end would be sufficient to allow of the escape of the over-heated air during the hot sunny weather; for large structures better provision would most likely be requisite.—*W. B. G.*

RYELANDS, LANCASTER.

RYELANDS is situated about one mile north of Lancaster, and is the seat of J. Williamson, Esq., M.P., a gentleman well known in this part of Lancaster for his liberality and philanthropy. As an instance of his munificence, I may say that he defrays the whole expense of maintaining the public park at Lancaster, which was, I believe, presented to the town by his late father, already laid out and opened by him without much ostentatious ceremony. The mansion is approached by an entrance lodge on the east side, in the main road leading from Lancaster to the north, and is a plain substantial white-stone structure—as are most of the buildings in the town. The kitchen garden is on the south side of the mansion and pleasure ground, and separated from them by the Heysham Road, leading to a village of that name on the coast. The oblong piece of ground devoted to the growth of vegetables—which is only small at present—is protected by a high wall on the north, east and west, and open to a meadow—also the property of Mr. Williamson—on the south. The fruit and plant houses are located in the kitchen garden, except the conservatory, which is attached to the mansion. Excepting one or, may be, two, the whole of the houses have been erected within the past eighteen months, the principal part of the work being done by Mr. Williamson's own workmen.

The main range is span-roofed, with ends east and west, 100 ft. long and 12 ft. wide, in four divisions, with open wood stages on either side in some, and beds in the others, which, of course, can be furnished with temporary staging, as circumstances require. The path is a comfortable width, and relieves us of the fear and anxiety of knocking the plants over by our movements in examining them. The first compartment was chiefly occupied with *Primulas* and small *Chrysanthemums*. From here, on the north side, another span-roofed house is entered—ends north and south—filled, on one side, with *Cinerarias* in good health, and on the other with *Vallotas* and *Amaryllis*, the latter resting or going to rest. Returning, we proceed to examine the contents of the other compartments, and find in No. 2, *Tomatos* of sorts, which have to submit to the treatment accorded to *Pelargoniums* on the opposite side. In the next division there is an excellent batch of *Poinsettias* in a forward stage. The last compartment contained the usual plants seen in a mixed stove, and I noticed several species of *Orchids*, such as *Dendrobiums*, *Cypripediums*, *Calanthes* and *Cœlogyne cristata*. On the right, and entered from this house, is another span-roofed structure, with ends to the opposite points of the compass, and—as it will be seen—on the contrary side to the one noticed when we first entered. At present it is filled with a choice collection of *Azaleas* in 8-in. pots; but during summer it is occupied with *Cucumbers*. A lean-to, facing the west, shelters some hundreds of bedding plants, of which some thousands are requisite. In the same line is the boiler-shed, Mushroom-house, and other offices usually connected with an establishment of this kind.

Bearing to the left we reach two lean-to Vineries, and another plant house against the south wall. The Vines in the earliest house, which is 45 ft. long and 15 ft. wide, are said to be over fifty years old, and are growing in an outside border, as are those in the late house, which seem to have been planted but a few years back; but Mr. Smith, the gardener, who has only been in charge eighteen months, is not satisfied with their progress. One thing, the situation is rather low, and the rainfall heavy in the district for outside borders, unless they are well raised above the normal level. In the plant house I noticed Camellias, Chrysanthemums, and Callas, with some score of tuberous Begonias of the Forest Hill strain, which, judging from the growth, must have been very fine, and as to the strain, I was informed nothing could be better. After the growth has died down, Mr. Smith shakes the soil from the tubers, and packs them closely in boxes until there are indications of growth again. At right angles with this house, and connected with it, is a span-roofed house filled with Epacris and Heaths, mostly of the soft-wooded early-flowering section. The frame ground is at the opposite end of the garden, where, in a forcing pit, I noticed quantities of Hyacinths and other spring-flowering bulbs in a forward state, also Spiræas, Deutzias, Dielytras, and Lily of the Valley. Several cold frames are sheltering Calceolarias, aurea floribunda being the favourite variety. There are also some excellent plants of the herbaceous section, which must have been sown earlier than is usual; and as they have still a long season before them, there is no earthly reason why they should not be bushy plants over 2 ft. in diameter, as is Mr. Smith's wont to grow them.

Leaving here we cross the road and through a doorway enter the pleasure ground, which rises gradually up to the mansion, at its northern extremity; on our right is a walk flanked by a belt of newly planted trees extending east and north, shutting out the public road from view; on the west are open meadows, separated from the pleasure ground by a neat iron fence, and but for the operation of the lawn mower on the eight or ten acres of the latter, it would present no difference to the land adjoining; and our impression was, that with more judicious planting and broader walks, much improvement might be effected here. Walks barely 5 ft. wide may be right enough for the convenience of workmen, but scarcely admit a couple of ladies to parade without their garments trailing the grass on either side, and the breadth of lawn this one encircles makes it look dreadfully insignificant. Following the walk up the meadow side we reach the partly panelled flower garden, which is west of the mansion; other beds are also cut out on the grass at different points near the walk edges. Raised banks planted with Evergreens form the western boundary, while ensconced here is an irregularly sunk rockery, with tortuous paths and numerous recesses, which must look very beautiful when the plants are established and have covered their allotted space.

On the north a handsome conservatory, built by Messrs. Messenger, of Loughborough, provides agreeable shelter for the flower garden. The lantern-topped dome stands in about the centre of the panel, with broad corridors right and left, and wings running north and south, and, from the latter, there is an entrance into the mansion. Under the dome, raised above the other plants, is a specimen of *Livistonia borbonica*, 8 ft. or 10 ft. across; and numerous groups of Chrysanthemums effectively arranged, assisted with Ferns and foliaged plants, gave a bright and cheerful aspect. Drooping from the roof were such creepers as *Tacsonia Van Volxemii*, *Cobæa scandens variegata*, &c. There were also, in the corridors right and left, such plants as *Yucca aloifolia variegata* and others, *Aralias*, *Camellias*, *Cinerarias*, *Salvias*, Ferns and various Palms, and well-fruited Orange trees; on the back wall of the wing adjoining the mansion were *Kennedya rubicunda*, *Chorozema cordatum splendens*, and *Marchal Niel Rose* planted out in a border; whilst the back wall of the corresponding part at the other end, which is a stove, and wider, is covered with Ferns, *Panicum*, small *Coleus*, *Begonias* (foliage) and *Lycopods*, newly planted in moss stuffed behind diamond-shaped galvanised wire netting. On the centre and side stages are healthy plants of *Crotons*, *Dracænas*, Ferns and Palms of various kinds, and other popular foliage plants, with numbers of healthy-looking potfuls of *Eucharis* and a good pan of *Cœlogyne cristata*. Overhead was *Stephanotis floribunda*, full of health and vigour.

Near the entrance into this is a doorway leading into the potting-shed communicating with a yard, which must save immense labour in carrying the plants to the one in the kitchen garden, as is often the case whenever they require potting. Considering that this glass palace has only been erected three years, a fair collection of plants has been got together, and some idea of its extent may be gleaned when it is stated that to get the nearest way from one end to the other a distance of 95 yds. must be traversed. With so many deplorable accounts of closed mansions and reduced and "going down" gardens dinning in our ears, it is highly gratifying to gardeners to see that others such as Ryelands magically appear in their place.—*W. P. R.*

SPRING GARDENING.—IV.

PRIMROSES.

WITHOUT doubt, the modest Primrose of our woods and meadows is known to all, its sweetly innocent flowers being admired by all; and both young and old welcome this sure harbinger of spring, for in its freshening flowers, as they spring from amidst grassy blades, we have a true forerunner of spring. Apart from its modest beauty, and the tidings, so to speak, which it would seem to bring, it has long been a popular flower, not only among the poorer classes, but even among the upper and more distinguished aristocrats of our time. Taken collectively, we have few flowers, if any, in spring-time which are sweeter and prettier than these Primroses.

For spring bedding purposes, the single-flowered kinds are, perhaps, the best, yielding as they do a long-continued supply of flowers. Apart from the type, we have various hues of yellow, white, lilac and lilac-rose, together with shades of red. Any or all of these, by careful selection from time to time, may be made to harmonise most effectually in the spring garden, and from their dwarf habit and free and profuse flowering, they are most serviceable. Another point is their

SIMPLICITY OF CULTURE,

Either by seeds or division, so much so that they may be increased by all—a fact which only makes them still more valuable. Not less beautiful are the various double-flowered kinds, such as the Double White, Double Sulphur, Double Yellow and Double Lilac. These are all free-flowering and useful kinds, and such as may be easily obtained and readily increased. After they have performed their flowering in the beds in spring, and the beds are needed for the summer occupants, the Primroses may be lifted, divided and planted in nursery rows under a north wall, or on a shady border, which, if moderately moist and rich, will materially assist in making strong-flowering plants for another year. Upon their treatment after flowering depends the success of the ensuing season, so that they should not be allowed to lay about to suffer. Very near akin to the Primrose comes the

POLYANTHUSES,

Which are equally showy and valuable in the spring garden, and as the same remarks apply to the latter as the former, a mere repetition may appear superfluous. From the best strains of seeds some good kinds are obtainable, possessing bold vigorous constitutions, and spikes of flowers some 6 ins. high or more. The giant trusses produced on some kinds make them most desirable, and where soil and situation agree with them, we have certainly nothing more beautiful than these simple and common-place plants. The only thing needful is to continue to select a few of the very best marked and most distinct kinds, year by year, and increasing these by every means in your power, you will eventually secure a strain of sterling merit. The above-named groups are only two taken from a very extensive and interesting genus of hardy spring-flowering plants. We have, however, some others equally well suited for the spring garden, and prominently among these I may mention

PRIMULA DENTICULATA,

A truly noble and imposing spring plant, it possesses a stout vigorous constitution, and from its huge deciduous crowns bold flowering stems are produced terminating with a capitate umbel of lilac flowers; it has at present hardly found its way into the spring garden, though I see no reason why it should not have done so long before this, seeing it is a free seeder and good grower, and one which rarely dies, unless through gross neglect. Altogether it is a plant of noble parts, and always

admired in spring; it lasts some weeks in perfection, too, and, in the case of strong plants, several umbels are produced from each; it flowers during April and May. It is well suited for the centre of a large bed, where its bold, and, in many cases, massive heads of flowers may be seen to advantage. It is a native of the Himalayas, where it is found at a great elevation; it delights in a deep rich loam rather moist—but not too much so; and it roots deeply. Another plant which bears a strong likeness to this is *P. Cashmeriana*, and comes from the same locality; the main distinction being in its leaves and stems, which are covered with a dense golden meal, the flowers in this case being of a rich violet hue. As illustrative of the floral riches of the Himalayas, I will mention a third species, and which is, perhaps, the brightest of all the spring Primulas; this is

PRIMULA ROSEA,

Which is a gem for either the rockery, the herbaceous border, or the spring garden. I do not say, however, that it is capable of enduring the periodical removal which is needful for the majority of spring bedding plants, and for that reason it would be better to devote a permanent spot to it where its peculiar requirements may be met, and where it in turn will produce its lovely rose-coloured flowers in the earliest days of spring. It is one of the brightest gems among hardy plants which has ever reached this country. It is easy of cultivation, and the smallest plants produce flowers. It grows 10 ins. to 1 ft. high, and from strong plants numerous spikes of its lovely flowers are produced. The only other Primula suited for spring bedding is that known as

PRIMULA SIEBOLDI,

A healthy, invaluable plant for almost any purpose, and which cannot be too strongly recommended for the embellishment of the spring garden. It is distinct in many respects, mainly, however, in its being strictly herbaceous in character, and in its underground rhizomatous root-stock; these are the chief characteristics of the group which is now made up of so many forms, though, perhaps, of all of them, the type which was for years known and distributed as *P. cortusoides amena* is the best fitted for the spring beds: its flowers are of a magenta-crimson with light centre, and it grows 1 ft. high or thereabouts. Very beautiful is this on the rockery in large tufts; and they may be grown also in pots for conservatory decoration; in short, they are serviceable in a great variety of ways, and are fast becoming popular.—*J.*

SHRUBBY CALCEOLARIAS.

THERE is no plant cultivated for the embellishment of the flower garden that is more easy to manage than the Shrubby Calceolarias, and there are few plants more susceptible to mismanagement. Some years ago we thought we should have to dispense with it altogether, and seek for some substitute to take its place on account of a disease that was said to attack it, and which was thought likely to be a permanent malady; but I think, from my own experience, that the whole matter may be conclusively summed up in one word, viz., mismanagement, to which this genus, both the herbaceous and shrubby, are peculiarly susceptible. Admitted that they require a good amount of attention, yet they want no coddling or any extraordinary treatment to insure healthy vigorous growth. For private use it is not necessary, in the least, that they should be treated as pot plants; neither is it requisite that they should ever see the inside of a greenhouse. Hand-glasses with portable tops, one or two light garden-frames—according to the number that may be required—is all, in fact, that is absolutely necessary to insure good stuff for the bedding-out season.

For commercial purposes, pots and boxes are of necessity used to facilitate transit, &c.; but the private gardener has not the slightest need of either, and as an old grower, I may, perhaps, be allowed to offer a few pertinent observations on what I call judicious treatment. I usually put in about sixty dozen cuttings; this season mine have been in about a month. In the first place, I select a not too sunny situation to fix my frame—a 2-light one—which is placed on the level surface, and a watering is given with diluted carbolic acid, or a solution of salt, to prevent the ingress of worms from the subsoil; 2 ins. or 3 ins. of cinder-ash, or some rough material, is placed at the bottom to insure good drainage, and to

GARDENING NOTES FROM SCOTLAND.

prevent the plants rooting too deeply ; also, when the time of removal arrives, to facilitate that operation. About 3 ins. or 4 ins. of good clear mould, without any admixture, is put in on the drainage material and the surface made even, in which the cuttings are inserted about 2 ins. or 3 ins. apart.

In selecting the cuttings, care should be taken to use those only that are young and succulent, as these emit roots far more freely than those of more matured growth, and not only so, but produce the best and the most healthy plants. In fact, many failures, in my opinion, may be traced to the want of attention in this respect, as when the cuttings become woolly in texture, the circulation of the sap is less free and vigorous, and not unfrequently the plants become sickly, and eventually die.

With reference to the soil into which I put my cuttings, I make sure that there are no worms or any other impediments to cause inconvenience after the cuttings are inserted ; and the plan that has been adopted by me for some years I find to be, although a simple one, a most admirable one. As a rule, when I am about to mix different soils, they are subjected to a cleansing process, viz., should I find in my leaf-mould, rotten manure or other soils, any worms, &c., I have it put into the fowl yard, and spread out thinly on a clean surface, and anon the chickens, and ducks too, are at work, and in a very short time divest the soil of everything that may infest it, both animal and vegetable, for I am of opinion that their sharp eyes even detect the seeds of weeds as well as all kinds of insects and their larvæ. I am quite sure anyone who may try this remedy of annihilation—i.e., should they keep fowls—will free themselves from much annoyance, well knowing that their soils are then perfectly free from the many pests that they oftentimes contain ; and in the case of a bed of Calceolaria cuttings, it is a great satisfaction not to have them disturbed by being pulled out of the ground, as is often the case when there are worms in the bed.

After the cuttings are put in a good watering is given, and the lights are kept close until the rooting process has commenced, at which time air is abundantly admitted ; and should the weather be favourable the lights are taken off altogether, as the more the young plants are exposed, the more healthy they are and the better plants they make. I have, sometimes, even allowed soil to become crusted by frost before putting on the lights, without sustaining the slightest injury, having constantly inured them to free air and low temperature, never closing the frames unless the frost is severe and continuous, when ample protection is afforded to repel it.

The plants are not in any way excited, or encouraged to make winter growth, at all events only a very hardy slow growth, which induces sturdiness. By the middle of March or the beginning of April, according to the state of the weather, the plants may be carefully removed and planted about 6 ins. or 8 ins. apart on some narrow border, not too much exposed to the sun, in good free soil with a portion of leaf-mould forked into it ; after watering, the plants may be left to themselves until bedding-out time, giving them a copious supply of water should the weather be warm and dry. Between thirty and forty years I have planted from the striking bed direct to the beds and borders in the flower garden, in the month of April, and, although exposed to frost and even snow, the plants suffered no injury through having been hardened and acclimated.

When the plants are treated in a more artificial manner, their constitution is, of necessity, impaired ; consequently, they are subject to disease and the attacks of green-fly, which render the plants not unfrequently positively valueless ; but, treated as I have stated, the plants are never or very rarely attacked, but are full of health and vigour. The dark-coloured varieties are not very extensively grown, however useful they may be ; but the yellow kinds cannot be dispensed with, for we have no substitute to take their place in the embellishment of the flower garden, that is so easy to manage, and, at the same time, so effective.—*George Fry, Lewisham.*

THE KINGSTON AND SURBITON CHRYSANTHEMUM SOCIETY will hold its annual exhibition next year on November 8th and 9th. The annual dinner of this society was held last week at the Sun Hotel, the company present numbering about fifty. The Mayor of Kingston, who is president of the society, occupied the chair.

Pruning Fruit Trees.—The defoliation of fruit-bearing trees by late storms of wind and rain has been somewhat speedily performed, and the leaves have been carried far beyond the trees on which they grew, thus verifying the words of the poet, "When chill November's surly blast laid fields and forests bare." The fruit trees which are stripped are now ready for pruning, and with the exception of Peaches, Nectarines, Apricots and Figs—the latter are better protected with hay-bands, Fern, or a thatching of straw—we think it well to proceed with pruning as speedily as possible. Well-managed trees, however, do not require much of the knife at this season. If thinning and stopping has been duly attended to during the growing season, the chief use of the knife lies in regulating the shoots, shortening some and removing others which have fruited during the past season, and can now be spared. Strict attention should now be paid to the removal of "snags," or any dead portions and outgrowing spurs on trained trees ; and where wires are used to fasten the shoots to instead of nails, &c., it is very necessary to examine the growths to see that they do not press against the metal ; and while tying is being done, a twist to the string should be given to prevent the bark from being grazed and suffering ultimately from canker, as it assuredly will if allowed to rest against the wire. All ties which are tight to the bark should be removed, as the neglect of such amenities in ordinary practice is productive of much evil ; and if there is a danger of canker from having to mutilate young growth—probably unripened, which makes the case worse—we would find a remedy in root-pruning.

APPLES.—The judicious cultivator makes sure of securing a quantity of Apples every season (even when the general crop is scarce) by cultivating a number of kinds, and they must be very limited, which bear every year. In the north these will be found among Codlins, Lord Suffield, Stirling Castle and King of the Pippins, but some local kinds are quite as serviceable as these, and are never known to fail, but strangely are allowed to remain "local." It is the pruning of these we are now considering. Much ado is often made of "gross growth," but an end can always be put to this by the same attention to root manipulation, as is generally given to the branches. We believe in stiff bushes with branches which are not at the mercy of the elements, and every inch of wood should be studded with short stiff spurs. The bush, whatever shape it might be, should not be a mass of crowded wood, like a shrub, but in a fruit-bearing and fruit-ripening condition from outside to centre. The "let alone" system frequently allows abundance of fruit to grow all over the outside, but the inner portion of the trees are lost, as fruit cannot set and properly ripen when shut in from sun and air. This evil is often seen on pyramids, as well as on dwarf bushes and standard trees. It is now a good time to remove branches for the admission of air and light, but if the roots are placed within reach of rich soil, they will work so actively that all the thinning will be of no avail, and before another season has sped, the air and light passages will be closed up by gross young wood. The cutting-in of roots, ramming of firm material round them and underneath, will be conducive to the forming of fruit spurs. Orchards could often be improved by timely thinning out centres, and improving the quality and supply of fruit. While our orchards have yielded but scanty supplies this season, all the dwarf trees have been loaded ; the latter are trees from three years old to perhaps a century. The old trees, which do credit to their planter long since forgotten, are still in leaf, deep green with no growths, but clustered with prominent fruit buds. Some of them have little left of their stems but portions of the bark, but we are not disposed to remove such free-bearing rustics. Some of them are repaired with bark and wood from other trees to keep out rain and snow from their old trunks, but both foliage and roots are healthy.

PEARS are generally treated like Apples, and we do not know any reason why they should not be pruned on the same principle, and would add that the less mutilating of their growths the better for the free-bearing, health and longevity of the trees. It is often

noticeable that fine old Jargonelles (sometimes other Pears) are seen on the ends of houses, and often on walls too, which bear freely every year ; little pruning is required, and the trees are always clothed with fine foliage. The reason may be found by examining the roots, which are bedded firmly on the foundations of the building—a mass of fibre which collects enough of nutriment to support the large crops which are gathered yearly, but cause no gross growth requiring to be cut off, which is a preventative of canker. Falling flowers, or newly set fruits—such as are often seen where roots pump up moisture late in the season—"dropping" when the fruiting time arrives is very general, and the "sharp frost" of such a date settles them. Where trees are in perfect health, growth of a minimum character, and buds matured early, they seldom pass a season without yielding good crops of fruit, and when canker appears, the mischief will be found at the roots, which are likely suffering from having run into unhealthy clay, perhaps inert, or poor sandy material which has no life-giving power in it. The judicious planter at this season (or any other) will make a selection of Pears, which will remunerate him for his trouble by their being suitable to the latitude or altitude in which the locality is placed. There are still a few kinds of Pears worth planting (apart from walls) in northern parts ; the old Hessel, Moorfowl Egg and several of this class are not to be despised. We know some proprietors who set much value on them.—*M. T.*

THE AMATEURS' GARDEN.

THE FRUIT GARDEN.

Some advice has been given recently about planting fruit trees, but there is another matter in connection with these that may advantageously receive attention now, namely, the pruning and training of established trees against walls, or as espaliers or cordons. It is a mistake to postpone work of this kind till spring, there is always ample to command attention then ; and those who make it a rule to push all the work forward that can be possibly executed at this time of the year, will reap the advantage of their forethought in the busy months of the year, and the garden will be proportionately the better for the attention that can then be granted it. If trees have been much neglected, they should be unfastened from the walls or the trellises to which they have been secured, as the branches can then be much better regulated from the base upwards ; this is the only way to render the tree well-proportioned and even.

In nailing or tying in, again remember that the object is to cover as much space as convenient without crowding the growths, exposing all to light and air freely, and yet not wasting wall space by leaving large gaps uncovered. Do not have the shreds too tight, but allow sufficient length to permit the branches to expand naturally, as if closely confined and firmly nailed to the walls much injury is often done. Train the branches according to the form adopted, but endeavour to have each as straight as possible, no matter in what direction they are taken, as this allows of the ready flow of the sap and prevents deformity of growth.

If the trees have been infested with insects give a good cleansing with soft soap and water, or some insecticide ; also when the branches are removed from the wall the latter should receive a thorough dressing of hot lime-water.

Pruning is often considered as a mysterious operation that can only be performed by professional gardeners, and some of the latter, probably, served to increase this feeling by the very elaborate directions given as to its performance. The simple fact is that hundreds of fruit trees in Great Britain are pruned too severely, and the injury done in this way is far greater than results from not pruning at all. When a tree of any kind is in good condition, not excessively vigorous or too weakly, scarcely any pruning is needed, and in most cases, trees in a free-bearing state are best left alone beyond removing straggling growths. When trees are very vigorous, pruning is useless as a means of inducing fruitfulness ; they must be lifted and not pruned as previously advised, and when unusually strong shoots appear on trees in a generally good fruitful condition, the best way is to cut them right out. In other respects, the chief object is to remove unripened, unfruitful wood, to concentrate the strength of the tree upon that which is in a suitable state to return the best results, and to preserve an even balance of growth, foliage and fruit.—*Scolytus.*

CHRYSANTHEMUMS IN THE NORTH.

THE notes on the Chrysanthemum and its culture, which have from time to time appeared in THE GARDENING WORLD, have not touched upon that great field which is comprised between the Tyne and the Humber, where this noble autumnal flower excites a large amount of interest, and is keenly discussed by floriculturists. When we say this, we do not wish to convey the impression that the votaries of the flower in Durham and north-east Yorkshire, or in Northumberland, make any particular mark at the exhibition board, because such a statement would by no means be borne out by facts; but there is a keen interest in the flower, and, in a quiet way, very many gardeners hereabouts have been informing themselves of the characteristics of the plant.

Mr. Molyneux has done great service to these enquirers by issuing his book, and, from what we can gather, the result of that publication will be the accession of some two score of gardeners on the Teeside alone to the ranks of the cultivators of the Chrysanthemum. Already, it is said, there are 100,000 fanciers of the queen of autumn flowers in the United Kingdom, and if the same rate of increase is perceptible in other quarters as in Durham, very soon the term Chrysanthemum grower will be synonymous with gardener.

In Durham there have been several attempts to establish Chrysanthemum shows; but owing to the want of competitors, they have not been signally successful. Mr. T. B. Morton, of Mowden Bridge Nurseries, Darlington, hitherto has swept the deck of all before him; but he this year terminates his career as a competitor, and will devote his ripe experience and knowledge to the trial of new varieties, and to the development of the beauties of the flower. At these nurseries a thousand plants have been grown for exhibition purposes, and this year no less than 140 new varieties of the season have been tested. Thus Teeside growers have a splendid opportunity of comparing sorts and keeping right up with the times, as the Mowden Bridge exhibition is annually thrown open for public inspection.

As the prices are very moderate, it is a common thing to see the smallest growers in the neighbourhood possessed of batches of new varieties, which are practically unknown to even prominent exhibitors. We mention this to show that this district is favoured by circumstances for "going in" for the Chrysanthemum. An effort was made to start a show at Stockton, but for some reason it failed—or, rather, was held over until next year. Another attempt was made at Darlington, but that proved abortive. Under the circumstances, we should feel disposed to suggest that these towns amalgamate, and establish a Teeside Chrysanthemum Society, which ought to receive the assistance of Middlesbrough, Hartlepool, Bishop's Auckland and even Richmond. That there is a keen love for the flower was evidenced by the crowds who assembled at Hull, where £90 more was taken at the doors than was the case last year; and after 10,000 persons had been admitted scores were turned away.

At this show, Mr. Stanley, an amateur of only three years' standing, won the cup. It is said that he cut some 400 blooms from which to select his stands. Altogether, he took nine firsts and one second; but the effort exhausted him. The best bloom here was a Boule d'Or shown by Mr. Mease, which measured, it is stated, 14 ins. across; but this variety has done well this year, and we have seen several blooms fully 12 ins. The same exhibitor has, this season, shown the best Fair Maid of Guernsey we have ever seen. Taking the exhibits generally, and what we have observed at private gardens, we think Boule d'Or of the Japanese and Lord Alcester of the incurved varieties have come to the front, while Jeanne d'Arc has done the worst. Some good blooms of Empress of India have been seen; Queen of England has come very light this season, and Belle Paule has been disappointing.

On a recent visit to see the Mowden collection, we were struck with some of this year's introductions, and give, as a pick of the lot, Le Chèvrefeuille, Don Quixote, Mr. H. Elliot, and Mdle. Paule Dutour. We see that M. D. D. Hillier, which was sent over as a new variety, is nothing more nor less than Mons. J. Laing which came over the year previous; while Salmonea plena is in the same position with L'Aube Martinale. Surely,

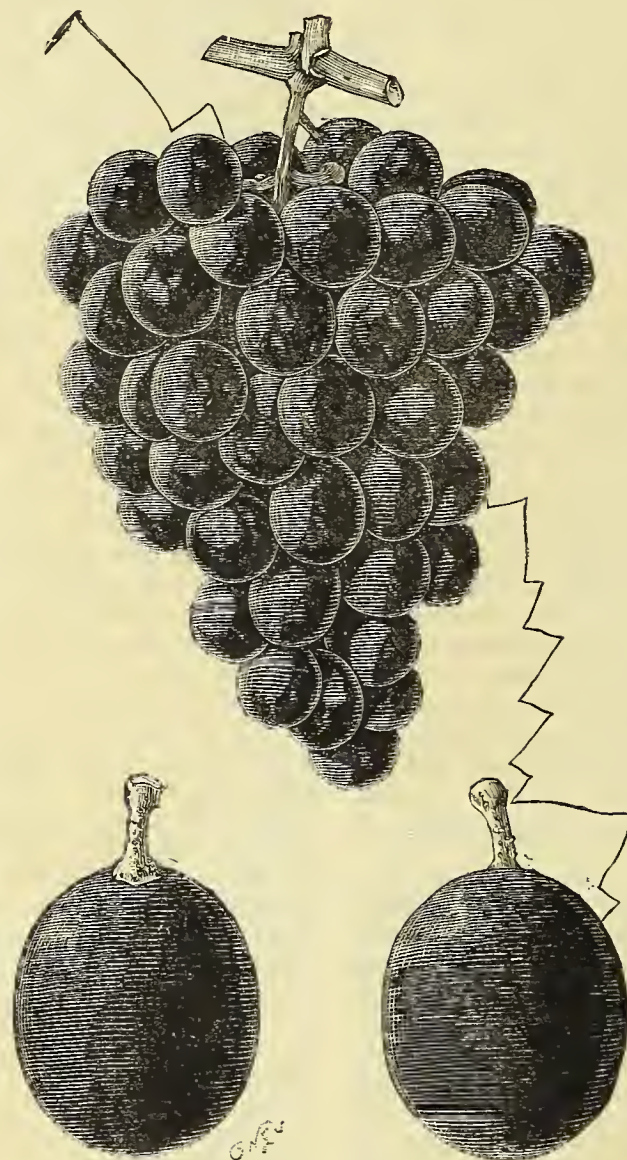
there are enough mystifications without the Frenchmen increasing them in this inexcusable manner. We can only touch further upon these introductions by saying that the following are showing themselves to be acquisitions:—Maiden's Blush, L'Adorable, La Triomphante, Mdme. J. Laing, Mons. Jno. Laing, and Mdme. de Sevin, all of which have done remarkably well in this district. Of this year's introductions the following were shown in grand form at York by Mr. Morton:—Wm. Clarke, Robert Owen, Gloriosum, T. S. Ware, Ornaments, Lady Mathieson, Mdme. Horte, Mdme. Ghys, and Moonlight. There are some fine things among this batch.—C.

PEARS v. PEACHES.

NOTWITHSTANDING the tardiness of my note, I can say, without fear of contradiction, that it was seasonable, and I did not wish it to be understood that the seasons of 1885 and 1886 were the only favourable ones for the Peach crop. If I had more time at my disposal,

gathered over 1,000 fruits fit for table, at a comparatively small outlay, when "W. C.," by his own showing, has not gathered sufficient to defray the cost of his trees? If our outside trees got as much attention as the inside ones, I should expect very much more from them; at any rate, I can safely say that the returns from the south wall are more than adequate to the outlay.

How do we generally treat our Peach borders out of doors? A man would be considered out of his mind who planted early Potatoes or sowed early Peas on his inside border. Not so when he crops heavily outside—oh, no! because there he can show his skill as a vegetable grower. Those tempting warm south borders are required for so many things that we want to get in early. We are not even satisfied with allowing the trees to have the usual 2 ft. or 3 ft. of space from the wall for walking upon to themselves. No, we must sow a few Radishes betwixt each one. What does all this manning, digging and sowing end in? A good crop of vegetables at the expense of the Peaches; and



GROS MAROC.

I would gladly give your readers the benefit of a carefully-kept record of the number of Peaches and Nectarines gathered from the outside walls since 1877, which would show that the numbers of this year have been exceeded; but the uniform quality of this season's fruit I have not seen equalled. I am pleased to have elicited from "W. C." a reason for his failure in outdoor Peach culture. Now, had he, in the first place, have written a word of warning to those similarly placed to himself—that is, in close contiguity to some vein of brine or other dangerous mineral—some might have thanked him for saving them from falling into a similar error.

I had given up the idea of putting my thoughts upon "W. C.'s" first note to paper, until I was reminded again this autumn, in THE GARDENING WORLD, by some wonderful Pears which had taken the place of Peaches in his garden. I will not forget to say that the simple multiplication sum "W. C." set me would not, after it was worked, give me the size of his fruit. Have I not good reasons to be gratified at having

if early vegetables and salads are of more value than the fruit, do not put all the blame on the soil, the seasons or the climate.

I have found from experience that a good hard root run is what the Peach delights in. How can it have it if you are continually stirring the soil? Our best trees are planted beneath a hard gravel path, which is re-gravelled and rolled annually just in the same way as other walks are treated; they suffer less from drought than any others, and never get any stimulants. Last May one might have said, "You are failing with your Peaches this year," and I, myself, had some misgivings, as they were badly attacked with blister or curl, as well as black fly. Well, the worst leaves we cut off, and persevered with tobacco-juice and that indispensable implement the water engine; and being aided by warmer weather, a change for the better soon came and continued. Therefore I say to all young men who happen to be situated in favourable localities, with the position of a south wall at their command, and who have not succeeded with Peaches out-of-doors, do not be

daunted, and if you cannot get turfy maiden loam, and yet have soil that will grow good Potatos, it will grow Peaches, providing it is made firm enough. Lifting a tree once in two or three years in order to give it fresh soil, or to sweeten the old with lime dust before returning it, is a very different matter to frequently stirring the surface soil merely for appearance sake. Just one word more. I should be sorry to insinuate that "W. C." had a lack of knowledge or energy, his contributions to your columns prove the contrary to be the case, and entitle him to respect and consideration.

I may be wrong, but I thought his note in reply was not written in a generous spirit, but I may tell him that I am old enough to think and act for myself, and I never pen a line of advice but what I know to be practical, and, more, I can afford to laugh at any teaching which I consider is erroneous.-- *Thomas Simcoe.*

recognised by all present; it was awarded a First Class Certificate, and in the short space of six years has become high in favour with Grape growers.

Gros Maroc, as will be seen from the accompanying illustration, is an oval black Grape, a strong and robust grower, moderately fruitful, and yielding medium-sized, strongly-shouldered, handsome bunches of large dark plum-coloured berries, covered with a thick bloom, and exceedingly pleasant in flavour. It has become one of the most popular of exhibition Grapes, and no collection can be said to be complete which does not include it.

Our second popular variety has been well known and largely cultivated for some years, and, notwithstanding all the charges of coarseness and want of flavour that have been brought against it, Gros Colmar still holds the field as the most extensively grown of winter Grapes. Why is this? Because its size takes



GROS COLMAR.

POPULAR BLACK GRAPES.

ONE of the most remarkable incidents in connection with the culture of the Grape Vine during the last few years, is associated with that fine mid-season variety, Gros Maroc. In Mr. Barron's admirable treatise on *Vines and Vine Culture*, it is stated that Gros Maroc was introduced some thirty years ago by the late Mr. Thomas Rivers, of Sawbridgeworth, who must have become acquainted with its fine qualities, yet from some cause or other failed to make it generally known. It was, we believe, also included in the large collection grown at Chiswick some twenty years ago, and even then was noticed by few outside the garden staff, and but for a happy accident would probably have remained in obscurity to this day. On October 12th, 1880, Mr. Rivers' son, Mr. T. F. Rivers, brought up a sample to the meeting of the fruit committee, when its merits were

the eye, it crops well, keeps well, and is juicy and refreshing when well ripened. It is, besides, an invalid's Grape, and as such appreciated beyond all others. This, too, is one of the introductions of the late Mr. Rivers, but it was the late Mr. John Standish, of Ascot, who introduced it to public notice at South Kensington some twenty-five years ago. Subsequently, Mr. Wm. Thomson, of Clovenfords, became convinced of its merits, strongly recommended it, and planted it on an extensive scale for marketing purposes. For exhibition purposes it occupies a high position, and is now seldom seen except in the best condition. To what size it can be grown, and how superbly it can be coloured and finished, we have recently had strong evidence in the magnificent examples exhibited by Mr. Goodacre, of Elvaston, at the late exhibition of the National Chrysanthemum Society.—*G.*

TEMPLETON HOUSE, ROEHAMPTON.

THE residence of H. L. Holland, Esq., is situate in a very pretty lane, leading from the corner of Barnes Common to Richmond Park, and a more picturesque spot can scarcely be found so near London. The object of my visit to the courteous gardener, Mr. Kendall, was to have a peep at his collection of Chrysanthemums of which he is such a successful grower. The Japanese varieties, of which he had a grand and attractive display, were housed in two spacious Vineries, where he is fortunate enough to have ample room to place the plants a sufficient distance apart, not only to enable him to get amongst them easily, but to guard against mildew, one of the Chrysanthemums grower's greatest enemies, and which is so often caused by overcrowding and insufficient ventilation. The majority of the plants were tall, carrying on an average four and five blooms each; Mr. Kendall advocates growing in 10-in. pots, giving the plants a top-dressing about August, and thoroughly ripening the wood, and, I must say, he carries out what he advocates to the letter. The stems of his plants were very thick, the wood thoroughly ripened and each plant well clothed with healthy foliage almost to the pot.

Amongst the plants I noticed several very fine blooms: Mons. John Laing, a reddish brown, was in great perfection; Triomphe de la Rue des Châlets, an enormous flower; Japonaise was also in excellent condition, being both full and deep, as was that universal favourite Jean Délaux. The incurved varieties were staged in a light well-ventilated span-roof house, about 50 ft. long, but here Mr. Kendall is not so fortunate in being able to make a fine display of his blooms, although his method of staging serves him better in preparing his flowers for the exhibition table. The plants were standing upon low staging with their blooms so close to the glass, that it was somewhat difficult to select the best blooms, but, among the most prominent were to be seen St. Patrick, Lord Alcester and all the Queen tribe.

Passing through the various greenhouses and stoves, I noticed some well-grown Azaleas, a good batch of Cinerarias, in the growth of which a special pride is taken at Templeton House. I remember being at a floral meeting last winter, when a basket of Cineraria blooms were exhibited by Mr. Kendall, amongst them being some of the largest blooms and brightest colours it has been my good fortune to witness.

In the conservatory adjoining the house was a fine display of early-flowering plants of Chrysanthemums and pompons, which are grown in an open border and lifted when in bud, and by this means a fine display of bloom for decorative purposes is obtained at a minimum outlay of trouble. On the roof a large plant of *Plumbago capensis* was in full bloom. Interspersed with the masses of flower upon the Chrysanthemums and pompons were some Ferns and grasses, and some well-grown specimens of that useful decorative plant, *Acalypha macrophylla*.

Stepping out of the conservatory, a very pretty sight presents itself to the view, an extensive well-kept lawn with about thirty or forty tastefully arranged flower beds at the extreme end, behind which is a bank of fine old trees; here and there a view between them is to be obtained of the deer in Richmond Park. The grounds cover an area of 36 acres, 15 acres of which are devoted to flowers. The Peach wall is one of the finest to be found in Surrey, and both the fruit and vegetable gardens, which are extensive, speak well of the excellent attention and care bestowed upon them, but as November is one of the worst months in the year to visit them, I must reserve any description of them until I have seen them in all their glory in the summer.—*G. S. A.*

THE EXHIBITION OF CHRYSANTHEMUMS by the New York Horticultural Society, beginning November 2nd, and ending the following Sabbath evening, was the finest show ever made by this organisation, all things considered; and everyone was delighted who came to criticise the queen of autumn. A "grandmother's garden" was one of the features of the exhibition, and served as a centre where the contrast between a tangle of neglected growth, such as was usually the rule in the old-fashioned garden, and the wealth of carefully trained specimens could be considered. The variety of plants in the little nook devoted to Artemisias and Dianthus was extremely limited; but the sprawling, unkempt growth was enticing, as were all the loose grassy arrangements.—*American Florist.*

WEED DESTROYERS.

FROM time immemorial, cultivators of the soil have been plagued by the growth of various species of noxious weeds, and from time to time various remedies have been suggested to insure their speedy and permanent destruction. Even the modest crimson-tipped flower, the Daisy, is held in abomination if found growing in pleasure grounds and well-kept lawns. In years gone by means were found, if not for their annihilation, yet for their decapitation. Just fifty years ago come the jubilee year, one Thomas Monk, a gardener of inventive mind whom I knew, determined to wage war on the poor Daisy flowers with a vengeance, and for this purpose he had a two-edged implement manufactured of well-tempered steel. This consisted of a blade from 18 ins. to 2 ft. in length, and fixed on to a handle of sufficient length to enable the operator to sweep before him right and left, covering a breadth of from 10 ft. to 12 ft.; in this way a large lawn was soon got over.

Doubtless, many of your readers are familiar with the old Daisy rake, which I have employed for many years; but a long interval has now elapsed since I have used them. When Daisies have been found to be growing in considerable patches, my practice has been to remove them in their entirety, and replace with good clean turf, choosing moist open weather for this kind of work to be performed, and it is astonishing the amount of work that can be done in a short time in removing even very small patches of Daisies, having the pieces of turf cut according to the size required. In some well-kept places this is done annually, should there be a necessity for it, and is much to be preferred to any other plan that can be adopted. In the case of the more coarse-growing weeds, these can be easily lifted in moist weather by a tool made for this purpose, and as each plant is drawn out the place can be made firm with the foot; when the removal is thus performed it is at once complete and permanent. Care should be taken that no plants of the weedy genus be allowed to seed, as an old author has stated "that one year's seeding makes seven years' weeding."

Carbolic acid (as mentioned in your first volume) has been long and extensively used by me, both on the gravel walks and drives and also on the lawns, with most satisfactory results, and for destroying weeds on the latter the liquid is used stronger than for the former. To facilitate the destruction of fleshy-rooted plants, it is advisable to have a small sharp-pointed piece of iron, if with a T handle so much the better, this is inserted into the centre of the plant, into which is poured the acid by means of an oil feeder, such as is used for mowing machines; the tube being small and the delivery regulated by a thumb valve, the work is done cleanly and expeditiously, without in the least endangering the grass. I cannot give the slightest guarantee that, whilst it is destructive to one plant it is also efficacious in giving vigour or fertility to others in close proximity, the fact being quite the reverse.

A preparation of arsenic and soda can be used very effectively, both on gravel and lawns, as described, but great care is required, as it is alike destructive to animal life, should they partake of the grass after its application. Again, the carbolic acid acts instantaneously, and as a sanitary agent at the same time, it is in many cases a great acquisition, and it is much better to have to deal with an agent over which one has a controlling power, rather than with one, the issue of which may be of a doubtful character.—G. F., *Lewisham*.

THE LATE LIVERPOOL SHOW.

THE autumn exhibition held during last week in the St. George's Hall, if not entitled to the premier position, certainly ranked second to none, both as regards the quality and the quantity of the exhibits. The orchestra table, running along the top end of the room, was, as usual, devoted to Orchids (which fell somewhat short of the usual numbers generally staged), bouquets, cut blooms, &c. The principal stages consisted of three, running parallel down the hall about 90 ft. in length, and from 6 ft. to 8 ft. in width. The first was devoted to miscellaneous collections of plants, contributed amongst others by the Liverpool Horticultural Company, who had a display principally of Chrysanthemums layered in small pots, ranging in height from 1 ft. to 2 ft., with fair blooms, interspersed with Ferns and other suitable furnishing material. Messrs. R. P.

Ker & Son's collection proved most attractive, being simple in detail, yet beautiful and chaste in its effect, sustaining Mr. Hugh Ranger's high reputation as a decorative artist. The ground-work consisted of *Adiantum cuneatum*, fringed with small plants of *A. Farleyense*; at stated distances were Roman Hyacinths and Cyclamens of the darkest varieties, with numerous fine large flowers well above strong healthy foliage; at intervals of from 3 ft. to 4 ft., the most graceful of all Palms, *Cocos Weddelliana*, were arranged some 18 ins. higher than the ground-work, with *Adiantum Farleyense* to cover the pots, giving the whole a finished appearance such as is seldom seen.

The centre table was laden with a fine display of fruit, relieved by *Epiphyllums*, Palms and *Mignonette*. In the classes for Grapes the competition was keen, three of the classes having no less than fourteen entries in each; the number of bunches staged was sixty-one of white and eighty-four of black. Two bunches of *Gros Colmar*, exhibited by the Earl of Harrington, immense in berry and well finished, were the admiration of all visitors. Apples numbered 262 dishes, Pears 174, and, including the Grapes, Pines, Figs, Plums and Strawberries, the large total of 605 dishes were staged. On the remaining table the cut blooms were arranged, with table plants and Palms occupying the centre. The number of incurved flowers shown was 495, many being nearly 6 ins. in diameter and 4 ins. in depth, with solidity and freshness combined. The Japanese blooms were throughout fresh and of good size, and 556 blooms were shown; the reflexed, *Anemone* and *Pompons* bringing up the total to 1,285. The most interesting class, and certainly the most strongly contested, was that for six incurved and six recurved, confined to those who had never won a prize for cut blooms at any exhibition held by the Association. The entries numbered sixteen, all of which were of superior merit; thus giving promise that Liverpool will still be able to hold its own in producing show blooms. To prove that these can be grown adjacent to large towns, it may be well to note that nearly the whole of the exhibits were grown within a radius of six miles, as were also the premier collections exhibited at Huddersfield, Hull and Sheffield. The only section calling for special comment of the Chrysanthemums in pots, of which there were 114, was the *Pompons*, which, although not large in size, were models in form and training, carrying large and well-formed flowers.

The stove and greenhouse plants were arranged on either side of the hall; Palms being sent in good quantity and quality; *Goniophlebium subauriculatum*, exhibited by W. H. Watts, Esq., in the class for Ferns, had fronds over 9 ft. in length. Two very fine *Eucharis amazonica*, carrying about twenty-five spikes and nearly 100 flowers on each, were in the collection of W. C. Clark, Esq. A feature which must prove satisfactory to the committee was the attendance on the first day; at various times nearly 2,000 persons were listening to the strains of the first-class band, which the executive are always careful to provide.—G. H. W.

GARDENING MISCELLANY.

The Double Crimson Primrose.—If this beauty, this peerless queen among our double Primroses, would only grow as freely as the double white or the double lilac—both common forms—what an object it would be in our gardens! Mr. Samuel Barlow appears to me to have hit upon a capital method of dealing with it at his place at Llandudno. He has planted it on a sloping bank of turf having a north aspect, and when I was there in the summer, it was doing as well as could be desired. As a matter of course, a little suitable soil was added to give it a start at the time it was planted. A few weeks ago, Mr. W. Baylor Hartland, of Cork, sent me a nice strong plant of the double crimson Primrose in flower. I potted it in a compost made up of good yellow loam and leaf-mould, and it is doing as well as I could desire. I picked off the flowers, and it is now making a very free growth, so I hope to have something good in the spring.—R. D.

Sisymbrium millefolium.—This is a very old greenhouse plant, but not to be despised for all that. It is one of the prettiest and most charming foliaged plants we have, being of branching habit, and its leaves resembling the fronds of that splendid Fern, *Cheilanthes*

elegans, only somewhat smaller. Where a large quantity of flower cutting has to be done, a few good plants of this should always be on hand, for sprays of it mixed with the flowers are very handsome. It also makes an admirable table plant when kept in small pots. Its roots freely from cuttings, and should be grown on quickly in a good rich soil. Its flowers are not very elegant, but as a neat table plant it should be grown by everyone.—W. G.

The Potato Disease.—A "Potato Grower" writes to the *Pall Mall Gazette* from Doncaster as follows:—Having had a number of your valuable papers sent me by a friend, containing an article bearing upon Irish rents and the question of paying them, I was very much struck with the concluding section of it, bearing upon the germs of the Potato disease being present in the tubers now. I have not the slightest doubt of the accuracy of the statement. Respecting the disease in England (and I write from the centre of a Potato-growing district in North Lincolnshire) I can with authority state that it has not only made its appearance, but has already developed itself to a fearful extent. Crops taken up apparently quite sound, have, by the time they have been in the pits about a week, from one-third to one-half of them become unfit for market, and I should not be surprised if Potatoes sent off to market apparently sound, will, on arrival, be found to contain additional signs of the epidemic. If we live to see the new year in, we shall find that our worse fears are realised. Those who were fortunate enough to get them up before the rains set in will have least cause to complain, and those who sell now will have the most to send to market, and less to give cattle.

Abutilon Boule de Neige.—This, certainly, is a nice greenhouse plant, its white flowers being more pure than some of the other varieties, but *A. Thompsoni* is more useful for table decoration; its leaves are beautifully variegated, and its orange flowers are very pretty. We have both in flower, and they will be useful at Christmas.—J. R.

The Horticultural Society at G.—Permit me to draw the attention of your readers, and especially those having the management of horticultural societies, to the good, yet quiet, unobtrusive work that is done at the little town of G—, in Lincolnshire. The horticultural society is composed of county gentlemen, clergymen and gardeners. The two former offer the money prizes, and otherwise assist the society by their local influence; whilst the judges are chosen from the gardeners in the district. At the annual exhibition, which is generally held about July 5th, the competitors are arranged in divisions—viz., one for nurserymen, one for *bonâ fide* gardeners, and one for cottagers and artisans who cultivate their gardens themselves, and have no assistance. It is to this latter division that I wish most particularly to allude. As many of them have half an acre each of garden, and some of them grass land besides to manage in their spare hours, it can readily be imagined how hard, and under what adverse circumstances, these enthusiastic cottagers have to work. The entrance fees are fixed at the nominal rate of 1s. for each exhibit, which also admits the exhibitor to the grounds free. The prizes for the best kept gardens are, or used to be, respectively 30s. for the first, 20s. for the second, and 10s. for the third. The operations of the society extend over a radius of six miles, which includes a considerable number of populous villages; these villages are again divided into districts, each district containing six villages, and the prizes mentioned are allowed for each separate district, so that several people can by this means obtain prizes at the same time and in the same competition, which, of course, could not be done if the prizes were made into larger sums. The prize-winners think more of the honour of winning than of the mere value of the prizes won; indeed I have frequently known men come home from the show with "Highly Commended" who have remarked, "Better luck next time," and who the next year succeeded in taking the majority of prizes in their class. But here, I think, there is room for amendment; and where is the show that is quite perfect in everything? The garden labourers (men who in some instances have worked in large gardening establishments for over forty years) are classed with the agricultural labourers, and heavily handicap these latter, who can never acquire the experience of the garden worker. What I should much like to see is the garden labourer put into a class by himself, and the agricultural labourers by themselves, then it would be

fair for both. It certainly can be but a small pleasure to a man who is working in a garden all the year round to win a prize from one who, perhaps, never was seen in a first-rate garden from one year's end to another. But to proceed. Another good point about this society is that in the month of November it distributes in each village, fruit trees, such as Apples, Plums and Damsons, and afterwards sends packages of assorted vegetable seeds to the head gardeners for them to deliver to the recipients, with the proviso that no one shall receive them two years in succession. This, in my humble opinion, is an example well worth following by much larger societies than the one referred to. Horticulture has taken immense strides during the last thirty years, and will advance rapidly in the future, if the all-absorbing interest that is taken in it at the present day continues. Patience and perseverance are most necessary essentials to an horticulturist, and these combined with industry will not fail to bring success to those endowed with such qualities. I would earnestly recommend every cottager who takes an interest in his garden to purchase "Carter's Practical Gardener," which is the best book he could have, because it is plainly and sensibly written.—*Wm. Smith, The Gardens, Springfield, Alderley Edge, Nov. 22nd.*

DEATH OF M. VAN GEERT.

WE regret to record the death on Nov. 23rd, at Ghent, of Mr. AUG. VAN GEERT, senior, after a few days' illness. The deceased gentleman had many friends in this country, especially among the elder members of the trade, and was much respected. He came over here from Belgium in 1830, when quite a youth, to learn his business as a nurseryman at the famous establishment of Knight & Perry's (now Messrs. James Veitch & Sons), Chelsea, and when, after being three years at Chelsea, he joined his father in Ghent, became a regular importer of the best English novelties, and maintained a regular correspondence with our leading nurserymen until he retired from business some years ago. His extensive business at Mont St. Amand passed into the hands of the present esteemed proprietor, his son, Mr. Aug. Van Geert, junior, but his love of plants, especially of Orchids, was so strong that even in his retirement he spent most of his time among them. Of Orchids he maintained a nice private collection in the nursery of his son-in-law, Mr. Edward Pynaert, and greatly enjoyed the pleasure of attending to them himself. In private life his amiability and kindness of heart endeared him to all who had the pleasure of his acquaintance.

The funeral took place in the cemetery at Ghent, on Friday, Nov. 26th, in the presence of a large assemblage of friends and deputations from the various bodies with which Mr. Van Geert was connected, the chief mourners being Mr. Aug. Van Geert, Junior, and Mr. Pynaert. The bier was literally covered with magnificent crowns and wreaths of the rarest natural flowers, and, altogether, the ceremony was most impressive; a detachment of infantry attending to do honour to the deceased as a Chevalier of the Order of Leopold. M. le Comte de Kerchove de Denterghem, president of the Société Royale d'Agriculture et de Botanique of Ghent, pronounced the funeral oration, in which he touched feelingly on the loss the society had sustained by the death of him whom they had assembled together to say a last farewell, Mr. Van Geert being the one who had most contributed to the success of the Society. After glancing at the intimate and friendly relations which Mr. Van Geert enjoyed with other nurserymen, and with those who were brought into contact with him, M. le Comte briefly sketched the active and illustrious career of their departed friend, from the early age at which he entered Messrs. Knight & Perry's nursery, at which time he commenced a cordial understanding with English nurserymen, which has never abated since his return to Belgium to enter his father's nursery, there to introduce new methods of culture, new business arrangements, and above all new plants, and by his general energy and straightforward habits to raise the establishment into the position of one of the best in Europe. In 1844, Mr. Aug. Van Geert was made a member of the Société Royale d'Agriculture et de Botanique, taking his seat beside his father, who was elected in 1819, and soon became a leading spirit in the society, more especially in connection with its exhibitions. In 1873,

the King conferred on him the badge of Chevalier of the Order of Leopold, and many other honours fell to him as a citizen, and also as one of the best exhibitors of plants of the day. Through all he deported himself humbly and ever kindly towards his fellow-man, of whatever degree or station he might be. In substance, these and many other kindly remarks were made by M. le Comte, and echoed in the breasts of those around, but not more, we are sure, than in the breasts of the many friends the Van Geert family has in the British Isles.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—No better work can be done at the present time than looking over the plants to make sure they are clean, and in stamping out thrips, &c., in the incipient stage by sponging with tobacco water, or dipping. *Odontoglossum vexillarium*, *O. Roezlii* and the varieties of *Masdevallia Chimera* want specially looking after in this respect in winter. Any of the *Cypripediums*, as they go out of flower, may be repotted, and in the case of those which have formed growth too tufted, and likely to impair the quality of the flowers, they should be broken up and divided out in the pots or pans destined to receive them. *Pleiones*, as they go out of flower, should be repotted if they require it, but these plants when carefully handled go two years or more without repotting. Whether repotted or not, they should be placed in a position near the glass of the roof, and be watered from time to time, but not too heavily, until they send forth new roots from the young growths.

The *Cattleyas*, *Laelias*, &c., want to be kept well down to the temperatures prescribed for them, and only sufficient water given to keep them plump.

THE TEMPERATURES FOR THE MONTH OF December should be:—Warm house, East Indian, 65° to 70° by day, 60° at night; *Cattleya* or intermediate house, 60° to 65° by day, 55° at night; Cool or *Odontoglossum* house, 50° to 55° by day, 45° at night.

It is needless to say that the greatest amount of light possible should be given, as one of the greatest drawbacks to Orchid culture is our long sunless periods.—*James O'Brien.*

Labels for Orchids.—"R. N." (p. 203) is wise in thus early in his career as an Orchid grower, turning to the important question of naming or labelling Orchids. Nothing adds so much to the pleasures of the amateur as a correct numbering or labelling of his specimens, so that on flowering he may know where he procured them, out of whose importation they came, and so forth. In my own opinion this matter is never so properly dealt with as when a proper stock-book is started, with a separate number for each genus, or a letter for the genus and a number for the species, and the plants are marked with corresponding lead numbers on their pots, the labels being turned over and made to clip the rim of the pot. In this way a correct and perfect register can be kept, and one the least likely to get disarranged by loss of labels or other causes.

But, at the same time, such numbering or labelling is open to the objection that it is not of easy reference, and is, in many cases, of no avail without the book being consulted. It is well, therefore, in the case of special plants, proved good varieties, &c., to supplement the use of the lead number, or depart from it in special cases where it is desirable to call attention to particular plants. In such cases it is best to have imperishable labels, such as those supplied by Mr. J. Pinches, of 27, Oxenden Street, London, S.W., which always look neat, and are far preferable to the ordinary wooden tally, so very objectionable on account of its decaying quickly. In the fine collection of Wm. Lee, Esq., a clever compromise is made between the wooden and the metallic label, by having small, square, smooth labels of boxwood, on which the name and any other information desired is written. In the lower edge of his tablets holes are bored, and stout wire pins inserted. These pins are stuck in the pots, and not being amenable to rot or decay, they have all the advantages of a metallic label, while giving the more convenient writing surface of wood. They are, perhaps, the neatest labels extant.

But, nevertheless, for general purposes on a large scale, we must return to the lead number and accurately kept stock-book. Of course with large batches of one

importation, it is only necessary to number two or three of the batch to ensure the identity of the whole, and leave the numbering of the individual plants until they flower.—*James O'Brien.*

Orchids at The Dell, Egham.—There is always something good and interesting to be seen at Baron Schroeder's. The latest addition in the glass department is a splendid new house 80 ft. long and 20 ft. wide, which at present is filled with a well-grown collection of *Chrysanthemums* of all the leading sorts, magnificently flowered. Amongst the many fine examples of cultivation to be seen in the stove, most noticeable is the splendid specimen of *Anthurium Veitchii*, with about fifty leaves, many of which are nearly 5 ft. long, and without a blemish. The *Nepenthes* house is a grand sight just now; and the various Orchid houses contain, as is well known by many, a most valuable collection of plants of all the leading and most rare kinds; the innumerable spikes and sheaths on the various *Laelias* and *Cattleyas* speak volumes for the display that is in store.

The following, at the present time, are a few amongst the many to be seen in flower:—*Cattleya Bowringiana*, which is new to me; a splendid small-growing *Cattleya*, something in the way of *C. dolosa*, having four charming flowers, sepals and petals of the colour of the well-known *Skinnerii*, the lip of a rich plum colour, with a peculiar yellowish white tinge at the back. Several fine forms of *C. Dowiana*, *C. labiata*, *C. Fausta Bella*, very rare; the charming *C. Exoniensis*; and of *Calanthes* a large quantity, well grown. *Cymbidium giganteum* is a fine variety, with four good spikes; *Burlingtonia decora*, *Brassia antherotes*, *Cypripedium Spicerianum*, many very excellent forms; the pretty *C. Godefroyæ*, *C. Harrisonianum superbum*, *C. purpuratum*, *C. Haynaldianum*, *C. vexillarium*, and the old *C. barbatum*, *C. Schroederii*, *C. Sedeni*, *C. Dominianum*, &c.; *Aërides Rohanianum*, with two fine spikes; *Dendrobium formosum*, *D. Dearii*, *D. bigibbum* and *D. superbum*, fine varieties; *Epidendrum xanthinum*, *Dendrochilum Cobbianum*, *Lælia elegans*; *Masdevallia macrura*, *M. Winniana*, *M. Wagnerii*, *M. Bella*, *M. Tovarensis*, *M. chimera*; *Miltonia Moreliana*; *Odontoglossum Alexandræ*, very many extra good; *O. Wilekeanum*, *O. Godefroyæ*, a very fine yellow form, with bright reddish brown spots, a thorough good thing; *O. Andersonianum lobatum*, another fine *O. Andersonianum*, *O. Rossii majus* and *O. constrictum* are only a few that are to be seen; *Oncidium varicosum*, many varieties of the grand *O. tigrinum*, very sweet; *O. umbiculatum*; *Pleiones*, all the best forms, charmingly flowered; *Vanda cœrulea*, good spikes; *V. tricolor* and *V. suavis*, good plants, fine varieties, well-flowered and very sweet. The charming bright *Sophranitis* and the old *Maxillaria picta* are also figuring well. *Trichosma suavis* is well done; its sweet-scented flowers are fine for cutting.

The above are only a few I noticed when walking through the houses; the grand condition and the fine growth the various *Dendrobiums*, *Cattleyas*, *Laelias*, *Cœlogynes*, *Vandas*, *Aërides*, *Saccolabium*, too, are making, shows the treatment that they receive suits them admirably. The good condition the various departments are in, convinces one that they are managed in a thoroughly skilful and practical manner, the credit of which is due to Mr. Ballantyne.—*A. O.*

A Few Good Orchids from Glasnevin.—Steadily advancing in importance, under the earnest guidance of Mr. F. W. Moore, the Orchid collection at Glasnevin Botanic Gardens, Dublin, is already of great interest, and bids fair to be one of our best representative collections in any public garden. The flowers at present sent are a spike of the golden *Epidendrum xanthinum*, also mentioned from another garden in our last issue; a massive inflorescence of the rare *Catasetum viride flavum*, with large wax-like flowers of bright yellow and green; some blooms of the true *Promenaea Rollisoni*, which, notwithstanding its being an old plant, is again scarce; although the pretty *Promenaea citrina* and others of the genus, which once were scarce, are now tolerably plentiful. Also comes a flower of the best variety of what we should call *Cattleya Dominiana* we have ever seen, the whole flower very large and bold, and the labellum a glorious bit of violet-mauve colouring. This plant is invariably named *Lælia Dormaniana* in collections: but if there is any virtue in the general tests for the genus—and in particular of the pollen-masses (four developed for *Cattleya*, eight for *Lælia*)—it is certainly a *Cattleya*.

Zygopetalum Gautieri.—Hitherto we have always seen this plant imported growing on stems of *Alsophila ferox*; but in Mr. Wm. Gordon's Orchid nursery, at Twickenham, are some good specimens of it on stems of a Fern, which, by its newly put forth leaves, seems to be an *Angiopteris*. The stems of this Fern are also prickly, the same as the *Alsophila*.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

PROPAGATING CHRYSANTHEMUMS.—We have completed, as far as practicable, the propagation of Chrysanthemums. There are a few stools upon which the cuttings are not forward enough, and which must of necessity stand over; but as soon as the flowering of these show signs of going past their best, they will be headed down, and so by that means encourage growth of the stool. Good specimens cannot be expected if the cuttings are not inserted in proper time. As the

EARLY VARIETIES go out of flower, they should be removed out-of-doors to some sheltered position, and be properly attended to in the way of watering, until it is ascertained that sufficient young stock is in hand. Most of the early-flowering varieties will give a good yield of bloom if planted out in some favourable position and liberally treated; they well repay every attention, and they can be had in flower before there is danger of frost destroying them.

CAMELLIAS.—Should the pots of Camellias show any trace of having worms in them, a good dose of lime-water should be given to dislodge them. An occasional watering of clear liquid manure may be given, especially if the plants are carrying many flowers; soot-water will also be found very beneficial, and greatly help to keep these plants in good health. Be extremely careful that the stock of

TREE AND OTHER CARNATIONS is not coddled by the application of fire-heat. Thoroughly ventilate the structure in which they are staged, and keep a sharp look-out for green fly, against which fumigate or dip in a solution of Tobacco water. Over-watering of these plants must be carefully avoided, and the surface of the soil kept free from moss and occasionally stirred; but do not top-dress at present.

ZONAL PELARGONIUMS.—As the zonals finish flowering, have them removed and placed on some light airy shelf, and kept rather dry. Towards February they will start away again, and form a good succession to those which may now be put in their places.

THE FORCING HOUSES.

THE EARLY VINERY.—When it is perceived that the buds on the earliest Vines are swelling up, a little more heat may be applied; but still guard against anything like a high night temperature—50° will suit well. If the border was not watered at starting, a soaking should be given, but it must be warmed—say—to 80°, which will encourage growth and help to warm the soil. To the soil in the outer border water of a much higher temperature may be given, but avoid placing too great a depth of fermenting material, or the soil will become sour.

POT VINES.—In the case of pot Vines, care must be taken that the bottom heat is renewed when required; at the best these are ticklish customers to deal with, and any neglect will be certain to result in an indifferent crop. A pot Vinery is, in my opinion, far preferable in every respect, and will last for many years where over-cropping is not indulged in. Peaches, unless required very early, will not need to be started before the beginning of the new year.

PIT FOR EARLY STRAWBERRIES.—It will now be advisable to prepare a pit for the earliest Strawberries. Let it be filled with all Oak-leaves, if possible, as these give a gentle heat which lasts a long time. Do not plunge the pots; but after it has had time to settle, let it be well trodden, and then the plants be packed together. The heat rising from the bed will be quite sufficient to start them into active rooting and growth. At the same time, it is advisable to have the bed made in a heated pit, when, in the case of severe weather, the pipes may be used.

VARIETIES FOR EARLY FORCING.—As to varieties, we find none so reliable for first work as Keen's Seedling, to be followed by President and Sir J. Paxton; and for late work, British Queen and Sir C. Napier—a selection that all may rely upon. I am quite aware that in many places Keen's rapidly runs out to such an extent as to become quite useless; in that case, substitute Vicomtesse Héricart de Thury, a good hardy reliable kind.

CHICORY, ASPARAGUS, &c.—We have placed a batch of Chicory roots in the Mushroom house, so as to have it in readiness. We have also put in successional

batches of Sea Kale and Asparagus roots, and prepared the next pit to succeed. We have also made another sowing of French Beans, which completes the round.

CUCUMBERS are fruiting, but they swell slowly; albeit, a good top and bottom-heat is maintained. I fancy it may, in a great measure, be accounted for by the almost total absence of sun; the plants are, however, growing vigorously.

THE KITCHEN GARDEN AND GROUNDS.

GENERAL WORK.—The weather having continued favourable we have made good headway with the digging of empty squares, also the border for earliest Potatos. We have also put litter round the crowns of Globe Artichokes, dressed and dug between the rows, and so made them secure. We are now double digging squares ready for Parsnips, and attention will next be paid to the square intended for Carrots.

PREPARING GROUND FOR POTATOS.—Most of the squares are occupied by green crops, upon which we hope to plant Potatos; but as they are finished digging will be carried on. We have removed Cauliflower stools from the border where they were grown, and after giving a good dressing of leaf-soil intend to ridge for planting Myatt's Potatos.

STORING HORSE-RADISH.—We intend within a few days to lift and store a sufficient stock of Horse-Radish. I must not omit to say, carefully save all thongs when lifting Sea-Kale for forcing, they keep readily if a little litter be placed over them.

SAVE THE LEAVES.—Now that the leaves are all down, it is absolutely necessary that they should be got together quickly, in order that the ground may be kept as tidy as possible, those for hot-bed purposes being kept by themselves; the remainder, if put together and turned once or twice, will come in most useful for digging in, particularly if the soil is of a retentive nature.

LEVELLING TURF.—If unsettled weather prevail we shall attend to the levelling of turf, repairing of verges all round, and such-like work; time may also be profitably spent in thoroughly rolling both the turf and walks after the leaves have been cleared away.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

NOTTS HORTICULTURAL AND BOTANICAL.

THE first general meeting of the above Society for the winter season was held at the Mechanics' Institute, Nottingham, on Wednesday, November 17th, when there was a very large attendance of members and others. The vice-president of the society, Mr. Samuel Thacker, was unanimously voted to the chair, and the subject chosen for discussion was the Chrysanthemum. The chairman took occasion to refer to the financial condition of the society, which is not at the present time in the most flourishing condition, a circumstance much to be regretted, considering that Nottingham is such a large and wealthy town. To some extent this was no doubt owing to the want of energy on the part of some of the members of the society, but it was hoped that the large gathering that evening would be the means of stimulating to further exertion. The society has been established five years, and it is gratifying to observe the rapid strides horticulture has made, through its influence, in the district.

There was an excellent display of Chrysanthemums, fruits, &c., the merits of which were freely discussed by the members. The magnificent display of Chrysanthemums exhibited by H. A. Fisher, Esq., The Park, Nottingham (gardener, Mr. Sutton), was by far the most attractive feature, and for size, colour and form were simply perfection. Mr. Johnson, St. Anne's Well Road, Nottingham, an artisan grower, sent some immense blooms of Queen of England, Empress of India and Mrs. George Rundle, which reflected upon him the greatest credit. Mr. C. J. Mee, of Wollaton Hall Gardens, exhibited a good stand of blooms, also a large and varied collection of Apples and Pears—all the favourite varieties being well represented. Pitmaston Duchess Pear was especially fine, and Improved Besspool Apple very large and highly coloured. H. R. Clifton, Esq., Clifton Hall (gardener, Mr. Anderson), staged a miscellaneous collection of fruits, amongst which were a single bunch of Gros Colmar Grapes very fine in berry, and an unknown variety of Apple—supposed to be a

seedling—which has excellent keeping qualities, and a peculiar yet agreeable flavour. His Pears, Pitmaston Duchess and Maria Louise, were very good. J. Fairfield, Esq., Stapleford (gardener, Mr. Forrest), staged two fairly well-finished bunches of Barbarossa, and a collection of cut Camellias. Mr. S. Thacker, as usual, set up a pretty arrangement of cut Orchid flowers, which received a large share of attention from the visitors. Amongst others were Lycaste Skinnerii alba, Cypripedium Sedeni, Cypripedium caudatum, Oncidium Rogersii, Oncidium ornithorrhynchum, Vanda cœrulea, Phalænopsis amabilis, Zygopetalum Mackayii, and the beautiful and useful Dendrobium superbiens; the whole being arranged upon a groundwork of Asparagus and Ferns. Mr. Fletcher, Annesley, Notts., sent two dishes of his seedling Potatos, Lord Tennyson and Dewdrop. The former is a beautiful kidney variety of fine form, and the latter a coloured, round, late variety; for which the Society's Certificate of Merit was awarded. Messrs. J. R. Pearson & Sons, Chilwell, had a large and excellent assortment of Apples and Pears, together with an arrangement of Chrysanthemums, &c. C. J. Cox, Esq. (gardener, Mr. Meadows); F. W. Cooper, Esq. (gardener, Mr. Ralph); and Mr. T. B. Hallam each staged very creditable collections of Chrysanthemums, &c.

Manchester Horticultural Improvement.

—November 17th.—At this meeting, which was largely attended, Mr. Bruce Findlay, the president, occupied the chair, and Mr. William Neild read a paper on the Chrysanthemum. The Chrysanthemum, or golden flower, is, he said, of all flowers one of the least difficult to cultivate, and when well-grown one of the most effective. It is an extensive genus of plants which produces composite flowers, and comprises annuals, perennials and half-shrubby forms of growth. Most of the species are found in a wild state in different parts of Europe; several of them are not worth growing, their flowers being of a very inferior description. We have two British species, namely, the Corn Marigold and the great Ox-eye Daisy, both of which bear very pretty flowers, and are well worthy of a place in the garden. They are, in their native state, two of our brightest and best composites. The Chinese Chrysanthemum was originally introduced into England from the Celestial Empire in the year 1764, but was soon afterwards lost, and was again introduced in 1795. At that time there was a considerable difference of opinion among botanists as to which genus the flower belonged; some held that it was Camomile, whilst others believed it was a Pyrethrum. To compromise the matter it was eventually decided to name it Chrysanthemum, from chrysos, "gold," and authemum, "a flower," from the golden colour of some of the species. It is the favourite flower of the Chinese, and is carried with them whenever they emigrate. The Japanese kinds were introduced by Mr. Fortune from Japan about 1860, and three years after this date one was figured in the *Botanical Magazine*. Both Chinese and Japanese varieties are very popular, and deservedly so, their flowers being varied in size, form, and fragrance, and of every shade of colour except blue. They are produced naturally at a season of the year when other outdoor flowers are scarce; are a hardy race of plants, easily propagated by means of cuttings, layers, division of old plants, and from seed. The latter method of propagation is chiefly adopted with the view of obtaining new varieties.

This is a very interesting occupation, for which there is comparatively a small return in the form of new plants. The late Mr. John Salter estimated that only one seedling Chrysanthemum out of every 2,000 raised was worth naming. There are probably 1,500 or 1,600 varieties in cultivation, and many of these have two or three synonyms, so that there are close upon 2,000 names to select from. Several of the principal nurserymen have adopted the excellent plan of giving the synonym after the correct name, which will prove to be of great assistance to persons ordering plants, and will remove a source of disappointment to many people. It is not necessary or desirable to grow all the varieties, as many of them are so much alike that it requires an expert to discover the difference. Mr. Neild gave the names of a goodly selection of the best representatives of the different forms of flowers, and then went on to say that there has been a very marked improvement in the cultivation of Chrysanthemums during the past few years. One of the most notable features is their height. Most cultivators now manage their plants so

as to keep them much shorter than formerly, and it has been proved beyond question that equally good flowers can be produced by such plants. He failed to see much beauty in a plant that one has to mount a step ladder to enable him to examine the flowers thereof. It is a matter of surprise to many people that the early-flowering varieties are not more extensively grown for the decoration of the out-door garden during the autumn months. There is an orange-yellow variety which begins to flower early in August, continues for three months to be one of the brightest ornaments of the garden, and is invaluable for cutting purposes. In addition to the passages given above, which are of general interest, Mr. Neild gave the meeting many valuable practical hints as to the cultivation and proper management of this particular plant.

The President, Messrs. Lunt, Bennett, J. S. Butterworth, W. B. Upjohn (secretary), and Williams took part in the brief discussion which followed.

Royal Horticultural Society of Aberdeen: Annual Meeting.—The annual meeting of this society was held in the Music Hall, Aberdeen, on Saturday evening, the 27th ult.; there was a large attendance of members. Councillor Lyon, chairman of the acting directors, presided. The secretary, Mr. A. M. Byres, C. A., Aberdeen, read the minutes of the last annual meeting, which were approved. The directors' report and statement of accounts were then read, as follows:—"In submitting the annual report for 1886, your directors desire to express the grateful thanks of the society to Her Majesty the Queen for the handsome prize which Her Majesty has been graciously pleased to continue this year. The best thanks of the society are due to the Right Hon. the Earl of Aberdeen; Sir William Cunliffe Brooks, Bart., M.P.; Sir Francis Grant, Bart., of Monymusk; J. H. Bott, Esq., Sutton Hall, York; the Town Council of Aberdeen, Lord-Provost Henderson, ex-Lord-Provost Matthews and others, for their contributions to the prize list. The society held two exhibitions during the year in the Music Hall, Aberdeen; and while the exhibits were fully up to the average of former years, both as regards excellence of quality and number of entries, your directors regret that the public did not attend in such large numbers as the nature of the exhibitions warranted. The total income for the past year amounted to £360 1s. 7d., and the expenditure to £333 17s. 3d., leaving a surplus of £26 4s. 4d. to be deducted from the adverse balance of £41 16s. brought forward from last year, thus reducing it to £15 11s. 8d., which sum, the directors are hopeful, will be wiped off next year." In proposing their adoption, the chairman reviewed the work of the society for the past year, and congratulated the members on the financial success which had attended the same, notwithstanding the somewhat meagre attendance of the public at the autumn exhibition. After referring to the general depression, which had affected similar institutions, he touched on the many advantages to be derived from supporting such a society, and concluded by expressing a hope, that by another year the society would be entirely free from debt. The motion was seconded and unanimously agreed to. The chairman intimated, that Lord-Provost Henderson (Aberdeen), had kindly consented to become hon. president of the society. Shoremaster Sutherland, in eulogistic terms, proposed the re-election of the directors, which was seconded by ex-Baillie Gordon, and agreed to. On the motion of the chairman, a cordial vote of thanks was accorded to the secretary for his energetic labours during the past year; and on the motion of sergeant-instructor William Fraser, a like compliment was paid to the chairman, who suitably replied. A letter was then read from Sir Francis W. Grant, Bart., of Monymusk, intimating the presentation of a silver cup, value £5, for the best table of plants for next year's show. The secretary was instructed to convey to the donor the best thanks of the society. The members supped together in the Douglas Hotel, Aberdeen, yesterday evening (Friday, 3rd inst.), this being a revival of an old custom in the society.

against was where to display the exhibits, and it must be freely confessed that the resources of the great hall and galleries were severely taxed, and another year further room must be found. This is practicable, and will be attended to, giving more extended accommodation to exhibitors, greater facilities for judging and much greater space for visitors. The attendance has been unusually large, inconveniently so, and the very large number of exhibits gave the judges a very heavy amount of work until late in the afternoon, and it will become a question with the committee as to the augmenting the number of judges another year if the exhibition continues to grow as it has done.

Chrysanthemums in pots have always been done well at Birmingham, and this year they fully reached the usual standard, although one of the principal exhibitors spoiled some of his finest plants from over-feeding, and other growers had to mourn the loss of fine plants of Queen of England and others from damping, for the Birmingham district suffered from a prolonged period of damp dull weather. For nine large-flowering, in pots, Mr. Brasiere, gardener to the Mayor of Birmingham, was first; and Mr. W. H. Dyer, gardener to Mrs. Marigold, second. For six plants and three plants respectively, Mr. J. Crook, gardener to W. Millward, Esq., was first; and Mr. Cooper, gardener to the Right Hon. Joseph Chamberlain, M.P., second in each class. The pompons were better than usual, Mr. Brasiere being first for six, and Mr. Dyer first for three. Some very pretty standards and pyramids were also shown.

The cut bloom section of the exhibition was most satisfactory in every way, excepting, probably, to the non-successful competitors; for a large number of stands failed to score in the competition, over 1,500 blooms being staged for this purpose.

In the class for twenty-four incurved and twenty-four Japanese, distinct, the first prize, £10, was well won by Mr. Parker, gardener to J. Corbett, Esq., M.P., Droitwich, with—Back row: Grand Turc, Triomphe de la Rue des Châlets, Belle Paule, Meg Merrilies, Baron de Prailly, Fair Maid of Guernsey, Japonicus, Mdme. C. Audiguier and Thunberg. Second row: M. Astorg, Boule d'Or, Flamme de Punch, Soleil Levant, Jeanne Délaux, Mrs. John Laing, Criterion and J. H. Laing. Front row: Agréments de la Nature, Grand Turc, M. Délaux, Comte de Germiny, Grandiflora, Duchess of Albany, Peter the Great and Rosea superba. Incurved, back row: Jeanne d'Arc, Queen of England, John Salter, Lord Alcester, Empress of India, Emily Dale, Princess of Wales and Lord Wolseley. Second row: Prince Alfred, Mrs. Shipman, White Venus, Princess Teck, Golden Empress, Pink Venus, Jardin des Plantes and Mrs. Heale. Front row: Mabel Ward, Novelty, Barbara, Miss M. Morgan, Nil Desperandum, Bronze Jardin des Plantes, Eve and Princess Beatrice. Other excellent lots took the remaining prizes.

In the class for twelve incurved and twelve Japanese, Mr. A. Barker, gardener to Lord Hindlip, staged a very fine lot. Back row: A. Salter, Golden Empress, Queen of England, Emily Dale, Fair Maid of Guernsey, Triomphe de la Rue des Châlets, M. Brunet and Golden Dragon. Second row: Jeanne d'Arc, Princess of Wales, John Salter, Jardin des Plantes, M. Ardurd, Thunberg, Japonicus and Meg Merrilies. Front row: Barbara, Princess Teck, Empress of India, Cherb, Belle Paule, Comte de Germiny, Balmorcan and Julie Délaux. Mr. J. Corbett, M.P. took the second prize with a very fine lot.

In the class for eighteen incurved blooms, Mr. W. Comfort, gardener to G. A. Everett, Esq., Knowle, was first with Queen of England, Jeanne d'Arc, Princess of Wales, Golden Empress, Alfred Salter, Lord Alcester, Rev. J. Dix, Jardin des Plantes, Prince Alfred, Pink Venus, Princess Teck, Cherub, Mrs. Heale, Bendigo, Nil Desperandum, Eve, Lady Slade and White Venus.

In the class for twelve Anemone-flowered, Lord Hindlip was first with Fabias de Médiana, Madame Cabrol, Lady Margaut, Souvenir d'Ardums, Fleur de Marie, Gluck, Georges Sand, Acquisition and Madame Clos. In this class there is a great want of refinement, old Fleur de Marie standing out prominently for form and quality. In the class for twelve Japanese Chrysanthemums, Lord Hindlip was first with a fine lot, viz.: Fair Maid of Guernsey, Triomphe de la Rue des Châlets, Golden Dragon, M. Brant, Japonicus, Belle Paule, Sarnia, Criterion, Thunberg, Jean Délaux, Comte de Germiny and M. Astorg; the second prize lot—an excellent one—was staged by Mr. Corbett's gardener. In the class for six incurved and six Japanese grown in Birmingham, Mr. Brasiere, gardener to the mayor, was placed first with a good lot; and J. Baus, Esq., second. All the Chrysanthemum cut-flower classes were very fully filled and the competition very close.

Primulas are always a marked feature of the Birmingham winter and spring exhibitions, and on this occasion they were in good form and plentiful. Mr. T. B. Thomson, nurseryman and seedsman, Birmingham, took all the first prizes in the open class; and Messrs. Pope & Son, King's Norton Nurseries, all the second prizes. The last-named firm exhibited a truly fine new variety, "Lady Randolph Churchill," a great improvement on Princess Louise; only a single plant

was staged, or it would have received a Certificate. In the gentlemen's gardeners' classes for Primulas there was great competition. For nine miscellaneous plants, the mayor took the first prize with a fine lot of Crotons, Palms and other plants, including a fine Cycas involuta. This exhibitor also took the first prize for a very fine specimen Japanese Chrysanthemum, "Bouquet Fait." Mr. Cooper's first prize lot of twelve zonal Pelargoniums, although not large, were well flowered.

Three excellent groups of naturally-grown groups of Chrysanthemums were set up, none of the plants being very large, generally with two to three or four shoots with very fine blooms; some were only single stems, and, in some instances, struck as late as June, and with fine exhibition flowers on them. Mr. Horton, gardener to Richard Chamberlain, Esq., M.P., was first; Mr. J. Wastrall, gardener to J. H. Less, Esq., second; and Mr. W. H. Dyer, third. Naturally grown plants, in 36-in. and 24-in. pots, fit for general greenhouse and indoor decoration, deserve encouragement by our Chrysanthemum societies, and late-struck plants accomplish this. Some excellent bouquets were staged, both in the nurserymen and amateurs' classes.

There was a very large display of Apples and Pears especially. Three collections were staged in competition; Mr. Gilman, gardener to the Earl of Shrewsbury and Talbot, first with a good Queen Pine, Hero of Lockinge Melon, two bunches of Muscat of Alexandria, two bunches of Black Alicante, and Apples and Pears. Second, J. Corbett, Esq.; third, Mr. Banister, gardener to N. N. V. Ames, Esq., M.P., Bristol. For three bunches of black Grapes, first, W. Bassano, Esq., J.P., with handsome, good sized, perfectly finished Black Alicante; second, Mr. A. J. Pass, Moseley, with smaller but well finished Alicante; third, J. Corbett, Esq., M.P.; an extra prize to Mr. Comfort for three fine bunches of Gros Guillaume. Two bunches of White Grapes, first, Mr. Gillman; second, Mr. Comfort. For single bunch of White Grapes, first, Mr. Gillman with fine Muscat of Alexandria. For single bunch of black, first, Mr. A. J. Pass for an enormous bunch of well-done black Alicante. Mr. Pass deserves much credit, as it is his first attempt at growing and exhibiting, and has only one small Vinery. It would require more space than we can afford to give such a full report as the Apple and Pear department of the show demands. The fruit generally was good, and in many cases very fine.

Messrs. G. Bunyard & Co., of Maidstone, sent fully 100 dishes, size, quality and colour being prominent. Very highly coloured Mother Apple (this variety was freely exhibited, and is a foremost table Apple), Old Kirke's, Lord Nelson, in fine character; Tower of Glamis, Golden Spire, Schoolmaster, Red Hawthornden, Rosemary Russett, Loddington, extra fine; Beauty of Kent, Queen Caroline, very handsome; Lady Hinckes, all conspicuously fine. Also Pears, Beurre Diel, Duchess d'Angouleme, Beurre Clairgeau and Glout Morceau, grand examples. Mr. John Watkins, of the Pomona Farm, Hereford, sent also nearly 100 varieties, in which size and colour prevailed, and we especially noticed the old Costar and Red Costar, Duchess of Oldenburgh, in fine character; Yorkshire Beauty, a very fine Apple; New Hawthornden, extra fine; very fine Autumn Pearmain, Fair Maid of Wilts, Herefordshire Beefing, and a fine tall conical-shaped Apple named Taylor's Colonel. Mr. Watkins grows 500 sorts of Apples, and his group contained many old familiar sorts.

Messrs. Richard Smith & Son, of Worcester, sent also, not for competition, a very fine collection of Apples and Pears; and in this group were extremely fine Mother Apples, excellent Ribstons, and leading kinds for which this firm is famous.

In the competing classes for Apples and Pears, there was sharp fighting and numerous entries, the winning classes being remarkably good, especially in Pears.

The local nurserymen came out well, Messrs. Pope & Son contributing a large group of superbly-done zonal Pelargoniums, all with grand trusses of flowers, and was awarded a Certificate for Le Bruat, a very fine semi-double. Mr. Hans Niemand set up a most artistically-arranged group of plants, in which there was a background of Palms, Poiusettias and Arums, with a carpet of small-growing fine-foliage plants and flowers, forming a pattern from which beautiful Crotons, &c., sprung; it was a charming bit of work. A Certificate was also awarded to this firm for their new variegated-foliaged Poinsettia, a fine thing. Mr. R. H. Vertigans contributed a group of plants and two fine wreaths. Mr. T. B. Thomson set up a beautiful group of Crotons, Palms and other plants, and sent a very fine Maltese cross of white flowers. Messrs. Cannell & Sons, Swanley, set up one of their telling groups of cut zonals and Chrysanthemums, and Certificates were awarded to M. Freeman, Helianthus and Catherine Wheel. A Certificate was also awarded to Mr. Thos. Winkworth for cut blooms of his new Chrysanthemum, Ralph Brocklebank.

Banbury.—Nov. 24th.—The first show of the Banbury Chrysanthemum, Winter Flower and Fruit Society took place in the Exchange Hall, and was, for an inaugural effort, a remarkable success. The exhibits were so numerous, that it was with difficulty that the committee could find space for the whole of them. The hall presented a very pretty and attractive

CHRYSANTHEMUM SHOWS.

Birmingham.—Nov. 24th and 25th.—The twenty-sixth annual exhibition of this society was held on the above dates in the Town Hall, Birmingham, and excellent as the exhibitions have been in previous years, this bears away the palm as undoubtedly the best ever held. The great difficulty the committee had to fight

appearance, the exhibits being staged in a very effective manner. The semi-circular space at the end of the hall was filled with a large number of Chrysanthemums, tastefully arranged, which had been sent by Mr. P. J. Perry. For six large flowering plants: the first prize went to Mr. M. Jefferies, Summertown, Oxford; and Lord North was second. For three plants: Mr. J. Green, Oxford, was the only competitor, and he showed some nice varieties. For a single specimen: Lord North was first with Julie Lagravere; Mr. J. Green was second with a prettily-trained Mrs. G. Rundle. For Japanese: Mr. Jefferies was first with some magnificent dwarfs, and Lord North was second with plants in excellent bloom. Mr. Jefferies also took the first prize in class 6, for one specimen, with a beautiful dwarf, a superb-blooming Chinaman; Lord North following with a fine large Elaine; Jonathan Gillett, Esq., being third with a Peter the Great in rare bloom. For four Pompons, distinct varieties: Mr. Jefferies was again to the fore, Mr. J. Green being second, and Lord North third. There were four entries for the group of Chrysanthemums arranged for effect: Jonathan Gillett, Esq., took leading honours with ease, showing a really splendid collection, which was much admired. Lord North was second, and Mr. A. W. Macnaughton, of the Vineyard Nurseries, third. The large-flowering cut blooms presented a brilliant appearance, and there were four entries for the twenty-four varieties; the competition between P. Southby, Esq., and Mr. S. Gulliver for leading honours was very keen, but they were awarded to the former; Mr. F. J. Myers, of Charlton, was third. For twelve distinct varieties, F. C. Aplin, Esq., was first; Mr. J. W. Symington coming next. For nine distinct varieties, large flowering, R. N. Byass, Esq., was first and specially commended for the manner in which the blooms were put up; Jonathan Gillett, Esq., was second. For Japanese cut blooms, there were six entries for the twenty-four varieties, and many superb blooms were shown; the successful exhibitors were Mr. R. Richards, P. Southby, Esq., and Mr. S. Gulliver. In class fifteen, twelve varieties, there was only one entry, Mr. Jefferies, who exhibited a Thunberg of remarkable merit. For nine varieties, Mr. N. Spokes, of The Hollies, was first, with R. N. Byass, Esq., second, and J. Gillett, Esq., third, all showing some well-grown blooms. Lord North took the first prize for a table of winter-flowering and foliage plants, other than Chrysanthemums; Mr. P. J. Perry being second, and J. Gillett, Esq., third. Mr. A. W. Macnaughton took the first prize for a remarkably well-arranged display of Chrysanthemum flowers in an epergne; this was characterised by good taste, and was one of the nicest things in the show. Mr. T. W. Holland was highly commended for a basket of Roses.

There was a remarkable display of Apples and Pears. The entries were good, and the competition in many instances very keen. Mr. Macnaughton had no difficulty in carrying away the first prize for Grapes; Mr. George Macklin, being second; and Mr. S. Rowles, third. The neighbourhood has secured a reputation for the excellence of its Potatoes, and no wonder, seeing the size and symmetry of those exhibited. There was also an excellent display of Onions, and the first prize for the best twelve bulbs fell to Mr. G. Neal, gardener to P. Southby, Esq., with a dozen extraordinary bulbs of Deverill's Anglo-White Spanish, weighing no less than 16½ lbs. Mr. Doherty, gardener to Lord North, Wroxton Abbey, won the second prize with a capital lot of the famous Rousham Park Hero; the third going to Mr. Wiles, The Gardens, Edgemoor Park. For the best six Onions, Mr. Wingrove, gardener to R. N. Byass, Esq., Rousham Park, carried all before him with marvellous specimens of Deverill's Rousham Park Hero, weighing 8½ lbs.; Mr. Slarke, gardener to the Earl of Ellesmere, being awarded the second prize with six very fine Anglo-White Spanish, pulling down 7½ lbs. Eight stands of the newest kinds of Onions were exhibited by Mr. Deverill, Banbury, not for competition, which were certainly a feature of the show, and attracted great attention, as also did his new Onions, Jubilee and Ailsa Craig, not yet in commerce; the former a seedling by Mr. W. Finlay, gardener to Earl Sondes, and the latter by Mr. Murray, gardener to the Marquis of Ailsa. Mr. P. J. Perry sent, for exhibition only, a magnificent display of fruit, including Grapes, Apples, and Pears of immense size and great variety.

QUESTIONS AND ANSWERS.

NARCISSUS.—*J. Moir*: Keep them growing if you can, and plant them out in spring. They should have, at least, two seasons' growth in the open before being forced again.

NAMES OF FRUITS.—*W. Martin*: 1, Boston Russet; 2, Dumelow's Seedling; 3, Northern Greening.

COMMUNICATIONS RECEIVED.—A. O.—T. B.—W. C.—T. S. B.—A. V. G.—J. R.—J. D.—R. S.—T. W.—J. W. S.—G. T.—W. H.—A. C.—J. F.

TRADE CATALOGUES RECEIVED.

G. STEVENS, St. John's Nursery, Upper Richmond Road, Putney.—Catalogue of 548 varieties of Chrysanthemums.

ROBERT OWEN, Castle Hill, Maidenhall.—Descriptive List of New and Select Chrysanthemums.

WILL TAYLOR, Hampton, Middlesex.—Nett prices of Roses and Fruit Trees.

ALEXANDER E. CAMPBELL, Cove Gardens, Gourrock, N.B.—Choice Hybrid Gladioli.

LONDON SEED TRADE.

December 1st, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report no new feature in state of to-day's market. Red Clover is still being shipped to Germany at rates current last week. English Trefoil is dearer, and finest samples very scarce. New Alsike offers at reasonable figures, and qualities good. White Clover unchanged. Rye grasses are in request, and realise full prices. Canary, Hemp and Rape unchanged.

COVENT GARDEN MARKET.

December 2nd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 6	3 6	Peaches, per doz.		
Cherries, ½ sieve			Pine-apples, St.		
Currauts, ½ sieve			Michaels, each	1 6	6 0
Grapes, ... per lb. 1 0	2 6		Pine-apples, Eng., lb.	1 6	2 0
Kent Cobbs, 100 lbs. 65 0	70 0		Plums, ½ sieve		
Melons, ... each			Strawberries, per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6	0 8	Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, ... per doz.	2 0	2 6	Onions, per bushel ..	4 0	6 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English,			Radishes, per dozen ..	1 6	
per dozen	3 0	5 0	Sea Kale, per basket	1 6	2 6
Celery, per bundle ..	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatoes, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, ... per bun.	0 6	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.					

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Lilliums in variety,		
Azalea, 12 sprays	0 9	1 6	12 blooms		
Bouvardias, per bun.	0 6	1 0	Marguerites, 12 bun...	3 0	6 0
Camellias, 12 blooms	2 0	5 0	Mignonette, 12 bun...	1 0	3 0
Carnations, 12 blooms	1 0	3 0	Parma Violets (French),		
Chrysanthemums,			per bunch	3 0	4 0
12 blooms 0 6	1 6		Pelargoniums, per 12		
Chrysanthemums,			sprays	0 9	1 0
12 bunches 1 0	4 0		—scarlet, 12 sprays...	0 3	0 6
Czar Violets (French),			Primula, double, bun.	0 9	1 6
per bunch 1 3	1 9		—single 12 bun.	4 0	6 0
Dahlias, 12 bunches			Pyrethrum, 12 bnchs.	2 0	4 0
Daisies, common,			Roses (coloured)	1 0	2 0
Epiphyllum, 12 blms.	0 6	1 0	Roses, Tea per dozen	1 0	3 0
Eucharis, per dozen ..	4 0	8 0	Roses, red (French),		
Gardenias, 12 blooms.	3 0	6 0	per doz. 1 6	2 0	
Gladioli, 12 sprays			—Saffrauo (French),		
Heliotropes, 12 sprays	0 6	1 0	per doz. 0 6	2 0	
Lapageria, red,			Stephanotis, 12 sprays	4 0	8 0
12 blooms 1 0	1 6		Sweet Sultan, 12 bun.		
Lapageria, white,			Tropeolums	1 0	2 0
12 blooms 2 0	4 0		Tuberose, per dozen.	1 0	1 6
Lilium longiflorum,			Violets, 12 bunches	1 0	1 6
12 blooms 4 0	6 0		White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each..	1 6	7 6
Asters, per dozen			Foliage Plants, vari-		
Begonias, per dozen ..	6 0	12 0	ous, each	2 0	10 6
Bouvardia, per doz.	9 0	12 0	Fuchsia, per doz.		
Chrysanthemums, doz.	4 0	18 0	Gladioli, 12 pots		
Cyperus, per dozen	4 0	12 0	Hydrangea, per doz.		
Dracena term., doz. 30	0 60		Liliums per doz.		
—viridis, per dozen	12 0	24 0	Marguerites, per doz.	6 0	9 0
Epiphyllums, per doz.	18 0	30 0	Mignonette, per doz.	4 0	6 0
Erica gracilis, per doz.	9 0	12 0	Palms in variety, each	2 6	21 0
—hyemalis, per doz.	12 0	24 0	Pelargoniums, doz. ..		
—Riegermaus, doz. 9	0 12		Pelargoniums,scarlet,		
—various, per doz.	8 0	24 0	per dozen	3 0	6 0
Evergreens, in var.,			Petunias, per doz.		
per dozen	6 0	24 0	Primula sinensis, p.dz.	4 0	6 0
Ferns, in var., doz. ..	4 0	18 0	Solanums, per doz.	9 0	12 0

POTATO MARKET.

November 27th, 1886.—The ruling prices in the Station Yard at King's Cross during the week were as follows:—

	Beds.	Bk.Lnd Lndcls.	Kents.	Yorks.
Magnums, gd. smpls.	55/-, 65/-	57/6 62/6 65/-, 70/-	75/-, 80/-	75/-, 85/-
Regents do. do.	..	.. 60/-	80/-, 90/-	70/-, 80/-
Beauty of Hebron do.	70/-, 75/-	..	70/-, 75/-	90/-
Heroes do. do.	..	..	65/-, 70/-	..
White Elephants do.	..	..	75/-, 80/-	..
Celery do. do.	..	..	5/-, 8/-	per doz. ..
Savoy do. do.	..	..	3/6, 4/-	„ tally ..

During this week 678 trucks arrived at King's Cross, and 596 trucks were emptied; 87 trucks arrived this morning, and the total number in stock is 695.

A very steady trade, and prices firm; choice samples scarce and quickly bought up. The stuff arriving is much inferior in quality, and is not to be compared with the samples grown and sent last season. Dunbar Regents are making the top price of the market, £6 10s. Good samples of Potatoes much wanted.

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COCOATINA,

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Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoas thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.

Cocoatina possesses remarkable sustaining properties, and is specially adapted for early Breakfast.

In tins, at 1s. 6d., 3s., 5s. 6d., &c., by Chemists and Grocers.

Sole Proprietors: H. SCHWEITZER & CO., 10, Adam Street, Strand, London, W.C.

STRAWBERRIES.

STRONG roots; 4s. per 100; plants in small pots, 16s. per 100; ditto, in large pots, 25s. per 100. Descriptive List on application.—RICHARD SMITH & Co., Nurserymen and Seed Merchants, Worcester.

"HOW TO GROW ROSES."

Post free, 7d. Fifth Edition.

Every Amateur and Gardener before doing anything at Rose beds should get this book. It deals with everything about Roses—growing, budding, grafting, pruning, exhibiting, planting, varieties, Rose gardens, &c., &c. Three editions sold in a few months. Very favourably reviewed in the gardening papers. "The instructions and directions ... are just those we should expect from one who is thoroughly at home with his subject."—*Gardeners' Chronicle*.

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NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.

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Were it now proposed to establish a Potato Society simply to resuscitate shows, and these alone, we should not be found amongst its advocates. Shows are useful enough, no doubt; but they must be the effect of usefulness, not the cause of it. To have no other stimulus to good cultivation, or to Potato study, than is found in the winning of prizes is to place that stimulus upon a low basis, and to deal only with the most sordid of motives. We have, however, a better estimation of Potato fanciers

of all sections, and believe that whilst pleased enough to enter into honest competitions with their produce, they will be only too ready to associate with a permanent society from higher and more intelligent motives.

The recent Tercentenary Conference, although sadly shorn of elements of usefulness—due, without doubt, to abrupt conception and imperfect organisation—yet showed, amongst other things, very fully that the Potato has both historical and literary associations. Nay, more—it has its geographical ones; and in other ways, both as an article of food, and because of its proneness to disease, it has very interesting physical attributes also. What a wealth of interest there lies in these features, and how largely that interest might be developed by a society! Then, the Potato is an object of special botanical, and hence scientific, interest; and apart from its derivation, there may be found wonderful interest in the further development of known species, most of which have been left to starve in botanical gardens as mere tuber-bearing curiosities, with but little regard to their possible value as food products. Certainly, it is evident that a society which is specially concerned with all that relates to the Potato will be the most fitting instrument for the conduct of enterprises of this kind.

Then, we have very much yet to learn in regard to the disease, its action on Potato crops, and the best means of checking its ravages where they exist. It is true we have had little cause for trouble of late; but that should not tend to make us careless on a matter of such exceeding importance. Again, a society may well take into consideration the subject of food as derived from the Potato; we see in it an important article of commerce, and feel that it demands, in that direction, the closest watchfulness and attention. That we should still be so largely dependent upon other climes for a considerable bulk of Potatoes for ordinary consumption shows that a society might find plenty of useful work in the encouragement of home production. Then, we may find it useful also in assisting to obtain for Potato growers fair and reasonable rates for transit. A large dealer stated, on Friday evening last, that he could have Potatoes sent to London from France cheaper than he could send them from Reading to London, thus establishing for the home grower a great injustice, to the profit of the foreign grower.

Again, there are not merely methods of cooking Potatoes, but diverse forms in which they may be served up or utilised as good and pleasing food. There is a considerable trade growing up in the preservation of Potatoes in a dried or desiccated form, for exportation and feeding of troops or other bodies of men. Potatoes for this purpose must be both dry in texture and have considerable density or solidity of flesh. Here, again, is a direction in which a society might help in useful work; for it is of vast importance to us, as an insular nation, that we should, at all times, have at our disposal varied and healthful food resources. Then, we may come to the more purely garden aspects of the Potato; its cultivation both for ordinary consumption and for exhibition: and, finally, the holding of exhibitions, which have always proved of exceeding interest, and which may be greatly intensified if to ordinary show competitions be added all those accessories to which we have alluded.

The recent Potato Conference has demonstrated one thing fully; it is that any society formed for the study and encouragement of the Potato may find, without doubt, a most admirable and central home at the St. Stephen's Hall, in which the recent conference was held. This is a lofty and capacious building, easy of access, and would, without doubt, be freely placed at the disposal of a society for all its

purposes. Specially, too, does there seem to be one illustrious gentleman marked out for the society's president in Earl Cathcart, who has shown a devotion to the interests of the Potato far beyond that displayed by any other of his class, and hardly less than seen on the part of anyone. We can but hope that his lordship will readily accept such a position; and we trust, further, that the approach to be made on the subject will result in success.

We hope, therefore, it will be seen that the suggestion that a Potato Society is desirable is both a safe and a broad one. We have so largely indicated the nature of the work it might discharge, and the ground it might cover, that none can conclude the proposal is interested or limited. There is ample room for the inclusion of the specialist and the generalist, the botanist and the gardener, the producer and the consumer, the greatest and the least. The greater the breadth of its *personnel* and its constitution, the less room for trade interests or personal jealousies; the operations of the society, indeed, may include everything which concerns the Potato. We should like to see such a body having its scientific and its practical committees, each one dealing with special matters, and even again sub-dividing for sectional purposes; indeed, we might go on enumerating lengthily what work a society as suggested might perform. Our hope is that soon, and ere the echoes of the recent conference have died away, steps will be taken to promote the establishment of the society; and when so much is accomplished, we can but hope for it earnest, hearty and unselfish support, believing that, as an article of food, the Potato merits all the good which can be accomplished in its behalf.

CHRYSANTHEMUM growers in [the Metropolitan district may be reminded that the ANNUAL DINNER OF THE NATIONAL SOCIETY takes place, at six p.m., at "The Old Four Swans," Bishopsgate Street, on Monday next, when the Holmes testimonial will be presented.

As there will doubtless be a great run on "JUBILEE" next season, as a name for all sorts of things, it may be useful to record the fact that the name has already been selected for a new Potato, for a new Pea, and, lastly, for a new Primula, shown at Kensington on Tuesday. To save confusion in the trade, we shall be glad to record any other subjects that have been so named.

On Tuesday the Prince and Princess of Wales received their Imperial Highnesses Prince Komatsu (uncle of the Mikado of Japan) and Princess Komatsu at Marlborough House, when Prince Komatsu invested his Royal Highness with the Grand Order of the Chrysanthemum. His Royal Highness ought now to become patron of the National Chrysanthemum Society.

At the opening of the CHRYSANTHEMUM SHOW IN EDINBURGH, on Tuesday, the Lord Provost remarked that the artists and poets of China and Japan had lavished much of their finest and best thought and labour in representing this flower. In Japan there was an Imperial Order of the Chrysanthemum, which had been conferred on the Prince of Wales by a special envoy from the Emperor of Japan. In China a liquor was distilled from the flower, which was regarded as an *elixir vite*, and a powder made from it was prescribed as a cure for drunkenness. He wished they had some of it in this country!

MR. ALEXANDER ROSS, formerly gardener to the Right Hon. R. Bourke, has been engaged as gardener to Capt. Baird Hay, Belton, near Dunbar, N.B.

THE ELECTRIC LIGHT AND TREES AND FLOWERS. In the neighbourhood of the tower lights, with which so many of the American cities are now illuminated, the influence of the arc light upon vegetation is becoming very noticeable. A gentleman in Davenport, Iowa, whose garden is within 100 ft. of an electric light tower, says that his Lilies, which ordinarily close their petals long before sunset, now again unfold a few minutes after the lamps begin to burn. It is also observed that the foliage of the trees in Detroit was more luxuriant this summer where the light has fallen on them.—*Manchester City News*.

PART II. of Vol. vii. of THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY, which consists of Reports of the Primula Conference held in April last, and of the Orchid Nomenclature Conference at Liverpool in June, has been issued during the present week.

THE twelfth annual dinner of the Lambeth Amateur Chrysanthemum Society took place on Friday, Dec. 3, at the Bridge House Hotel, London Bridge; Mr. T. Elms presided, and a most enjoyable evening was spent. We are pleased to hear that the prospects of the society are most promising for the future. Mr. T. F. Davison, 9, Union Square, Newington Causeway, is the hon. secretary.

MR. DAVID CROMBIE, lately gardener at Sunderland Hall, Selkirk, has been appointed gardener to Viscount Powerscourt, Powerscourt, Co. Wicklow, and entered on his duties last week.

At the meeting of the Floral Committee of the NATIONAL CHRYSANTHEMUM SOCIETY held at the Westminster Aquarium on Wednesday, only one First Class Certificate was awarded—viz., to Mr. Beckett, Aldenham Park Gardens, Elstree, for White Ceres, a fixed sport, pure white, from the fine pale pink late Japanese variety Ceres. It is larger and fuller than Ceres, and undoubtedly a very fine variety. Several other novelties were exhibited, but no other awards were made. At the same meeting Mr. Harman Payne exhibited a unique collection of coloured plates of some 200 varieties of Chrysanthemums, some of which were published over ninety years ago, and include all the original sorts received from China. Mr. Payuc, who has written a history of the Chrysanthemum, and has spared no pains or expense to make his collection as complete as possible, well deserved the society's Silver Medal which was awarded to him.

THE following are the dates fixed for holding the EXHIBITIONS OF THE ROYAL BOTANIC SOCIETY during 1887: Spring shows—Wednesdays, March 23rd, April 20th; Summer shows—Wednesdays, May 18th, June 15th; Evening fête (probable date)—Wednesday, July 6th; Exhibition of American plants, by Mr. Anthony Waterer, Knap Hill, Surrey—daily during June.

THE annual meeting of the NATIONAL AURICULA AND CARNATION AND PICOTEE SOCIETIES was held in the east crush-room of the Albert Hall, on Tuesday last, Mr. Harry J. Veitch in the chair. Among the members present were the Rev. H. H. D'Ombraim and Messrs. J. Laing, J. James, H. Cannell, G. Paul, R. Dean, Duffield, Hill, H. Turner, Pearson and J. Douglas, hon. sec. The presidents, vice-presidents and committee were unanimously re-elected. Messrs. T. Fife and C. Phillips, both of Reading, were elected members of the committee of the Auricula Society; and Mr. T. E. Henwood, of Reading, and Mr. M. Rowan, of Clapham, were elected members of the committee of the Carnation Society. Mr. Rolt resigned his office of treasurer of both societies, and Mr. Shirley Hibberd was elected in his stead. Mr. J. Douglas was re-elected as secretary. Mr. Harry J. Veitch was re-elected as one of the auditors; and Mr. Moore, Botanic Gardens, Chelsea, was elected co-auditor, in the place of Mr. Hibberd, resigned, on his appointment as treasurer. It was decided to hold the Auricula show on April 26th, 1887, and the Carnation and Picotee show on July 26th. It was also unanimously decided to alter the title of the National Auricula Society to that of the National Auricula and Primula Society. Owing to the illness of the treasurer the statement of accounts was not presented to the meeting.

ON DIGGING.

I REMEMBER reading some time since in THE GARDENING WORLD (p. 485, vol. ii.) an article on "Spades," and as the time has arrived when all cleared ground must be turned over, it may not be out of place to offer a few remarks on the best way of proceeding with this sort of work. Let me say at once, however, that these remarks are not intended for professional gardeners, who I feel sure know quite as much as I can tell them on the subject; but for the amateurs, who form no inconsiderable portion of the readers of your paper. Digging is not looked upon as an artistic operation, like budding a Rose or grafting an Apple tree, but is generally considered the meanest occupation in connection with gardening. Anyone can dig, so at least many think, and the work being about as heavy as any which has to be done, is too often entrusted to

those who know as much about using a spade as I do about driving a steam engine; consequently the work is done in a slipshod, slovenly kind of fashion.

"But why all this ado about digging?" some may ask. "Providing I manure my soil and turn it over, what more can it require?" To that assumed question I would make answer and say, Because the success or failure of the crops we intend to grow in the soil depends in no small degree upon the manner in which we prepare it. All work that is worth doing at all, is worth doing well, and this is especially true of preparing the soil for next year's crops. There are three kinds of digging practised—namely: double digging or trenching, ridging and flat digging. I will say a little about each of these methods, taking them in the order in which they are named.

Double-digging, or as it is more commonly called—trenching, takes the longest time, but I have never yet come across a soil that did not pay well for the labour and time taken. For all deep-rooting crops, especially if the soil is at all heavy, this kind of digging is absolutely necessary, not every year certainly, though it would be none the worse for it, but at least once in every three or four years. Supposing then, you have a quarter cleared of its summer crops, which you intend to trench, proceed in the following manner: mark off a piece at one end of the quarter a yard wide, which can easily be done by having a yard stick at each end, running the line across and cutting out a "nick" with the spade, then measure off, and set your line for the next trench. Supposing the quarter to be lower at one end than the other, commence at the lowest end, as it is scarcely necessary for me to say that soil shifts easiest down hill. Commence now to open a trench; dig out a good spit deep, and wheel it, or what is better, cart it to the end where you will finish. If the soil is of the same nature some 2 ft. or 2½ ft. deep, take it out to that depth; but if the bottom spit be what is termed "hungry" soil, that is, consisting of sand, gravel, marl, &c., do not bring it to the surface, but break it up with the spade, or a strong fork to the depth named. All manure should be worked in between the two spits, whatever the nature of the soil may be, also any garden refuse that may have been collected during the summer, may, in this manner, with immense advantage to the soil, be got rid of. Also, providing the soil is of a heavy retentive nature, any broken refuse, in the shape of brick-bats, broken tiles, lime-rubble, &c., that you can get may be placed at the bottom of the trench. These will serve their purpose well for drainage. I may just add that it is better to leave the trenches highest in the middle, as the frost will then have a better chance to do its work.

As it would be next to impossible to trench all the garden in one year, the next best method is to ridge it, which should be done as follows:—Spread on the manure and refuse that is intended to be worked in, then with a line and drill hoe, mark off strips of land 2 ft. or 2½ ft. wide; take out from where you intend to start a good barrowful of soil, and wheel it to where you will finish, which can easily be determined by counting the marks, then work up and down the quarter carrying one strip at a time; keep the soil well from your toes, carefully banking or layering it in ridges, which is done by turning the spade inwards from the right and left marks, and laying the remainder on the top; by so doing, hollows or furrows will be formed where the marks were. For all purposes I would advise the above methods, but to those who will persist in flat digging I would say, do it well. Open a trench where you intend to start, at least 1 ft. wide, and a good spit deep; wheel it to the end where you will finish. Some throw it out on the land to be dug, but the neatest, and in the end the quickest way, is as I have advised. I have simply to add that the easiest and best way to proceed, is to keep a good trench so that manure and any leaves or rubbish may be well buried. I have often lost my patience with some men—jobbing gardeners for instance—who will take up a spadeful of soil and drop it down again almost in the same place, carrying a trench scarcely big enough to bury a rat in. Let the spade be well driven down, each spadeful well thrown back and turned "topsy-turvy." This can be done by a sharp twist of the spade; each spadeful should stand on its end, and the land when dug should look like so many bricks leaning against each other in a half upright position. Let it remain rough, the rougher the better.

The immense good which the soil derives from being

well exposed to atmospheric influences, is one reason for advising the surface to be left rough. It is marvellous how beneficially frosts and cold cutting winds act upon the soil. Take land that has been trenched or ridged; in an ordinary winter these ridges get frozen through, and this, with the cold March winds, will pulverise and reduce the most stubborn soils to crumbling earth. By breaking up the soil to a good depth, how much better chance is given to roots to strike deep down, and travel here and there in search of the food they need! I always look upon trenching as being equal in value to half a dressing of manure, and in some instances it is worth more.

In conclusion, let me ask those for whom these remarks are intended to follow out the simple suggestions given, and they will not have to quarrel with their soil when the time arrives for sowing their Onions, Parsnips, &c. Perhaps, after all, some will still think there is a little "art" in digging.—*W. Harvey, Spalding.*

THE NATIONAL CHRYSANTHEMUM SOCIETY'S MEDAL.

For chasteness, beauty of design, and appropriateness of character, we know of few medals offered by horticultural societies that surpass that of the National Chrysanthemum Society, of which the accompanying is an engraving, showing both sides. Either in silver or bronze it is equally beautiful, and we are



National Chrysanthemum Society's Medal.

not surprised that Chrysanthemum growers should be so anxious to become the possessor of one or more of them. They are offered for competition only at the National Society's own exhibitions, and at the annual shows of those societies which are in affiliation with it. When the leading society wisely extended its borders and became national in character, its managers sagaciously introduced the medals as appropriate awards; and the eagerness with which exhibitors aspire to win them, proves that their introduction has been a real benefit to the society. We should add that great praise is due to Mr. J. Pinches, for the highly finished manner in which they are turned out.

WASHING VEGETABLES.—M. H. J. Van Hulle, of Ghent, writes in a recent issue of the *Bulletin d'Arboriculture*:—"Peas, Beans, Haricots, &c., ought not to be washed, and in a dry state they should be passed quickly through the water just as they are to be put into the saucepan. All roots and tubers should remain in the earth until they are needed, and should not be cleansed until they are wanted for cooking. With respect to those vegetables of which the foliage is eaten, they should not be washed if it is possible to avoid doing so. They should be examined to see if they are clean, and whether simply brushing with a dry brush will suffice. In any case, never wash them till just before cooking."

THE POTATO EXPERIMENTS AT READING.

I am sorry to observe in the horticultural press that in relation to recent Potato experiments, some reflections have been made in regard to the authorities at Kew. With Mr. Baker, F.R.S., of Kew, I have to-day visited the Reading collection; we have been vastly interested, and I am allowed to say for both of us, instructed.

Messrs. Sutton and myself are the persons most interested, and I beg to add we are grateful to the Kew authorities for unvarying attention and kindness, and we have nothing but appreciation to express in regard to that invaluable institution.—*Cathcart, 50, Portland Place, London, W., December 4th, 1886.*

[Earl Cathcart's letter, while paying a graceful compliment to the authorities at Kew, is strangely silent upon the special point at issue, and leaves us as much in the dark as we were before. We note with pleasure, however, a vast difference in tone between his lordship's communication, and that made to a contemporary last week by Mr. Baker. In showing temper injudiciously, Mr. Baker has been tempted to indulge in charges against Mr. A. W. Sutton which are deplorably unjust, and do but show that even men of science can show as much animus and even anger as ordinary mortals when the tails of their coats get trodden upon. We know for certain, and others know as well as ourselves, that in pointing out the comparative failure which had attended earnest and patient effort to produce really new Potato strains through a mistake—which Mr. Baker now, and Lord Cathcart previously disclaimed—Mr. Sutton was anxious that nothing should be said which could seem in any way to reflect on the Kew authorities, or in any way give pain to Mr. Baker. Of course, we, as journalists, are not bound in any way; but as we feel that the public interests as well as the private reputation of Mr. Sutton, who has been so intimately concerned in these experiments, demanded that the entire facts should be stated; we did so amply, in the fullest belief that thereby the interests of truth as well as of the public would be best served. A mistake undoubtedly occurred, and we have seen Earl Cathcart's evidence that it did not occur with him; it did not occur at Reading, and Mr. Baker protests energetically that it was not made at Kew. Then where and by whom was the blunder committed? If the scientists who consider it would be better to let the matter rest as it now stands, know where the blunder was committed, let them openly say so. None of us are infallible, but we do protest against those men who have no claim to be considered scientific, being, even by inference, reproached for errors they have not committed.—*Ed.*]

PLANTING IVY.

In planting Ivy with a view of covering walls, either for ornament or to improve the appearance of some unsightly object, it is the usual practice to pay great attention to the regulating of the branches, and neatly nailing the shoots to the wall in a uniform manner; this, as a matter of course, involves a considerable amount of time and labour, especially should there be many plants to be so treated; again, if we study the habit and disposition of the plant, we must at once become cognisant of the fact that such treatment is by no means natural, but artificial, and I have ever observed that the closer we adhere to the laws that govern and regulate nature in her various forms, the more certain are we of being rewarded for any labour bestowed in aiding her grand and mighty work.

Hence in such a simple matter as the planting of Ivy with the object stated, I dispense altogether with nails and shreds, and what I conceive to be unnecessary time and labour; for instance, assuming that I have several plants, in pots or out of pots, to plant, they are put in at regular distances according to the length of the growths, and which are placed in a horizontal position, and pegged close to the wall or fence into good light mould, giving the appearance when completed of a neat green edging; having done thus much, no more attention is required at any time. So soon as the season commences, the roots from the layered plants are produced *en masse*, and innumerable buds start into growth, which at once lay hold at the very base of whatever the plants are intended to cover. I may state that more than twelve years ago I planted as

described by the side of a building more than 20 ft. high, which has been covered several years, and has never had the slightest attention in any way whatever.

I prefer, for permanent covering, the small-leaved varieties, as being more suitable and less likely to be affected by strong winds, and which are more neat in habit and growth; these, undoubtedly, are the varieties alluded to by Charles Dickens in his inimitable refrain, the "Ivy Green"—"how closely it twineth, how tightly it clings to its friend, the huge oak tree," &c.—*S. Fry, Lewisham.*

PLANTING TREES AND SHRUBS.

IN many large places a Pinetum as well as an Arboretum are included, and when carried out with skill and taste they are objects of great interest. A Pinetum means a special collection of all the best species of Pines and Firs, to which is added representatives of all the other ornamental species of Conifers, besides those named. An Arboretum is a collection of all the most ornamental and deciduous trees. Each of these should have a special space devoted to it, and, what is of the utmost importance, each specimen should have sufficient room to develop itself to the best advantage. In this way, all the finest trees that will live in our climate would in these collections find special representative types, grown under the most favourable circumstances, and with ample room for each single specimen to develop its own claims to admiration without interference from other trees. To lovers of nature no sight can be more delightful than that of a complete collection of all the handsomest trees of the temperate zone, grown singly as perfect specimens. To watch their gradual development, to note their peculiarities as they are unfolded, to study their respective rates of growth, the curious changes they undergo in their shapes as they approach maturity, and their production of flowers and fruit, some at earlier some at later stages, are sources of never-failing interest. Such a luxury can be procured without involving a very great outlay, and condensed within the space of a few acres.

Then there are avenues and carriage drives, and these differ from all other styles of planting in respect to the regularity with which the trees composing the avenue or drive have to be set at certain fixed distances, and the necessity of selecting the species with a definite regard to their fitness for the purpose. There exist many noble avenues and drives in the spacious parks and grounds surrounding our old country mansions; but since they were planted, many majestic trees well adapted to the work have been introduced. Ample opportunities, therefore, now exist of forming avenues, &c., which, while they will fully equal those of old in broadness of effect, will exhibit a much greater diversity and force of contrast.

Then croquet grounds, and spaces generally allotted to out-door amusements, require some planting, being chiefly used in the summer months. Some protection from the sun's rays is necessary—they should be shaded by tall trees planted on the southern and western sides of each arena where it can be done; on the northern boundary a slightly elevated bank, planted with standard Roses and the best varieties of Rhododendrons, with a few ornamental standard trees, would form a fine point of view for the spectators sitting under the shade of the southern grove to watch the players. But each particular site requires a different treatment, and what may best suit each must be left to the arbitrament of good taste. Water edge Plantations call for a display of skill from the planter; unless in the case of very large pieces of water, where there is plenty of room for occasional clumps of trees, or where shade is an important object, planting should be done sparingly near the water's edge; nothing is gloomier or more depressing than a piece of water nearly surrounded by large trees, which intercept the sunshine and whose dark shade is reflected back upon the water. A pool of moderate extent, with a few pendulous trees and still fewer tall trees sparingly scattered along its edges, leaving ample room for a broad expanse to fully admit the sun's rays to play upon the surface, is a beautiful object. Graceful Grasses and Bamboos, which luxuriate on the banks of water, and such-like subjects, can be employed with great advantage.

The matter of the revival of old plantations and shrubberies is one of great importance also. In course of time ordinary trees and shrubs either die outright or become deformed, stumpy, or what is called "leggy";

old forest trees in their decay often assume picturesque forms, affording delicious "bits," by delineating which the artist manifests his skill. But the smaller trees and the old evergreen shrubs known to our forefathers are miserable objects in their decrepitude; an aged Laurel for instance, which has been repeatedly cut down to keep it in shape, becomes at last a mass of old stumps surrounded by a few leaves. For this there is no remedy but extirpation. Accordingly, many owners of superannuated shrubberies are yearly grubbing them up and replacing them with younger plants, which can be selected from an immense variety of beautiful subjects which are unknown to the planter of the old shrubbery. But even in this clearance the slaughter should by no means be indiscriminate. Here and there, amongst the crowd of the condemned, may perchance be found some valuable old specimens, healthy enough to grow into beauty, when no longer elbowed and stifled by the pressure of encroaching neighbours. We have thus seen emerge into a kind of new life an old Box tree and a well-shaped Yew, at another time a deciduous Cypress, and once, from amongst a ruck of hoary Elder trees and decrepit Lilacs, an old Photinia serrulata, which might have been growing there since 1804, when it was first introduced from China.

Lastly, a few words as to wall and climbing shrubs. Of these, some attach themselves to the object they environ by rootlets and suckers, like the Ivy and Virginian Creeper, and these demand no assistance from man to keep them in their places; others require either nailing to walls or tying up against trellises. Masses of rock or heaps of tree-stumps are best covered by such plants as Clematis, Periploca, &c., which run rapidly over and clothe them with a gay livery of elegantly-shaped leaves and masses of flower.

The Wistaria, Aristolochia, Lonicera and a few other twining shrubs, if planted at the foot of trees of moderate girth, in some part of a grove devoted to that purpose, would speedily ascend to the highest part of the trees, and thence wander in search of another victim, till the whole grove became a net-work of mixed foliage.

MOUNT VIEW, SHEFFIELD.

THE residence of D. Ward, Esq., is situated on the south side of Broom Hill, and is approached from Glossop Road. The carriage drive is bordered on each side by trees and shrubs, which form a very nice avenue. On the right is the flower garden, and on the left are the kitchen garden and glass departments. The main range of glass is 300 ft. long, all of which is devoted to the cultivation of Grapes, Peaches and Nectarines. This range is divided into six compartments, four of which are Vineries and two Peach houses. The back wall in each house is covered with fine healthy Camellias, which give a supply of flowers for many months in the year. Both Vines and Peach trees have made excellent wood.

Mr. Ward is an enthusiast in the cultivation of Orchids as well as fruit, and ere many years have elapsed will be the possessor of one of the healthiest and best collections in the provinces. Mr. J. Page, the gardener who has been in charge a little more than a year, has made a great change in the condition of the plants. Five houses are devoted to their cultivation, and the following were in bloom at the time of our visit: *Oncidium verrucosum*, and the better forms named *Rogersii*, were here represented by several good strong pieces, some of the flower spikes on which bore upwards of a hundred flowers; *O. crispum*, *O. serratum*, fine spikes and good varieties; *Lycaste Skinnerii*, several plants amongst them having bright-coloured lips; *Dendrobium Dearii*, *D. Wardianum*, *D. heterocarpum*; *Phalenopsis amabilis*, several plants in flower, and one having blooms 4 ins. across; *Phalenopsis* are all in the best of health. In the same house are some two dozen plants of *Odontoglossum Roezlii*, some in flower and all growing so vigorously that they have more the appearance of well-grown *O. vexillarium* than anything else. This is a proof that they require plenty of heat and moisture. *Calanthe vestita luteo oculata*, *Cypripedium Spicerianum* and *Odontoglossum crispum* is represented by many hundreds of plants, some of which are in flower, while dozens of flower spikes are making their appearance. *O. Pescatorei*, *O. Rossii majus*, *O. tripudians*, *Maxillaria picta*, *Masdevallia tovarensis*; this latter useful and free-flowering Orchid should be grown in quantities in every collection.

Cattleyas are well cared for also, but, of course, there is a scarcity of flowers amongst them at this time, *C. guttata* being the only species in bloom; *C. Mendelii* is grown in quantities also. *C. Trianae*, *C. gigas*, *C. amethystoglossa*, *C. Mossiae*, *C. Skinnerii*, and others; all have made good growths and are showing abundance of flower sheaths, and will produce a fine display of bloom in due season. Adjoining the Cattleya-house is a span-roofed conservatory, which was (at the time of our visit) gay with flowers. The centre of the house was filled with a splendid lot of dwarf-grown *Chrysanthemums*, and on the side stages there was a nice lot of *Cyclamens*, *Tuberous Begonias*, *Primulas*, and several other decorative plants. At one end of the house there is a fine lot of greenhouse *Rhododendrons*, amongst them being good specimens of *Princess Royal* and *Lady Alice Fitzwilliam*. On the roof are some very fine plants of *Lapageria alba*, which were producing flowers in abundance; this is a proof of their being well cared for.—*J. W. S.*

HEATING GLASSHOUSES.

THE necessity of placing boilers low down in the ground, that the needful rise may be obtained for the hot-water pipes, still exercises—and will, probably, for a long time yet, continue to exercise—the minds of gardeners. There can be no doubt but that the necessity is an evil, and borne with because there seems to be no present prospect of a change for the better. We have a certain system of heating, based upon the fact that water expands when heated, and also becomes lighter; hence it will certainly ascend as a vacuum is created, or colder water rushing into the boiler from beneath, forces the lighter liquid upwards. Some variation in the depth at which boilers should be placed is afforded by the various forms of boilers, for either saddle or horizontal need less deep setting than do vertical or conical boilers. Still, the matter is invariably beset with difficulty and cost, the latter, in localities where the water rises high in the soil during the winter, becoming always an item of great moment.

Now, the question I ask consideration for is this, "Is our present method of house-heating the right one?" Oddly enough, we proceed on the principle that the greatest cold is found farthest from the glass; hence pipes are usually found on the floor, beneath stages, or anywhere but just where the cold is strongest. Of course, the theory is that, as with water so with heat, it ascends, and will assuredly warm the upper area of the house—viz., the atmosphere just beneath the glass. That is an admirable theory, because it seems theoretically exact, only that practice has so often been found making game of theory, and proving that it is all at sea. Whilst the heat is rising from the pipes it is being fast cooled in the air, and the ground beneath, the brickwork—indeed, all sorts of material about the pipes, alive and dead, fixed and moveable—is absorbing heat which is needed just where the cold is greatest. Keep the cold out, and the soil and brickwork beneath will be warm enough; but it does seem a waste of power to heat that before the actual cold itself is attacked.

No wonder that boilers are driven to their utmost capacity, that pipes are made almost red-hot, and that fuel is consumed far beyond the real needs of the case to keep the temperature of the house up to the needful pitch. The system seems peculiarly faulty, not only for the reason that the boilers are set so low, and, of course, are so costly, as also that the piping is laid so low that its heating power is squandered ere it can accomplish the work expected from it. Now all who have tried the plan of top-heating have found it very efficient, but it is feared that few have so tried it, and those more as a sort of supplementary aid, than as a substantial system. But what I would suggest is that 3-in. and 4-in. pipes be dispensed with altogether, as flows at least, and that two or three 1½-in. or 2-in. pipes be fixed at regular intervals, some 6 ins. from the glass roof, being fed by one flow, and connected at the farther end of the house with a 3-in. return, which should lie along just within the side of the house and near the glass.

Assuming that a house 100 ft. by 12 ft. or 18 ft. wide were thus to be heated, the boiler being fixed at one end, and could thus be stood on the ground level, the flows should be, at least, two on either side of the span, with one return on either side also; thus the whole of the heat would be found just where danger from cold was greatest, and a special benefit would be that the glass would in all weathers be kept dry, and the woodwork also. Drip and damp would be cured, and the distribution of heat would be most effective and even.—*A. D.*

GARDENING NOTES FROM SCOTLAND.

Royal Caledonian Horticultural Society.

—The annual meeting of this society was held on the 2nd inst. in the Assembly Rooms, George Street, Mr. John Downie presiding. The treasurer's financial report showed that the receipts of the present year amounted to £1,140 14s. 11d., including subscriptions, rents, special prizes, &c. The expenditure amounted to £1,101 1s. 2d., leaving a balance at the credit of the club of £39 13s. 9d. There had been expended at the spring show £218 14s. 5d., and at the autumn show £207 4s. 4d., while the prize money paid amounted, on the whole, to £562 9s. 10d. The report was adopted. It has been arranged between the council of the society and the National Rose Society of England to hold a grand Rose show in connection with the usual summer show, which takes place on the 13th of July, 1887, in the Waverley Market, when it is expected that the leading growers of Roses in the United Kingdom will send contributions and compete in the open classes. Several gold and silver cups are to be awarded in the leading Rose competitions, and the council have already received intimation from two gentlemen of their intention to present each a cup. The show is expected to be one of the great attractions in Edinburgh during the Jubilee year.

The president, Lord Lothian, was re-elected, and Sir Thomas Clark, Bart., was elected vice-president, in room of the Earl of Hopetoun, who retires. Messrs. Milne and Paterson were elected members of council, in the room of Messrs. Downie and Priest. The officials of the society were duly re-elected, and there being no other business the meeting terminated.

Edinburgh Chrysanthemum Show.—The first Chrysanthemum show ever held in Edinburgh took place on Tuesday last in Dowell's Rooms, under the auspices of the Scottish Horticultural Association. The entries numbered about 130, nearly equally divided between pot plants and boxes of cut flowers, and, taken as a whole, the show was a very good one, exceeding, both in size and quality, the expectations of the promoters. Financially it was a great success, and the committee will carry a good balance over. Although all classes were fairly filled, the Japanese were comparatively best represented. There were competitors from Biel, Linlithgow, Dumfries and Culzean, Ayrshire, besides the local exhibitors. A fine collection of cut blooms of eighty-five varieties, backed up with Maidenhair Ferns and Moss, was sent for exhibition from the gardens of Miss Nisbet, of Biel; and Messrs. R. B. Laird & Sons showed a number of sprays prettily arranged, each bunch or spray containing from nine to fifteen blooms, and also backed with Maidenhair. A beautiful wreath of Chrysanthemums was exhibited by Mr. Robertson Munro, florist, Edinburgh. Messrs. J. Dickson & Sons, Edinburgh, and Mr. R. M'Farlane, Prestonkirk, also sent collections for exhibition. The show of cut flowers was very pretty, and in the room where they were staged, fine collections of Chrysanthemum blooms sent for exhibition by Mr. George Sinclair, East Linton, and by Mr. W. King, gardener to Lord Hamilton, of Dalzell, were shown.

The prizes were awarded as follows:—Six pots large-flowered plants: first, Mr. M'Hattie, New-battle Gardens; second, Mr. R. Cockburn, Coltbridge Hall. Three pots flowered plants: first, Mr. M'Hattie; second, Mr. D. Jardine, Ravelston. One pot large flowered: first, Mr. J. Cowan, Dunedin House; second, Mr. D. Jardine. One pot reflexed: first, Mr. Wm. Dougall, Talbot House; second, Mr. M'Hattie. Six pots Pompones: Mr. Foote, Parson's Green. Three pots Pompones: first, Mr. J. Cowan, Dunedin House; second, Mr. D. Jardine. One pot Pompones: first, Mr. M'Hattie; second, Mr. William Dougall. Twelve blooms incurved (sorts): first, Mr. M'Hattie; second, Mr. J. Carruthers, Hillwood, Corstorphine. Twelve blooms Japanese (sorts): first, Mr. J. Carruthers; second, Mr. M'Hattie. Six incurved blooms: first, Mr. J. Carruthers; second, Mr. D. Durward, Dumfries. Six reflexed blooms: first, Mr. J. Carruthers; second, Mr. William Rushwood, Corstorphine. Twelve blooms reflexed: first, Mr. William Rushton; second, Mr. J. Carruthers. Six sprays: first, Mr. R. Poole, Cameron Bank House, Edinburgh; second, Mr. William M'Dou-

gall. Three sprays: first, Mr. D. Jardine; second, Mr. J. Carruthers. Twelve bunches Pompones: Mr. D. Durward. Six bunches Pompones: first, Mr. R. Muirhead, Edinburgh; second, Mr. D. Durward. A special prize for eighty-four varieties was awarded to Mr. Muir, Biel Gardens.

Aberdeen Chrysanthemum Show.—The annual show of Chrysanthemums, under the auspices of The North of Scotland Horticultural Society, was opened in the Music Hall Buildings, Aberdeen, on Friday, 3rd inst., and continued until Saturday evening, 4th inst. Mr. Peter Esslemont, M.P. for East Aberdeenshire, opened the exhibition with an appropriate speech. This winter exhibition was inaugurated by the Society some years ago, for the purpose of promoting the culture of Chrysanthemums; and the specimens of this beautiful flower, shown on Friday and Saturday bore emphatic testimony to the success with which this idea has been carried out. This year the show was, in many respects, superior to any of its predecessors. Compared with the last one, the entries were much about the same; but there was a decided improvement in the quality of the exhibits, indicating plainly that great advances are being made in the cultivation of Chrysanthemums in Aberdeenshire. The wet autumn of 1885 prevented Chrysanthemums from ripening in the wood, and detracted, therefore, considerably from the appearance of the flowers; but this season has been much more favourable, and the consequence was that the exhibition was much more satisfactory. The distinguishing feature of the collection was the cut blooms, of which there were some exceptionally fine specimens put forward. Pot-plants were few in number, and this was said to be due to the inclemency of the weather, many intending exhibitors having decided not to forward their specimens in case they might get nipped with frost. Japanese varieties were exceptionally good; while Chrysanthemum bouquets have never been shown in greater numbers or in better bloom. Primulas were a very creditable lot. Ferns, in both the professional and amateur classes, were as good as might have been expected. A beautiful box of Chrysanthemums for exhibition was sent by Mr. M'Leod, Ardmiddle, which was deservedly very highly commended; and another box which elicited favourable comment was the one sent by Mr. Peter Harper, Duthie Public Park (Aberdeen). Messrs. W. Smith & Son, nurserymen, Aberdeen, sent for exhibition a stand of Dracenas, Palms, &c. Mr. Hogg, Morkeu, had an easy first in most of the professional classes, while Mr. A. Grigor, Fairfield, Mr. W. Scorgie, Foresterhill, and Mr. R. Grigor, Sunnybank, were well forward as usual. In the amateur classes, Mr. James Minty, Mr. A. Gillespie and Mr. J. R. Whyte, all of Aberdeen, shared the principal honours.

Dunfermline Chrysanthemum Show.—This society held its fifth exhibition in St. Margaret's Hall on Saturday the 4th of December, and both as regards quality and quantity the exhibits staged were decidedly in advance of former years. In the gardeners' class plants in pots were fairly well shown; Mr. John Walker, gardener to David Alexander, Esq., Priory House, was first with James Salter, Lady Selborne, Mrs. G. Rundle, Chevalier Domage, Antonelli and Nelly Rainsford; Mr. J. Coventry, gardener to Provost Donald, made a good second; and Mr. Peter Cameron, gardener to Mrs. Alexander, Abbey Park, was third. The last-named exhibitor was first for the best plant in the Hall, an excellent specimen of that useful old variety, Rosinante. Mr. E. Johnstone, Balmule, carried off first honours in the class for eighteen cut blooms, his lot included Mrs. Dixon, Jean d'Arc, Lady Hardinge, Mrs. G. Rundle and James Salter; Mr. John Walker was second.

The best bloom in the Hall was Mrs. Dickson, shown by Mr. E. Johnstone. In the amateurs' class there was a strong competition; for plants, Messrs. D. Calder, R. Mackie and D. Aitken showed well, and were placed by the judges in the order named. The best plant in this class was a well-bloomed specimen of Dr. Sharpe, shown by Mr. R. Boag; for cut blooms Mr. R. Mackie was first, Mr. D. Calder and Mr. R. Boag second and third.

By far the largest and finest blooms in the show were a lot sent for exhibition from Messrs. R. B. Laird & Sons, Edinburgh: Elaine, Mdme. de Sevigne, Mdle. La Croix, Mr. Bunn, Cullingfordii, Rev. J. Dix, Lord Wolseley, Rosa Bonheur, Princess Royal, Frizon and Mons. Rendatler were among the most prominent.

Mr. James Hallet, Abbey Park Gardens, had on exhibition a useful collection of plants suitable for conservatory and table decoration; and from Mr. R. Boag, Moodie Street, came an interesting collection of succulents and everlastings. There was no class for vegetables, but a member exhibited excellent examples of Parsnips, 30 ins. long, and weighing nearly 6 lbs., also the New Intermediate Carrot, 24 ins. long.

Winding-up of the Lawson Seed and Nursery Company.—In the First Division of the Court of Session, Edinburgh, December 2nd, their lordships heard counsel in connection with the petition by the Lawson Seed and Nursery Company, Edinburgh, to have the winding-up of the company carried on under the supervision of the court. The petition was opposed by Messrs. Peter Lawson & Son, who stated in their answers that the company was perfectly solvent, and had no creditors who were pressing for payment, if, indeed, it had creditors at all, except the respondents, who were not pressing for payment, and who were satisfied, if the provisional agreement between them was worked properly, that they would recover from the debtors to the respondents sums more than sufficient to pay any amounts due to the respondents; and they were willing to wait until that was done. Respondents also presented a petition asking that the resolutions to wind-up, adopted by the shareholders of the company, should, in the above circumstances, be recalled, winding-up being unnecessary. The Lord President said that this application of the respondents was unprecedented. The respondents was not shareholders of the company to be wound-up, and had no right to interfere in the matter, though it might prejudice them. Their proper course to take would be to bring an action for reduction of the resolutions. Their lordships granted the supervision order, asked by the Lawson Company, and found them entitled to expenses.

THE AMATEURS' GARDEN.

THE GREENHOUSE.

Very useful for greenhouses or conservatories during winter are Epacris and Chorozemas, both being easily grown and succeeding under similar treatment. They will also endure cutting well, and for that reason alone they are useful in many places. They are great favourites with us, and can be strongly recommended to all who require free-growing plants. There are a number of Epacris to select from, but the following dozen have pleased us very much:—Alba odorata, ardentissima, coruscans, delicata, Devoniana, Fireball, grandiflora, hyacinthiflora, Lady Panmure, nivalis, Sunset and The Bride. About a dozen varieties, and two or three plants of each, are sufficient for a small collection, and with thirty or forty plants, a succession can be obtained, as they are easily retarded in a cold house. Chorozema cordatum and its variety, splendens, are good, as also is Henchmannii.

The Epacris succeed in good peat, or with the addition of a little light turf; and a compost of about equal parts loam, peat and leaf-soil suits the Chorozemas admirably. When it is desired to hasten either of these into flower, the plants should be placed in a slightly warmer structure than the greenhouse, as the flowers then open more readily and come of a better colour. After flowering they should be cut back and again placed in an intermediate temperature, to make their growth for another season. The Chorozemas are of rather rambling habit, and are usually trained over balloon, pyramidal or umbrella trellis, but if cut in freely and a few light sticks are employed, they can be kept in moderate bounds without that trouble.

Severe frosts are now being experienced occasionally, and all frames must have attention in protecting those plants that are likely to suffer from exposure. There are many plants that always seem to succeed better in frames than in houses, and amongst these must be mentioned the florists' Calceolarias and Cinerarias, which require at all times to be placed on a moisture-yielding base or they will never prove satisfactory. Ashes form the best base for this purpose, and if the frames are furnished with sufficient hot-water pipes to exclude frost without a parched atmosphere, the plants will thrive in this way all the season until they are removed to flower in the greenhouse. More failures result from placing these useful plants on stages in

conservatories over a bank of hot-water pipes than from any other cause. They become weak and dwindling, are attacked by insect pests, and, if they flower at all, it is in a very imperfect manner.—*Scolytus*.

SPRING GARDENING.—V.

MOSSY SAXIFRAGES.

CONTINUING my remarks on the above subject, I will briefly allude to some few of the many members of the genus Saxifrage, which include some valuable plants for all purposes of spring gardening. I shall, however, only refer to those two sections which are really the best suited to the purpose, and which may be found in the "mossy" and "Megasea" groups. The former are all distinguished by their dense moss-like cushions or growths, and of which *S. hypnoides* may be taken as typical; the latter being easily distinguished by their large thick leathery foliage and towering spikes of flowers.

Of the mossy group none, perhaps, are more useful and effective than *S. muscoides atropurpurea*, which carpets the ground with dense cushions of miniature rosettes of leaves, and which in spring-time is fairly smothered with its tiny purplish flowers. In all it is, perhaps, 3 ins. or 4 ins. high, and therefore a veritable gem as a margin to a bed of other plants, or dotted about indiscriminately amongst other varieties where circumstances permit. Being easily increased by division, it is one of those plants which should be largely associated with others of modest bearing; in the rock garden in large tufts it is very beautiful, and has a most pleasing effect in early spring. There are numerous other members of this section, some of which grow freer than the above-named, but which have white or whitish flowers invariably spotted with pink, these are *S. hypnoides* and the variety *elegantissima*, *S. cespitosa*, *S. grœlandica* and *S. icelandica*; these are equally useful, and of freer growth than the first-named, and differ in their shades of green. Any or all are very effective, either in the spring garden, or as carpets to other things of statelier growth.

MEGASEAS.

If I had the choice of one member only from the Megasea group, my unhesitating choice would be *S. ligulata*, a kind which for hardihood, majestic bearing and bold massive spikes of flowers, is unequalled by any other; when well established it rises fully 18 ins. or 20 ins. high when in flower, at which height its bold panicles of rosy-purple flowers are seen to great advantage; it has a vigorous constitution, such as few of its kin, can boast, and should be embraced by all whose desire is to have bold striking objects early in spring. I remember, some three or four years since, seeing this plant in the very earliest spring-time in full flower at Belvoir, where it is used abundantly with excellent effect; it was the centre-piece of a raised bed, and certainly a decided feature in that part of the garden. It needs plenty of space to develop its large handsome foliage, and when seen in the condition to which I refer, it will make a lasting impression upon the mind of anyone interested in plants or plant culture.

It is somewhat to be regretted, perhaps, that one of the best, if not the very best of the white-flowered Saxifragas comes somewhat late in flower to be fairly included among the spring bedding plants: I refer to *S. Wallacei*, which ranks among the largest of the white-flowered kinds; but, notwithstanding this fact, it still retains all its original value as one of the most decorative, and one which will prove highly valuable in any garden; it is, moreover, very useful for cutting, and its pearly white panicles of flower may be used in a variety of ways by the bouquetist, whose quick eye soon decides between good and bad in this direction. It is one of the few recent introductions which, since it made its *début*, has been sold by the thousands—a fact which speaks volumes in itself. While speaking of white flowers, I am reminded of the pearly white of the

PERENNIAL CANDYTUFT,

Iberis corifolia, an old-fashioned Alpine, whose flowers come in early spring and last a long time in perfection, the plant is easily managed, and readily increased by cuttings. The several other species of perennial Candytuft are also very useful, such for example as *tenoreana*, *saxatilis*, *sempervirens*, and so on, and one or more should always be grown. Hitherto my remarks have been confined to perennials principally,

though I must not forget the fact that we have some useful and showy subjects among early-flowering annuals. The well-known

SILENE PENDULA COMPACTA

Is one of these, and one which does really good service annually, being easily reproduced from seeds, which should be sown about July to make good tufts for autumn planting. Another plant, not perhaps quite so well known, is the pretty *Limnanthes Douglassi*, having creamy white flowers, with yellow centre; it is simply surprising how long this plant continues to flower, and the pleasing effect produced may be judged by the colour of its blossoms. To ensure good plants for autumn planting, sow your seeds at the end of July rather thinly, so that there will be no need to thin-out or transplant before the time comes for placing them in the beds in autumn, when you will find sturdy plants instead of weakly drawn examples; nor must we omit the ever-useful *Golden Feather*, which is so effective in spring in the bright golden of its leaves, and valuable alike in either spring or summer bedding.—*J.*

CHRYSANTHEMUMS IN SMALL POTS.

As a rule, Chrysanthemums are cultivated in pots varying from 8 ins. to 12 ins. in diameter, no matter whether they are required for specimen blooms, as specimen plants, or for ordinary decorative purposes. I think it will be generally admitted that very frequently circumstances arise where plants (of Chrysanthemums) and pots much smaller than usual would be most valuable, but, unfortunately, they are rarely obtainable. For small vases, jardinières, tazzas, front rows of groups, stages, &c., the usual sized plants and pots are too large or obtrusive, and, consequently, their obtrusiveness is either looked upon as a necessary evil, or less harmonious subjects are introduced; in either case the effect desired is not obtained.

A plan for obtaining miniature Chrysanthemums was published several years ago, and prizes have been offered for a specified number of examples grown on that system, but so far as I know, the system has not been generally adopted, nor can I recommend such system, for the reason that I do not think the results sufficiently compensate for the time and labour bestowed. I refer to the plan of growing them in very small pots, and allowing each plant to carry one flower; their appearance strikes one at once as being stiff and unnatural, while the one imperfect flower they bear looks altogether lonely and dejected.

The system I am about to advocate gives us small plants in small pots, is natural, economical, practical, and gives a profusion of flowers of useful quality; everybody can grow them—the amateur with a square yard of glass as well as the winner of the "Dingstone Challenge Vase," and the plants are as useful to the latter as to the former.

On the 20th of May, the plants that are grown for ordinary decorative purposes receive their final "pinching" or "topping," but instead of these "tops" being thrown away, they are taken off with a knife, just long enough to form cuttings, and five or six are put in a pot and struck in the usual way, viz., the pots are placed on ashes in a cold frame, watered through a "rose" every day, and shaded only from very bright sunshine just so long as they have a tendency to "flag." They will be rooted and ready to pot off into small pots in about three weeks—and that without the loss of a cutting if they were properly made—after which operation they should be returned to the cold frames, and kept closed for a few days until root-action re-commences, when they must have full exposure to sun and air.

When the growth has again commenced, the points should be taken out, which will induce them to develop from four to six shoots. About the 6th of July they are placed in pots 5½ ins. or 6 ins. in diameter, and in these they flower. Every plant should be placed in an open position where they may have abundance of sun and air, and may be plunged to the rim of the pots. They ought not to be pinched again, but let each stem have a short stick put to it and tied. Housing should be done at the usual time, and in November and December the cultivator will be rewarded with healthy plants 18 ins. or 2 ft. high, bearing several dozens of useful flowers, and with foliage down to the soil.

Such varieties as Mrs. Rundle, Mrs. Dixon, George Glenny, Gloria Mundi, Fulgore, Elaine, James Salter, Fair Maid of Guernsey, Isidore Féral, Margot, Christine, Julie Lagravère, Cedo Nulli, Dick Turpin, Virginale, Bob, General Canrobert and St. Michael are all good varieties for this kind of cultivation, and will give a quantity of flowers of a satisfactory quality.—*J. Udale, Elford, Tamworth.*

GRAPES AND THEIR FLAVOUR.

A SHORT time since there appeared in your pages some remarks on the flavour of fruit, &c., from the pen of your northern correspondent, "M. T.," whose notes are always of a practical, and, therefore, valuable character. The purpose of this note, however, is not to deal with the flavour of fruit generally, but to record a few observations which I made recently when looking through the Vineries in a few private gardens in the eastern counties. When calling upon Mr. Lee, who presides over the gardens at Lynford Hall, Norfolk, and whom I have known for some years past, I had the pleasure of going through the grand Vineries there, and testing the flavour of a large number of sorts which are there grown. I was much impressed with the difference in flavour of some kinds to that of the same sorts grown in this neighbourhood (North Hants).

In our garden, Alnwick Seedling is not worth growing for flavour. It colours grandly and sets well, but will not keep, and has no flavour. A neighbour of mine had a strong Vine of it when it was first sent out, but, subsequently, destroyed it for the same reason. With Mr. Lee, however, it was of a very much better quality. Madresfield Court here is very fine in flavour, while with Mr. Lee it is hard and inferior, so much so that he does not think it worth extending; Gros Maroc with him was finer in flavour than I ever tasted it before, and grand in appearance. Royal Vineyard was in good condition, and although I have not had an opportunity of testing this kind for some fifteen or twenty years, I must say that where there is plenty of room, and it will do satisfactorily, it is worth a place; so fresh and crackling are the berries when in good condition.

White Tokay was also well represented at Lynford Hall, and is another of those refreshing sorts, but a strong grower. Mr. Lee finds that it keeps well, as it used to do when I lived at Hedsor Park, Maidenhead, many years ago. There it was kept in good condition till the end of February. We tried it here some few years ago, but had to give it up, for the reason that it would not keep long enough for us. Golden Queen is better here than at Lynford, but I doubt if it will ever be extensively grown, for it possesses no great merit. Mrs. Pearson I saw at Culford, and tasted it, as well as at several other places; I doubt if this will ever find many admirers. At Lynford, Alicante keeps better than Lady Downes seedling, while with us it is just the reverse, as in a neighbouring garden. Gros Colmar is looking well, and is thought well of when ripened in plenty of heat.

The last, but not the least, I have to note is West's St. Peter's. Both at Lynford and Culford it was in good condition and thought more highly of than the thick-skinned sorts, and found to keep well. I quite agree with "M. T." in his recent notes on this, that it is quite an invalid's Grape after Hamburgs are over. I have bright recollections of this sort when living as a journeyman in a Wiltshire garden; there was a viñery there almost filled with this valuable sort, and the Grapes kept well on the vines till February—this was before the bottling system came much into use—and I think the variety is worthy of more extensive cultivation. It forces well, and in a large house comes in well after the early kinds are over. I may just add that the vines, as well as everything else, are well done at Lynford Hall. While on the subject of Grapes, will someone kindly say what is the difference between Black Morocco and Gros Maroc? I used to know one under the first name some years ago: also what is the distinction between Abercainey and Kempsey Alicante.—*Con.* [There is no comparison between Black Morocco and Gros Maroc, the latter being an early or mid-season variety, and the former a late-keeping sort, an indifferent setter, and producing more straggling bunches. Kempsey Alicante is simply a synonym for Black Morocco, and Dr. Hogg gives the name Abercainey as a synonym for West's St. Peter's.—*Ed.*]

EDGEND HALL.

THE residence of Edward Ecroyd, Esq., is situated about two miles north-east from the thriving town of Burnley, and stands upon a sunny slope of the hills, of which plenty abound in this district—one notably, Pendle Hill, of which an excellent view is obtained from the Edgend. The gardens are laid out in modern style; but the district not being a very salubrious one, nothing special has been attempted in the way of ornamental planting; the glass structures seem to absorb the general energies of the place. The first house we entered was what we may call a shady conservatory, adjoining the house, and on the glass partition, 22 ft. wide, dividing it from the conservatory proper, was a fine plant of *Lapageria alba*, covering the entire partition, and always more or less in flower; this plant was struck from a cutting eight years ago, and has made satisfactory progress. On the stages were fine plants of *Camellia alba plena*, in bloom; good specimens of *Corypha australis* and *Latania borbonica*; a magnificent plant of *Adiantum Williamsii*, 5 ft. across; pans of *Pteris scaberula*, 4 ft. 6 ins. across; and good

up too much of your space, but all the classes are well represented, including leading varieties. An early Vinery which contains some good and well-ripened canes, has yielded a good supply of Grapes this summer. A lot of trained Azaleas, including some good plants of the old *Indica alba*, well set and grown in tubs, are the only occupants of this house. A large stove next claimed attention, and in this house were some good examples of cultural skill; on entering, the eye drops on masses of *Adiantum Farleyense*, some grown in large wire baskets and suspended from the roof, and one very fine specimen grown in a tub. Some of these specimens are 5 ft. through and almost as tall. The house contains the usual occupants of stoves, such as *Bougainvilleas*, *Stephanotis* and *Eucharis* in splendid condition; *Croton Johannis*, grandly coloured, a noble specimen, 6 ft. by 6 ft.; a pair of *C. Wiesmanii*, 5 ft. by 5 ft., models of plants, and colour magnificent; noble Tree Ferns, and masses of *Davallia Mooreana*, *Selaginella erythropus*, *Africana*, and other good sorts; highly coloured *Dracenas*, and a small collection of Orchids, useful kinds for cutting from.

a vinery, two years planted, and really intended for a late house; it contains good rods of *Gros Colmar*, *Alicante*, *Alnwick Seedling*, *Muscat of Alexandria*, *Mrs. Pearson* and *Golden Queen*, the latter of which was carrying bunches of fruit, dead ripe, and this appears to be the only way in which this variety can be had in perfection, and bring out the fine flavour it is known to possess. The flavour of these berries was decidedly of the muscat. A Peach-house adjoins the vinery, and the trees are looking the perfection of health, having had good fruit on them this season; large specimen *Fuchsias*, *Tetrathecas* and *Diplacus* were also in this house; and everything all through the place, both inside and out, were in perfect good health. Mushroom-growing is also well carried out here, both in pits and in sheds, and some really fine examples were shown to us at the time of our visit. Mr. James Durno, the able gardener here, goes in for plenty of liquid manure for all his crops and pot plants, and has had recently erected a large tank for the purpose of mixing and keeping this very useful adjunct to good plant growing, always ready for use.—*W. G.*



"EMPRESS" SINGLE POPPY ANEMONES.

plants of *Phormium Colensoi*, *Gleichenia Mendelii* and *rupestris glaucescens*. From this house we entered the conservatory, a plain but useful structure, on the glass partition and back wall of which is a large plant of *Lapageria rosea*, in splendid health. On the back of the roof, covering a space of 15 ft. by 12 ft., was a *Maréchal Niel* Rose—a picture of health—worked on the briar. This briar is allowed to send up suckers, and as they get firm they are grafted with a piece of the *Maréchal*; this allows the old parts to be cut away if they show any signs of canker—a capital idea—for by this means young blood is continually being got into the roots. This plant and the *Lapagerias* are planted in what might be termed expanding boxes: they are made to fit the stages, and are so arranged that the centre part can be filled up with soil at first, and when this becomes full of roots the ends can be drawn up and placed in grooves farther apart, thus giving the plant a shift without removing it—an ingenious plan and one well worthy of imitation; an iron clip fastened with a screw holds the lot together, so that no nailing is required.

On the stages of this house are a good and well-grown lot of *Chrysanthemums*, all grown for size of flower; many of the blossoms were 9 ins. and 10 ins. across, the flower being measured from tip to tip at the back of the flower. To name the sorts grown would take

The back wall of this stove calls for a passing notice. At the bottom for about a yard high a rockery has been erected, and planted with *Fittonias*, *Begonias*, *Alocasias* and Ferns, all blending well together; from the top of this rock-work the wall is covered with *Cissus discolor* and *Ficus repens*, but the greatest novelty is to see plants of *Phalaenopsis Luddemanniana* and *Dendrobis* clinging to it, and all seeming to enjoy their places by the manner in which they are sending their roots amongst the *Ficus*, &c.

Passing through a roomy shed we noticed a very good quality of loam, which has to be carted twelve miles, showing the disadvantage the district is under in not being able to get good soil. We then came to another range of glass facing south, and divided into seven compartments, each one having their special occupants. One contained a lot of good specimen *Pelargoniums*, another specimen *Heaths* and other greenhouse plants, and in a corner was a stove Fernery in course of having rockeries put up in it. We noticed here good plants of *Adiantum Farleyense* and *Goniophlebium subauriculatum*, evidently liking their quarters. A forcing house was well fitted up with every appliance, also a good house intended for a rose-growing house, but at present occupied with *Allamandas*, &c., specimen *Davallias* and other plants at rest. The next house is

"EMPRESS" POPPY ANEMONES.

HAVING seen my bed of Messrs. Carter's new "Empress" single Poppy Anemones last May, would you allow me to direct the attention of other amateurs to their great beauty; as now is the time to obtain the roots, which are very cheap. I am a warm lover of Anemones, Ranunculuses, and such-like old-fashioned things, and am a special admirer of this strain, which gives me blooms of well-nigh Brobdignagian dimensions, some of them measuring quite 4 ins. in diameter; and being borne on long stiff stalks, are extremely useful for cutting, especially if taken when the flowers are young. Their colours are as varied as they are brilliant, and I am sure they will give pleasure to anyone who will try them.—*W. B. B.* [Our friend's bed was certainly a most beautiful one, and gave such a wealth of colour that we are not surprised at his enthusiasm respecting them. We also, in the spring, received a box of blooms from the Messrs. Carter, and which we cannot but admit were the finest varieties of *A. coronaria* that we have yet seen. The fine, bold character of the blooms is well shown in the accompanying illustration, for the use of which we are indebted to Messrs. Carter, but their bright and handsome appearance can only be fully appreciated when seen.—*ED.*]

THE POTATO TRICENTENARY.

For three or four days last week St. Stephen's Hall, Westminster, was the scene of a very creditable exhibition of Potatos, in connection with the Food Exhibition now being held in the Westminster Aquarium, and on Thursday and Friday conferences were held thereat, of an interesting and instructive character, but we regret to say that both the exhibition and the conferences were very thinly attended. As briefly announced in our last, the winners of the medals offered for the best collections were Mr. Chopping, of Milton, Sittingbourne; Mr. Diver, Pitshill, Petworth; and Mr. Kerr, Dargavel; and these were selected for distinction out of a considerable number of admirable collections. The special medal offered for any new variety, not yet in the market, was awarded to Mr. R. Lye, Clyffe Hall Gardens, Market Lavington, for his most promising seedling "Clipper," which has already been highly praised in our columns, and the stock of which has passed into the hands of Mr. C. Fidler, of Reading, for distribution. Large collections of varied interest were staged by Mr. J. Watkins, of Pomona Farm, Hereford; Mr. C. Fidler, Reading; Messrs. Harrison & Sons, Leicester; Messrs. Hooper & Co., Covent Garden; and Messrs. Vilmorin, Andrieux & Co., Paris. There was besides a singularly interesting collection of maps and ancient books of travel, old herbals and works on botany, all more or less bearing on the subject of the introduction of the Potato. Very appropriately too, the largest collection, devoted to the travels of Drake and Raleigh, came from a Plymouth gentleman, Dr. Brushfield. At Thursday's conference Mr. William Carruthers, F.R.S., presided.

WHENCE CAME THE POTATO TO ENGLAND?

The first paper read was by Mr. W. S. Mitchell, M.A., who took for his subject "The Historic Consideration of the Question—Whence Came the Potato to England?" He said that having already published the details of his researches on this matter, he would allude to a few of the important particulars requiring discussion. It was his own opinion that future generations would regard these conferences not so much as a celebration of the past, as approximately marking the commencement of a new era in Potato culture. The studies made by Mr. Baker with regard to the wild species of Potatos in connection with the suggestion of cross-breeding, selection, hybridisation and grafting were all new; and an important question in relation to those subjects was whether the species we had been cultivating for 300 years was distinct from the South American. According to history our Potato was a Virginian importation, but he thought it impossible that this could be correct. His task had been to go through the history of the period so as to see where the mistakes had arisen. History had misled botanists, and it would be useful at this tricentenary occasion for us to thoroughly wipe out the historic troubles arising through the carelessness of previous writers, so that future workers might have their path cleared for them. Mr. Mitchell then gave the reasons which induced him to believe that the Potato had been introduced into England by Sir Francis Drake in 1586. He believed that Drake had originally obtained the tuber from South America, either by purchase or plunder, and had conveyed it to England at the conclusion of the voyage in which he relieved Raleigh's Virginian colony. The Potato thus being brought in Drake's ships, but with Raleigh's colonists, would reconcile the contradictory traditions which ascribed the introduction of the Potato to both Raleigh and Drake.

The chairman said that although he had already been over this ground with Mr. Mitchell, he was not altogether satisfied with his explanation. He thought it probable that the Potato might have reached Virginia even in those early times as an article of food. The question of the native locality of the Potato was a very doubtful one. We had not yet obtained that absolute certainty about the wild plant which really represented the *Solanum tuberosum*. If the Potato had in old days been valued as highly as it is now, there is no reason why it should not have been scattered over the new world before the arrival of Columbus.

A paper by Mr. W. Herries Pollock, M.A., on "Drake's Expedition in 1586," was then read by Sir Richard Pollock. The paper gave an account of Drake's voyage of 1586, of the places touched at, and the enterprises carried out.

POTATO CULTIVATION BY THE INCAS.

Mr. C. R. Markham, F.R.S., read a paper upon "Potato Cultivation by the Incas and other Audean nations." He said that the original home of the Potato was in the Cordilleras of the Andes in South America. There it had been cultivated from time immemorial over an extent of 3,000 miles. When the Spaniards first arrived, the Potato was a domesticated plant in the kingdom of the Chibchas, in the province of Qneto, throughout the empire of the Incas of Peru, and in Chili. This fact of its immemorial cultivation rendered it difficult to ascertain with certainty the localities where the Potato was indigenous. It was most probable, on the whole, that the Potato originally grew wild in suitable localities throughout the Cordilleras of Peru and Chili. A description of the physical geography of these districts, and of the system of government under which its inhabitants lived, then followed. Mr. Markham observed that the government was practically a theocratic socialism, which secured an almost complete absence of distress and pauperism among its people, and under which the Potato became a cultivated plant. The Potato was unknown further north than the highlands of Bogota in Columbia; and it was there that one of the three American civilizations had its root—viz., that called by the Spanish conquerors the Mysca nation. Its people spoke a language called Chibcha, which is now extinct. But vocabularies have been preserved, and they revealed the fact that the ancient people of Bogota cultivated the Potato extensively, and had produced several varieties.

THE TUBEROUS SOLANUMS.

Mr. J. G. Baker, F.R.S., of the Royal Herbarium, Kew, read a paper upon "The Wild Germs of Tuberous Solanums." He said that the well-marked, thoroughly distinct species of tuber-bearing Solanums were five in number, and were all natives of America. These five were the *Solanum tuberosum* (including the numerous sub-species and varieties), the *S. Comersoni*, the *S. cardophyllum*, the *S. Jamesii*, and the *S. oxycarpum*. The Potato of cultivation originated from the first-named species. The *S. tuberosum*, in one form or another, extended down the western side of the American continent from the Rocky Mountains, in latitude 30 deg. north, to the Chonos Archipelago, off the coast of Patagonia, in latitude 45 deg. south. Within this area were found no less than sixteen forms, so far different from one another that they had been named by some botanical writers as distinct species. They were not so, however, in any comprehensive sense. The *S. tuberosum* was, therefore, one of those polymorphic vegetable types, of which we have very similar examples in the old world in the genus *Rubus*, the Rasperry, the Cloudberry, and the saxatilis. The extreme forms look very different from one another when they were placed side by side, but in the whole series there was to be found no very decided gap of character. Though the Potato had been cultivated in Europe for 300 years, we knew very little that was trustworthy about the deterioration that might be produced in the distinguishing characters by changes of climate and soil. He wished that some one would undertake to monograph the tuberous Solanums in the same thorough way that Mr. George Maw had just monographed the Crocuses. We did not at present even know clearly whether *S. tuberosum*, the commonly cultivated esculent, was really an original type or a form produced by man's agency, and in investigating the relations to it of the other fifteen *S. tuberosum* forms there was scope for the labour of a lifetime. He would add that Mr. Markham's paper was of exceptional value and interest, and if nothing more came from the conferences, a new era in the history of the Potato had been inaugurated by Mr. Markham's contribution. It contained an enormous flood of information, which would put the botanical and historical bearing of the question in an entirely new light. Botanists had not had the least idea of the large extent to which it appeared the Potato was cultivated at the very early period Mr. Markham had mentioned.

At the afternoon meeting Mr. Baker presided.

THE POTATO DISEASE.

Mr. G. Murray, F.L.S., Natural History Museum, read a paper on "The Potato Disease," his remarks being illustrated by a number of diagrams of the fungus in its various stages. He said that the history of the disease was a recent one as compared with the history of the Potato itself, notice having first been called to

it in 1845, when it was probably brought to the country from Belgium. After describing the nature of the fungus, Mr. Murray said that he had satisfied himself that the disease was propagated by the spores being distributed by the wind. A number of glass slides, such as are used with a microscope, having been covered with glycerine and placed on the lee side of a field of infected Potatos, when a slight breeze was blowing, it was found that after an exposure of a few hours the slides each contained a number of these spores. From continuous microscopic investigation, it has been seen that the complete fungus was produced in three hours; and this fact accounted for the sudden and disastrous spread of the disease. No system of earthing up the Potatos could, he believed, be efficacious in checking the disease, neither could confidence be placed in any legislative enactments regulating the planting of Potatos.

Earl Cathcart said it would be interesting to know whether the Potato disease was an effect or a cause. With regard to the degeneracy of the Potato, he might mention that it was a fact that no supposed disease-resisting Potato had ever existed for more than about twenty years. That, in itself, he considered to be an argument in favour of the theory that plants are liable to degenerate when over-cultivated.

INTRODUCTION OF THE POTATO INTO FRANCE.

Mr. Henry Leveque de Vilmorin, of Paris, then read a paper upon "The Introduction of the Potato into France," and stated that Clusius had remarked that the Spaniards had introduced the Potato to the continent of Europe. It was introduced to the Dauphiny of France from Switzerland. It was not extensively grown at first, and was for a time used only as fodder for animals. A very strong prejudice existed against it. A parliament of one of the provinces of France decreed that it should not be cultivated, as it might bring forth diseases and visitations of a like character. Eventually a bouquet of flowers of Potatos was presented to the King, and this led to the Potato becoming fashionable. In 1819 it was grown at Versailles and round Paris also, and now it is largely cultivated all through France. (*To be continued*).

GENTIANA ACAULIS.

WHEN looking over the gardens at Didlington Hall, Norfolk, in October last, I was much charmed with this lovely Gentian, which was there doing so grandly. It has induced me to send you this note in the hope that it may encourage others who, like myself, have not succeeded in blooming it satisfactorily to persevere with it. I saw it growing at Didlington in a long narrow bed in the flower garden exposed to the east, and standing in the open. It was growing in the ordinary soil of the garden without any preparation whatever. It was full of bloom, and I counted from fifty to sixty blossoms open on quite a small bed, with many more buds to open, and this at the middle of October. I was assured by Mr. Stocking, the gardener, that they had no difficulty in getting it to bloom well. He remarked "that bed was covered with blooms in the spring, and it has continued flowering more or less during the summer." He further remarked that the bed was blue with bloom every season.

It is said by some that *Gentiana acaulis* needs a stony, dry, hard soil, but at Didlington the soil is a sandy bog, and the situation low, the stream that supplies the lake running close by, so that it is not much above the water level.

In the place from which I write we have some large patches of this Gentian, and our soil and situation is just the reverse of the above, and although the plants grow and look grand, we are rewarded only by two or three blooms to a patch 1 ft. or more across. We think so highly of it that we tried it in a number of soils and situations, but with the same results. We placed it on a rock-bank in the autumn of 1885, and last season the crop of bloom was about as usual. I have tried it in loamy soil, treading well around it on the stones placed about the plant; again in almost all gravel; in fact, in every way I could think of as likely to induce it to bloom, but with the same results. In all soils and situations it grows very fast, but does not flower freely. I have this season been treating it to more water during the summer to see what effect that has.

I am inclined to think that there is something in the soil that is beneficial to it where it blooms so well,

and am inclined to think, further, that it is a lime or chalk soil that it needs. It is the more strange that it does not bloom here, seeing that the lovely *Gentiana verna* grows and blooms very well, as also do *G. gellida*, and several other species; most of them are lovely, but none surpass *G. acaulis* when seen full of bloom. One often hears people complain of its not blooming satisfactorily; any hints that will tend to make it bloom would be greatly appreciated, I am sure, by many besides the writer. It is a pity so lovely a plant should not be more extensively grown. My employer often speaks of seeing it as an edging to a walk in the north of England. It must be exceedingly beautiful when so grown. I should feel obliged to any reader, who blooms it satisfactorily, if they will state the nature of the soil, culture, &c., through the columns of your valuable paper.—*Con.* [If our correspondent, and those who, like him, do not succeed in getting *Gentiana acaulis* to bloom, were to plant it in good loam of not too retentive a character, and while planting it were to pave the ground tolerably thick with pebbles, or granite stones—such as are used on the highway—they will, perhaps, succeed better. Some years ago, in the garden of the late Miss Darwin at Shrewsbury, it used to flower grandly so treated.—*Ed.*]

GARDENING MISCELLANY.

Aster hybridus nanus.—Michaelmas Daisies are known to everyone; they form a group of hardy perennials, many of which are worthless, while some few possess great merit as decorative garden plants. Many of them are very tall-growing, and so are unsuitable for some positions; but the one under notice is quite the reverse of this. It only grows from 12 ins. to 18 ins. high, has a neat habit, forming compact round bushes, and is covered with bright pink and white flowers. It was one of the most showy plants in our hardy plant borders this autumn. It is what may be called everybody's plant, seeing that it grows in almost any kind of soil, and takes care of itself. We think so well of it that we have increased its numbers all we could. It would be a grand kind for growing in pots for furnishing, and for this purpose would save many other more valuable plants. I would recommend all who have not tried it to do so, feeling sure that they will not be disappointed.—*Con.*

White Pelargoniums.—Since the introduction of Madame Vaucher, many varieties have been brought under our notice, and each said to possess some characteristic merit far in advance of its predecessor, either as a bedder or for pot cultivation, and unquestionably this must be admitted as a positive fact; but shall we be able to go on in this progressive way for an indefinite time? If so, it will be no easy task to forecast the labours of future raisers with reference to ulterior results. Some few years since, amongst other varieties, "Eureka," "I have it"—or, as many call it, "I've got it"—was sent out, and a very fine variety it is when the requisite pains are taken to grow it as it is capable of being grown. Evidence of this fact was given by the very fine large batch that was shown, some two or three years since, at the Lee, Blackheath and Lewisham summer show, by Mr. H. J. Jones, of the Hope Nursery, Lewisham. These, I remember, were very much admired, and considered by many to have been, as a group of whites, the very acme of perfection; but in the lapse of a short period the scene has shifted, and other favourites appear on the floral stage. Hence, as an example, exit "Eureka"—enter "Queen of the Belgians"; and I think no one can dispute the fact of the latter rival being, in almost every essential point, under proper leadership, a better performer than its predecessor, inasmuch that the plant is of a dwarfer habit, the trusses good and of a pure white, and the flowers individually large and circular in outline. This variety was grandly exhibited in large numbers at the summer show of the Lewisham and District Floral Society, this season, by the gentleman already mentioned. So perfect were the plants exhibited, that it was considered by many to be almost impossible to outrival Her Majesty the "Queen of the Belgians"; but let us wait and see what the Jubilee year will usher in, after the scenes of the present year have been shifted and the curtain dropped.—"*Man of Kent.*"

Gaultheria procumbens as an Edging Plant.—I do not know whether *Gaultheria procumbens* has ever been suggested as an edging for a border. I tried it a year or two ago, at Oakwood, round a bed containing principally deciduous plants; and now, at this dead season, the bright red berries and glossy green leaves have a very pretty effect. I was struck with the frost-resisting power of a *Veronica* with narrow leaves and white flowers, which I have as *V. salicifolia*, but which, a good authority tells me, is wrongly named. The thermometer at Oakwood, the other night, went down to 23° Fahr., yet I could cut sprays from plants in full exposure perfectly untouched. The narrow leaves and feathery white flowers made a useful addition to a table nosegay chiefly consisting of *Pernettyas*, with different coloured berries, and the open seed-pods of *Iris foetidissima*—both very pretty but rather solid.—*George F. Wilson, Heatherbank, Weybridge.*

Zauschneria Californica.—Although an old plant, this is but little known, judging from how seldom it is met with in private gardens. As a plant that will bloom in the tenth month of the year, it has a claim on all lovers of hardy border subjects, seeing the few things there are that bloom at this season. It grows about 12 ins. high, and makes a neat bush; it was covered with scarlet tubular flowers here this autumn, and deserves to be more cultivated in private gardens.—*Con.*

Primula sinensis.—Will you kindly state, through your columns, the origin of the *Primula sinensis*, and how it grows in its native country; also when and how the double *Primula sinensis* originated?—*R. W. S.* [*Primula sinensis* is figured in the *Botanical Magazine*, t. 2564; in *Lindley's Collectanea Botanica*, t. 7; *Regel's Gartenflora*, 1861, t. 346; *Hooper's Exotic Flora*, t. 105; *Loddiges' Botanical Cabinet*, t. 916 and 1926. All these figures show a great variation in the flower, and many varieties were in cultivation before 1833. It was first introduced in 1820 to this country by Captain Rawes, who brought it from Canton, in China, where he found it in gardens only. None of the above works pretend to know where it occurs in a wild state. It was first called *P. sinensis* in Sabine's manuscript, but is figured in the *Botanical Register*, t. 539, under the name of *P. prenitis*. This was taken from a plant that flowered in March, 1821, in Mrs. Palmer's collection at Bromley; and the plant was supposed to be the only one in the country at that time. We believe that the original double white and double red came also from China, but have been improved since under cultivation.—*Ed.*]

Luculia gratissima.—This is one of the finest winter-flowering plants in cultivation for conservatory decoration. It does remarkably well when planted out, which is the best way to treat it. I saw a plant so grown the other day in the conservatory at Norris Green, West Derby, Liverpool, where it is in the same bed as some grand *Camellias*, and showing by its condition that the same treatment suits them both. The plant, a handsome bush about 10 ft. high, bore over 200 beautiful trusses of its delicate rose-coloured, sweet-scented blossoms. Many of the clusters of flowers were 9 ins. and 10 ins. through, and nothing could be more beautiful. Gardening, in all its branches, is most practically carried out at this fine place, and never at this season of the year have I seen a conservatory so gay with various winter-flowering plants. Mr. Bardney is truly an enthusiast in his profession.—*A. O.*

No plant better ornaments our greenhouses at this time of the year than *Luculia gratissima*, with its sweet-scented blossoms. It may be propagated freely from seeds; but the plants so raised do not generally bloom until two or three years old. The best way to propagate it is to put cuttings of the young shoots, about May or June, in sand and leaf-soil, insert them singly in small thumb-pots, and plunge them for a few weeks in gentle bottom-heat. When sufficiently rooted, pot them on in a compost of loam and leaf-soil, with a little dry cow-dung added, and place them in a cool frame or greenhouse close to the glass, excluding the full rays of the sun. Plants thus treated will bloom in the autumn and early winter in 48 or 32-size pots. After blooming, they may be cut hard back, and either be grown on in larger pots or planted out; the latter way they succeed very well. Large plants of *L. gratissima*, and the other kind, *L. Piceana*, are planted out along with the *Camellias* in the *Camellia-house* at

Chatsworth, and are both covered with bloom at this time of the year, perfuming the house with their fragrance. One great fault the flowers have—they do not last long when cut, although they do so when on the plant.—*G. Holmes, Harefield Grove Gardens, Uxbridge.*

Berberidopsis corallina.—I send you two spikes of the very attractive *Berberidopsis corallina*, which has been in flower here for the last four months, and may, as you can see by the specimens sent, continue flowering for some time to come. The plant is grown on a wall facing the south-west, and has stood out for years without any protection, so that it may be considered perfectly hardy. As I have not seen it mentioned in any of the gardening papers, it would be interesting to know if it succeeds in the south. I find it propagates slowly by means of cuttings, as some put under a hand-glass, in a cool shady place, in September of last year are only now rooting.—*James Russell, Pollallock Gardens, Lockgilthead, N.B.*

Fuchsia, Madame Cornellison.—This old *Fuchsia* still has some good points to recommend it to growers, and, although it is surpassed by many of the newer kinds in size, there is still the freedom and grace of habit in this that is lacking in many of the newer kinds. When looking through the gardens at Culford Hall, Bury St. Edmund's, with Mr. Smith, the present gardener there, in October, I was pleased to meet with the old variety, growing outside. It was planted at the foot of a low wall facing south, and was just high enough to be seen over the top of the wall. It was blooming most profusely, and looked the picture of health. I was told that it had not the least protection during the last two winters. This goes to show that *Fuchsias* are much hardier than they are often supposed—that is to say, those kinds usually grown under glass, as most people are fully aware of the hardness of such as *Globosa* and *Ricartoni*, &c.; but beautiful as these are, they are far out-distanced by such kinds, as the subject of this note, for the effect they give.—*Con.*

Chimonanthus fragrans.—While writing about Culford Hall, I cannot leave the subject without saying a word about the grand specimen of this lovely sweet-scented, winter-blooming, hardy wall plant. It is growing on the wall in front of the gardener's cottage, and covered a very large space; and most beautiful it must be in the dull days of Christmas time, when covered with hundreds of sweet-scented blooms. It is a plant everyone, who loves fragrance, should grow who can give it a warm aspect on a wall.—*Con.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

HARD-WOODED PLANTS.—Extra caution must now be used in the house devoted to hard-wooded plants, and more particularly if many *Heaths* are staged therein. With the continuation of weather as variable as it is disagreeable, the employment of fire-heat is absolutely indispensable. With Cape *Heaths* much rather allow the thermometer to remain near freezing point than to maintain a warm temperature, as it will assuredly induce them to start into growth, and so spoil the effect they should produce when flowering; in fact, this class of plants are most impatient of heat at all times, and will not thrive unless plenty of air is admitted.

CAREFUL WATERING.—Much care is also necessary that the plants do not suffer from a want of water at the roots; should the ball by any means become quite dry, rather than trust to an ordinary watering, remove the plants from the stage, and immerse the pot in a tub, allowing it to remain for an hour or so, so that a thorough soaking may be assured, for I am quite certain from experience that much harm arises from careless watering at this season. The same remarks apply to the general stock of hard-wooded plants, such as *Epacris*, *Leschenaultia* and a host of others too numerous to mention. In the house devoted to

FLOWERING PLANTS, much care must be taken that no unnecessary water is spilled about; maintain a comfortable atmosphere, and by all means ventilate

thoroughly. In the case of Chinese Primulas damping round the stages, have them removed to a more airy position, and when—as we may shortly hope—a more buoyant air prevails, they may be returned to their previous positions. Take care that all

NEWLY-FORCED PLANTS are staged at the warmest end of the house, and out of cutting draughts, or the flowers will be very short-lived. Particularly is this the case with *Azalea indica*, the flowers of which, when forced thus early, being rather flimsy; and if not required elsewhere, they will be much more at home if placed in the intermediate house, and last much longer in bloom. We have placed a good batch of plants in the forcing-pit, consisting of *Azaleas* of kinds, *Lilacs*, *Forsythias*, *Deutzias*, *Spiræas* and such-like; and to keep up the supply, we shall introduce a few of each kind weekly.

PERPETUAL ROSES are, for the present, better left in the plunging-border, as they seldom do well if introduced now; but not so with Teas, some of which may be brought on slowly in the most suitable place, and as they advance, and before the flowers open, have them removed to cooler quarters. The blossoms, if cut from any great degree of heat, seldom last more than one day; whereas, if kept cool when opening, they afford lengthened enjoyment.

THE FORCING HOUSES.

PRUNING AND CLEANING VINES.—It is now high time that the Grapes from the Muscat vinery should be cut and bottled, that is, what remains of the crop. The other vineries having been washed and put in order, gives leisure for a thorough cleansing of this house, which is most necessary, as with the higher temperature maintained, requisite for the production of good Muscats, there is always the more danger of a visitation of red spider. If such was the case last season lose no time.

PRUNE THE VINES immediately the crop is removed, and then thoroughly cleanse the house: commence by washing the entire roof, after which the rods of the Vines may be rubbed with the hand to remove any loose bark, and afterwards be dressed with Gishurst Compound, and when dry tied into position. The walls should also be whitewashed with quicklime, to which may be added a good sprinkling of flour of sulphur, after which let the house be thrown completely open until required to start, and there is a reasonable hope that the pest may be eradicated.

IN THE EARLY VINERY, while the present dull weather prevails, continue to keep a low night temperature so as not to over-excite or cause an unsatisfactory growth; if it is done the crop cannot be otherwise than unsatisfactory. It will be advisable now to make another sowing of Cucumbers of some reliable sort; very frequently the plants which have been bearing fruit throughout the winter die off in a rather mysterious manner early in the spring, and unless more plants are kept in reserve, an awkward break occurs. The batch of plants with us carrying fruit have been surfaced with good fibry loam, and they have also had a dose of liquid manure to assist in the swelling of the fruit.

THE KITCHEN GARDEN.

THE WEATHER being still so unsettled, it is necessary to exercise caution before commencing the digging of large squares, as if the land is at all heavy, and the work is carried on indiscriminately, later on the soil will be unworkable. We have made good progress with ground work, so that now attention will be turned to the burning of all refuse preparatory to being returned to the garden when frosty weather prevails.

FORESTRY PLANTING, too, will occupy much of our time, and as it is on turf, the work can be done expeditiously, and will be out of hand, and so give relief when garden work is more pressing; a little care and forethought in this respect greatly relieves the pressure later on.

GENERAL WORK.—With the somewhat sharp visitation of frost (12°), we found it necessary to place litter over Celery ridges, mat Parsley, and otherwise protect. Still, things appeared to suffer much more than usual from the amount of frost registered, which may, I think, be accounted for by the unusually lengthened mildness of the season. Complete the pruning of all Currant quarters as speedily as possible, so that digging may proceed as the weather permits.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

The Lesser Cattleyas and Lælias.—The species comprising this section, and which I enumerate below, are often lost, or so far impoverished in condition as to render them useless, by being kept too hot and too dry in winter. If placed in too high a temperature, and especially if at the same time they have a short allowance of water, they shrivel, the old bulbs get infested with scale, and push weak growths of no use for the purpose of furnishing flowers. At the same time, and although the varieties of *Lælia pumila* and some of the others grow very well in the cold or *Odontoglossum* house in winter, where it is not allowed to go below the prescribed limit it is not safe to house them there.

The cooler parts of the *Cattleya* or intermediate house is the best place for all this section, and the nearer they can be brought to the glass of the roof the better will they thrive. It is for this reason that blocks, rafts, baskets or suspended pans are the best for growing them in, especially when in a small state, or when they are not in good condition; and if grown in the last-named, a very thin layer of good fibry peat is sufficient, as all the species alluded to are impatient of too much material around them, and are particularly liable to be damaged by it in the event of its retaining water too long.

What is desired with them is to have them in a quickly draining material, which admits of frequent waterings without keeping wet too long after each watering. The cooler the plants can be kept, in reason, the less water will they require, as it should be borne in mind that all that is needed is to keep them plump and sound until they are actively growing again.

The section alluded to as the lesser *Cattleyas* and *Lælias* are *C. Acklandiae*, *C. calumnata*, *C. Walkeriana* and its allied varieties, *C. nobilior* and *C. dolosa*, *C. Schilleriana*, *C. Reguelli*, *Lælia pumila*, *L. Dayana*, *L. præstans*, *L. monophylla*, *L. Lindleyana*, *L. flava*, *L. acuminata* and *L. peduncularis*. The two last properly belong to the Mexican *Lælia* section, and may be grown with *L. anceps*, *L. autumnalis*, &c. Indeed, the whole of the *Cattleyas* and *Lælias* here mentioned would do better with the Mexican *Lælias* in winter than the hot close places they are too often kept in.—*James O'Brien.*

***Odontoglossum crispum guttatum fastuosum* (Reich.).**—This beautiful variety is again in flower in the collection of F. Jacob, Esq., at Amhurst Park, Stamford Hill, and it still maintains its character of being one of the prettiest varieties of *O. crispum* which has yet appeared. The flowers are large and well formed, their attractiveness being greatly enhanced by the deep serrature and frilling of the lip and petals. The sepals, which are plain-edged, are white, marked with large and small irregular blotches of chestnut-brown. The petals are fringed and similarly marked to the sepals, but with fewer spots; and both sepals and petals are richly coloured with a violet staining, which is even brighter on the reverse of the flowers than on the front. The labellum is white and beautifully crimped, bright yellow in the centre, and where that colour merges into the white edge are numerous cinnamon blotches. The apex of the column is rich crimson, and altogether it is a lovely thing, and one which is all the more attractive as no two of its flowers are marked alike. This and a few more of its type came in a lucky importation by Messrs. Hugh Low & Co., of Clapton.

Masdevallia towarensis.—At Welham Hall, Retford, there is a charming display of this Orchid. It is generally supposed to be of easy culture, but one seldom, if ever, sees such a remarkable amount of modest beauty remain such a length of time in perfection. Although it is reckoned by many good authorities to produce its pure white flowers in pairs only, this is by no means the case; as I was curious enough to look into one batch of about a dozen, in 6-in. and 7-in. pots, and the smallest of them had a crop of fifty-one spikes, with two, three, four, five, and a few six flowers on one spike; and what I supposed to be the largest plant had seventy-five spikes, a great many of which bore four, five and six flowers on a spike. Those which bore so many flowers were old spikes of last year's growth, left on the plants, and which Mr. Wynch, the gardener, leaves with the

intention of securing a double crop. This year's spikes generally run about two and three flowers on each, and last year's carry about four and five flowers, with a good many six. A later batch, which will come in flower about the second week in January, promises to be equally successful. Lovers of Orchids, if in the neighbourhood of Retford, ought to pay a visit to Welham Hall, the seat of W. Berks, Esq., and see for themselves this very interesting genus at home in a cool-house, and under the care of a gardener who evidently thoroughly understands them.—*J. D.*

FLORICULTURE.

Dahlias of the Olden Time.—There was a variety upwards of fifty years ago, figured and described in Sweet's *Florists' Guide*, under the name of Painted Lady, which was quite distinct, and classed as an Anemone-flowered variety. It was said to have been raised by a Mr. Drummond, and sent out by Mr. J. Lee, of Hammersmith, and is thus described; "The centre of their flowers were composed of narrow radiated florets, like the small petals in the centre of a double Anemone, having an outer row of guard petals as in the case of the single sorts; flowers very handsome, rose coloured tinged with white and blush." Although in my early days, I was acquainted with very many of the varieties then cultivated, I do not remember this Anemone-flowered variety; but should the original have been accurately represented, and it could be re-introduced at the present time, as was the grand old *Dahlia picta formosissima* a few years since, I fancy it would secure a great many admirers for its colour, novel and striking appearance.

There was another variety figured at the same time, viz., the *Crimson Globe*, also sent out by Mr. J. Lee. This I was perfectly familiar with, as it was grown at the place where I was employed, and although so many years have elapsed, I have a very vivid recollection of this one particular variety; the plant was dwarf, i.e., from 2 ft. to 3 ft. high, the petals somewhat quilled, very close, compact and globular; in fact, when fully developed the flower formed a perfect ball, and the pendulous habit of the plant rendered it graceful and effective as a border and bedding variety. I am under the impression, that could these two old varieties be re-introduced, they would secure, perhaps, as many admirers as the single kinds have done during the last seven or eight years. But the floricultural tide flows on unceasingly, and in its course, good things as well as inferior ones are swept into the vortex of oblivion; and anon supplemented by novelties that are continually coming to the front—as "R. D." once said, "it is the fashion to change." It appears to be an established custom to repudiate the old and make room for the new, but in this way I am thoroughly convinced that many a worthy subject has been left in obscurity. No doubt commercial enterprise necessitates this issue of events, and perhaps properly so. All must pass onward as one grand floral panoramic spectacle or pageant; and, although in form, colour and general contour the *Dahlia* may be said to be faultless at the present time, yet we cannot stop, the floricultural machinery must be kept in motion, so as to keep up a constant supply of something that has the semblance of originality—some distinctive features and characteristics of one form or another to induce the plant-loving enthusiast to add something new to his collection. In this way throughout my long career a healthy action has been kept up, thousands made exceedingly happy, and in a pecuniary sense many have been benefited. If we could estimate the aggregate amount that has been expended during the last fifty years on novelties alone, such calculations would assume alarming proportions.—*George Fry, Lewisham.*

CARNATIONS AND PICOTÉES.—The careful cultivator of these charming subjects—one who grows a select collection of varieties—will now have his plants in their winter quarters, standing on a good ash-bed. Just now, the duties of the grower are those of careful attention, keeping the plants thoroughly clean from decaying foliage, the soil fairly moist, but nothing approaching to soddenness, giving them abundance of air, and taking care that showers of rain do not fall upon them. If the plants are in a cold frame, the lights should be so tilted up as that while the falling rain cannot reach the plants, air can circulate freely among them, and anything like crowding the plants

should be avoided. Undue crowding encourages damp and spot, and, consequently, a sickly development. It is only ample room, cleanliness, and a free circulation of air that will keep at bay that dreaded and destructive enemy, the spot.

In his excellent book on the Carnation and Picotee, Mr. E. S. Dodwell recommends cultivators to "frequently go over the plants with the brush and scissors, removing all dust and decaying foliage. Destroy green-fly by brushing over the plant affected with a weak solution of soft-soap and tobacco-water. Draw off the lights on any favourable occasion, and in wet and windy weather tilt them both at back and front. Some little difference prevails as to the best aspect for the frames during winter. I prefer the north, as keeping the plants more at rest, and enabling us to leave them guarded—with the lights, of course, freely tilted—on questionable mornings, with more impunity from the gleams of sunshine which break out often unexpectedly in the autumn and winter months. Be sparing in the application of the watering-pot; but, when needed, let the plants have a thorough soaking, and in the morning."—*R. D.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*Dec. 7th.*—The last meeting of the year was held in the east crush-room of the Albert Hall, the large conservatory not being available. But few subjects were sent for exhibition; there were few present, except members of the committee; the work was soon got through, and after most cordial votes of thanks had been accorded to the respective chairmen, Mr. G. F. Wilson, and Mr. Harry Veitch, and to the members of the committees, by the council, for their valued services, the proceedings were soon brought to a close. It was not a cheerful ending of a season that has seen much good work accomplished, and most of those present felt somewhat concerned as to what will be the ultimate fate of the society.

The First Class Certificates awarded, were to Mr. T. S. Ware for the ever beautiful *Narcissus monophyllus* (*Corbularia Clusii*), Hoop-petticoat *Narcissus*; to Mr. William Bull for *Cypripedium callosum*, a species from Cochin China, with bright green foliage, and a large flower with medium-sized slipper and petals, and large broad dorsal sepal, white with numerous longitudinal bands of purple; and to Mr. G. Stevens, Putney, for *Chrysanthemum Carew Underwood*, a fixed sport from Baron Prailly, and a fine handsome flower to boot, bright orange with the reverse of the petals pale rose. Mr. T. S. Ware showed a good clump of *Helleborus niger maximus* in full bloom, flowering plants of the useful *Primulas obconica* and *floribunda*, and a fine stand of *Chrysanthemum* Mrs. H. J. Jones, a yellow sport from Ethel, and, except in colour, the exact counterpart of that valuable late white variety. Mr. Ware was unfortunate in not having brought a plant, or the new variety would, doubtless, have obtained the certificate which it well deserved. Messrs. C. Smith & Son, Caledonia Nursery, Guernsey, sent blooms of a promising yellow variety, named Governor of Guernsey, but the blooms were somewhat past their best. Mr. G. F. Wilson brought up a pretty little flowering *Veronica*, which in an exposed place when the thermometer went down to 15° Fahr. escaped uninjured. Mr. Hans Nieimand, Royal Nursery, Harborne Road, Birmingham, sent some small plants of a variety of *Poinsettia* with prettily golden variegated foliage. Mr. Heims, gardener to F. A. Philbrick, Esq., Q.C., Oldfield, Bickley, showed a fine form of *Lælia anceps virginalis*. Mr. Searing, gardener to C. J. Partington, Esq., Heaton House, Cheshunt, staged a strong-grown plant of *Odontoglossum Alexandræ*, a small pure white neat-flowered variety, with one spike of seven branches and sixty blooms. Mr. Cowley, gardener to F. G. Tautz, Esq., Studley House, Hammer-smith, showed a flowering specimen of *Spathoglottis angustorum*, and three varieties of *Anthurium*. Mr. J. King, Rowsham, staged a seedling form of *Richardia æthiopica*, with a strong dash of steel-blue in the foliage, which gave the leaves a peculiar glistening appearance. Mr. King also had some seedling Chinese *Primulas*, one of which, named Jubilee, a Fern-leaved variety, with rosy carmine flowers, wire edged with white, was very pretty. Messrs. Hooper & Co., Twickenham, had a bright basket of winter-flowering Carnations.

At the Fruit Committee table the only subjects of interest exhibited were three immense smooth Cayenne Pines, sent by Mr. Coomber, Hendre Park Gardens, Monmouth, and which were awarded a Cultural Commendation; half a dozen good Pines, mostly Queens, from Mr. J. Harris, Singleton Gardens, Swansea; and specimens of a large Apple named Lady de Tabley, from Messrs. Caldwell & Son, Knutsford, Cheshire.

Manchester Horticultural Improvement.—*Dec. 2nd.*—At the usual fortnightly meeting, held on the above date in the Memorial Hall, Albert Square, Mr. F. Robinson in the chair, Mr. Isaac Booth read a paper on "Chicago; its Parks and Boulevards." He said that Chicago stands on the river Chicago, and still retains its Indian name. In 1804 the importance of the position of the town was recognised by the United States Government, and the old fort Dearbourn was constructed near the corner of what is now Michigan Avenue and Lake Street, and was garrisoned with fifty men and three guns. A few years afterwards the fort was taken by the red man, and many of the soldiers and settlers were killed. It was rebuilt in 1816 near Rush Street Bridge, and finally disappeared in the great fire of 1871. In 1820 Chicago contained eight white families; in 1830 there was 100 inhabitants, consisting of whites, blacks, Indians, and half-breeds. In 1837 Chicago was incorporated a city, with 4,170 residents, and at the time of the disastrous fire there were 300,000 inhabitants. In 1880 it contained 500,000. In fifty years the little frontier trading post had developed into a metropolis for half a million people, and being situated in the midst of a vast fertile and productive agricultural district—with railroads converging from all parts of the compass, and a cheap water communication open to navigation about eight months in the year—it certainly promises to become at no distant day the great commercial emporium of all central North America.

Coming to the parks and boulevards of Chicago, Mr. Booth first of all spoke of Lake Park on the shore of Lake Michigan. The city appropriates each year a certain sum of money to improve and beautify this place, but as the town has virtually no legal title to the ground, the Park Commissioners do not feel at liberty to spend a very large sum upon it. Grove Park is devoted exclusively to pleasure, no heavily-laden teams being allowed on the drives. It is *par excellence* the boulevard of Chicago. Then there is South Park, which is really two parks with a broad avenue connecting both together. The western division contains about 500 acres of land laid out in charming drives and walks through green grassy lawns, while directly to the east lies the eastern division of South Park stretching along the lake for a mile and a quarter. Both together the divisions contain about 1,055 acres of land, through which there are already thirty miles of gravel walks, while fountains, miniature lakes, groves of shady trees, and masses of ornamental shrubbery make the park one of the most delightful of resorts; in fact, a real fairyland. From the western division of South Park begins Pavilion Parkway—a broad boulevard or drive running directly west for five miles, and then turning northward. Douglas Park lies to the south-west of the town, and is four miles from the centre of the city. It contains 233 acres of land, beautifully laid out with drives, walks, lakes, ponds, fountains, rustic bridges, houses, and music stands. From the western side starts Douglas Boulevard, which runs one mile west, then north for nearly a mile, and joins the Central Park at the south-western extremity. Douglas Boulevard has a central planting space of 125 ft. wide, and a drive on each side of 40 ft. Central Park is a mile and a half long and a third of a mile wide, with an extension half a mile long. This park contains 236 acres, and is directly west of the city.

Then comes the boulevard that connects Central Park to Union Park. It is two and a half miles long, and forms a most excellent approach to Central Park. At the north-east corner of this park the Central Boulevard begins and extends to Humboldt Park. This boulevard is graded 50 ft. wide for a central drive, and has two side drives, each 25 ft. wide, while upon either hand is an equestrian roadway 31 ft. wide, and outside of all are the side walks for pedestrians, each 8 ft. wide. The whole of the 250 feet are shaded by six rows of tall elms. Humboldt Park contains 290 acres of land artistically laid out in walks and drives through the lawns, a large lake forming the central portion of the park. The lakes, walks and

drives of Lincoln Park are also charming. The parks and boulevards are not complete in every particular, but when finished will present the finest system of the kind in the world. With one exception they will extend entirely around the city with exceedingly fine drives. Within the city itself there are several small parks, but these are only breathing places for the town, and are too small to exhibit the charming powers of the landscape gardener. No expense has been spared to make the parks and boulevards attractive and pleasant. The beautiful avenues of shady trees consists of Elms, Oak, Hickory, Catalpa, Chestnut, and more particularly the beautiful Maple of all kinds. As regards the bedding, it is one grand panorama of beauty. Hundreds of thousands of plants are used each year. A vote of thanks was passed to Mr. Booth for his interesting paper.

Mr. R. Tait, the treasurer of the society, laid on the table some cut flowers and plants gathered by him that (Thursday) morning in the open air at Llanfairfechan, North Wales. The collection included Roses, several varieties of the *Chrysanthemum*, *Hydrangea*, Ivy, and the *Arbutus*, with its rich Strawberry-like fruit. The foliage and blooms were almost perfect.

The Wirksworth Chrysanthemum Show was held in the Town Hall, Wirksworth, on the 2nd December, and showed how rapid had been the progress made in this district during the last two years. Six large groups were put up, but the two smallest ones far exceeded the others in freshness and general effect; being both good in flower and foliage. The principal varieties, just at their best with buds to develop, were:—*Jardin des Plantes*, *Bronze Jardin des Plantes*, *Baron Beust*, *Plutus*, *Lady Hardinge*, *Prince of Wales*, *Mrs. Cobay*, *Barbara*, *Cherub*, *Le Grande*, *Rev. J. Dix* and *Mrs. George Rundle*; and of Japanese:—*Fleur Parfait* (very good), *Elaine*, *Berthier Rendatler*, *Source d'Or*, *Duchess of Albany*, *Margot*, *M. Paul Fabre*, *Aurore Boreale*, *Rex Rubrorum*, *Peter the Great*, *M. C. Hubert*, *Lady Selborne*, *James Salter*, *Tokio*, *Bouquet Fait*, *Fair Maid of Guernsey*, *Le Cygne*, *Mons. J. H. Laing* and *George Gordon*. Other varieties shown well were: *Cullingfordi*, *Marabout*, *Golden Christine*, *Pink Christine*, *Crimson King*, *Julie Lagravere*, *Mdlle. Martha*, *Dick Turpin*, *Pink Pearl*, *Georges Sand*, *Chevalier Donage*, *Lady Buller*, *Purple King* and *Gold Button*.

Obituary.

MR. EDWARD POHLMANN, the well-known Auricula raiser and cultivator, died at Halifax, on the 27th of November, at the age of sixty-one years. He was a most enthusiastic florist, dearly loving, from his youth upwards, the plants he tended with so much care; and he was never so happy as when he was in the garden with his favourites. It was while he was in his garden, during a spell of trying weather, that he took a severe chill, which developed into bronchitis and other disorders. He took to his bed on the 12th of November, and died on the 27th, after a period of severe suffering, much regretted by his family and friends. He was a man of upright, unblemished character, an accomplished florist, and an excellent judge; and his death creates, in the ranks of the northern florists, a void difficult to fill. He was born in Halifax, in the year 1825, and, after receiving his education, he commenced to learn his father's business of a pianoforte manufacturer. When his father retired from business it passed into the hands of his sons William, Henry and Edward, and they carried it on under the appellation of Pohlmann & Sons. Eventually Edward, who was deeply attached to flowers and greatly preferred his garden to his business, retired, and commenced on his own account as a florist in Parkinson Lane. The Auricula was his favourite flower, and he grew it for forty years, during which period he raised and "let out" two dark selfs—one Garibaldi, which he distributed himself; the other Helen Lancaster, sent out by Mr. Royds, florist of Rochdale, a variety of excellent quality when in good form. When he died, Mr. Pohlmann left behind a large number of seedlings, both show and Alpine, obtained from crosses of the best varieties, and some of which are expected to make a name for themselves. He had recently purchased, for distribution, Mr. Samuel Barlow's fine dark self—Mrs. Potts—which created a sensation at the Rochdale Auricula show last spring. He also took in hand the laced Alpine Auricula, and raised some charming varieties. He also grew Carnations, Picotees, Primroses, Polyanthus, &c., having choice collections of each; and many of the choicer hardy plants found a congenial home in his garden in Parkinson Lane. His son Edward succeeds him.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*Reginald Young*: *Catsetum longifolium*.
G. T.: *Erigeron speciosus*.

SOUVENIR DE LA MALMAISON CARNATION.—*Rodger*: There is no remedy for the disease that can be applied now, but by propagating next season from clean stock, you will, in all probability, not be troubled with it. Get some fresh cuttings, if you can, from another source.

CHRYSANTHEMUMS.—*T. Gray*: Mrs. Uffington; Rifleman is bronze-red in colour.

HEAVIEST BUNCH OF GRAPES.—*H. U. Cornwall*: The heaviest bunch of Grapes on record in this country was one of Trebbiano, grown by Mr. Curror, gardener at Eskbank, near Dalkeith, and which weighed 26 lbs. 4 ozs. It was exhibited at an International Fruit Show in Edinburgh a few years ago.

COMMUNICATIONS RECEIVED: J. R.—G. B. (many thanks).—J. D.—J. B.—W. B.—W. C.—A. D.—W. P.—R. B. L.—W. B. H.—M. T.

TRADE CATALOGUES RECEIVED.

THE FLEET NURSERY Co., Fleet Station, Hants.—Descriptive Catalogue of General Nursery Stock.

LONDON SEED TRADE.

December 8th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate enquiry for Red Clover; new supplies continue liberal, and the market firm. Trefoil is dearer. Rye Grasses are in demand at the recent advance. Bird seeds unchanged.

COVENT GARDEN MARKET.

December 9th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6	3 6	Peaches, per doz.	...	...
Cherries, $\frac{1}{2}$ sieve	...	...	Pine-apples, St.	...	...
Currents, $\frac{1}{2}$ sieve	...	...	Michaels, each	1 6	6 0
Grapes, per lb.	1 0	2 6	Pine-apples, Eng., lb.	1 6	2 0
Kent Cobbs, 100 lbs.	65 0	70 0	Plums, $\frac{1}{2}$ sieve	...	...
Melons, each	...	...	Strawberries, per lb.	...	...

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6	0 8	Lettuces, per dozen	1 6	...
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel	4 0	5 0
Carrots, per bunch	0 6	...	Parsley, per bunch	0 6	...
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	...
Celery, per bundle	1 6	2 6	Sea Kale, per basket	1 6	2 6
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	...
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	...
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	1 6
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.	...	...	Turnips, per bun.	0 6	...

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Liliums in variety, 12 blooms	3 0	6 0
Arum Lilies, per doz.	18 0	24 0	Marguerites, 12 bun.	3 0	6 0
Azalea, 12 sprays	0 9	1 6	Mignonette, 12 bun.	1 0	3 0
Bouvardia, per bun.	0 6	1 0	Parne Violets (French), per bunch	3 6	5 0
Camellias, 12 blooms	2 0	5 0	Pelargoniums, per 12 sprays	1 0	1 3
Carnations, 12 blooms	1 0	3 0	—scarlet, 12 sprays	0 4	0 9
Chrysanthemums, 12 blooms	0 6	2 0	Primula, double, bun.	0 9	1 6
Chrysanthemums, 12 bunches	3 0	9 0	—single, 12 bun.	0 4	0 6
Car Violets (French), per bunch	1 6	2 0	Pyrethrum, 12 bnchs.	2 0	4 0
Dahlias, 12 bunches	...	...	Roses (coloured)	1 0	2 0
Daisies, common, per dozen	4 0	8 0	Roses, Tea, per dozen	1 0	3 0
Epiphyllum, 12 blms.	0 6	1 0	Roses, red (French), per doz.	1 6	2 0
Eucharis, per dozen	4 0	8 0	—Saffrano (French), per doz.	0 6	1 6
Gardenias, 12 blooms	6 0	12 0	Sweet Sultan, 12 bun.	...	...
Gladioli, 12 sprays	0 6	1 0	Tropeolums	1 0	2 0
Heliotropes, 12 sprays	0 6	1 0	Tuberose, per dozen	1 0	2 0
Lapageria, red, 12 blooms	1 0	1 6	Violets, 12 bunches	1 6	2 0
Lapageria, white, 12 blooms	2 0	4 0	White Jasmine, bun.	0 6	0 9
Lilium longiflorum, 12 blooms	2 0	4 0	...	...	...

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	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 6
Asters, per dozen	6 0	12 0	Foliage Plants, various, each	2 0	10 6
Begonias, per dozen	6 0	12 0	Fuchsia, per doz.	...	...
Bouvardia, per doz.	9 0	12 0	Gladioli, 12 pots	...	...
Chrysanthemums, doz.	4 0	18 0	Hydrangea, per doz.	...	...
Cyperus, per dozen	4 0	12 0	Liliums, per doz.	6 0	9 0
Dracena term., doz.	30 0	60 0	Marguerites, per doz.	4 0	6 0
—viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	6 0
Epiphyllums, per doz.	13 0	26 0	Palms in variety, each	2 6	21 0
Erica gracilis, per doz.	9 0	12 0	Pelargoniums, doz.	...	...
—hyemalis, per doz.	12 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
—Riegerianus, doz.	9 0	12 0	Petunias, per doz.	...	...
—various, per doz.	8 0	24 0	Primula sinensis, p. doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums, per doz.	9 0	12 0
Ferns, in var., doz.	4 0	18 0	...	...	...

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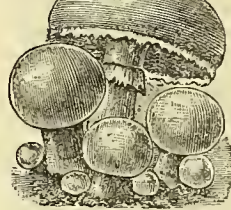
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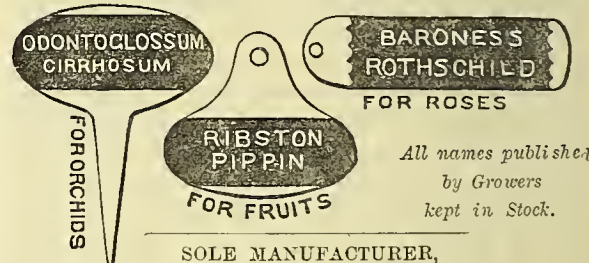
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Are acknowledged to be the fairest among the flowers of Spring, and form a new and popular feature in Spring Gardening. They have been awarded at different times many medals—gold, silver and bronze—besides many prizes and certificates, by the Royal Horticultural Society, Royal Botanic Society, Crystal Palace Company, &c., at their London Spring Shows, where they have always formed the great centre of attraction.

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LARGE YELLOW HOOP PETTICOAT, very beautiful	8 6	1 6	s. d.
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very large bulbs	7 6	1 3	

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CONCOLOR, petals and cup yellow, large flower	15 0	2 6	0 3
EDWARD HART, petals and cup full deep yellow	21 0	3 6	0 4
FRANK MILES, very large yellow petals and cup... ..	21 0	3 6	0 4
FIGARO, large yellow petals, large spreading orange-scarlet stained cup	21 0	3 6	0 4
FAIRY, yellow petals, cup elegantly edged orange	8 6	1 6	
GLOW, yellow petals, cup margined orange	5 6	1 0	
SUNLIGHT, yellow petals, cup stained orange	7 6	1 3	
SULPHUREUS, sulphur petals, cup yellow	7 6	1 3	
ASTREA, sulphur petals, yellow cup	5 6	1 0	
JOHN BULL, sulphur petals, cup yellow, large and spreading	21 0	3 6	0 4
LONGSHANKS, sulphur petals, large yellow cup... ..	2 6	0 3	
SANCHO, sulphur petals, yellow cup, tinged orange	7 6	1 3	
ALBIDUS, sulphur-white petals, yellow cup	7 6	1 3	
ANNIE BADEN, sulphur petals, brim of cup stained orange, and elegantly contracted	15 0	2 6	0 3
PERICLES, starry primrose petals, pale yellow cup	3 6	0 4	
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—24 large-rooted species for 3s. 6d., free ; 50 for 5s. 6d. 12 species rare evergreen Alpine flowering Plants for 2s. 6d., free. 12 Trumpet Daffodil Bulbs for 1s. 6d. Eighteen-page List on the Ferns and Flora of Ireland for 2d.—O'KELLY, Botanist, Glenarra House, Ballyvaughan, Co. Clare.

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Next Week's Engagements.

MONDAY, Dec. 20th.—Sale of Roses, Fruit Trees, &c., at Stevens' Rooms.

TUESDAY, Dec. 21st.—Special Sale of Orchids in Flower at Protheroe & Morris's Rooms.

WEDNESDAY, Dec. 22nd.—Sales of *L. auratum* Bulbs, Plants, Shrubs, &c., at Stevens' and Protheroe & Morris's Rooms.

THURSDAY, Dec. 23rd.—Sale of New and Rare Orchids at Stevens Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 18, 1886.

MANURES ON THE FARM AND IN THE GARDEN.—The recent onslaught on the agricultural chemist made by Mr. Clare Sewell Read, the well-known and eminent Norfolk farmer, although assumedly not seriously meant, yet it is certain had a purpose, and that purpose was to attract public attention to the value or otherwise of artificial manures. Mr. Read obtained a smart and able reply from Dr. Voelker, who is so well qualified to expound the value of chemistry in relation to the practice of agriculture. But it must be admitted that in comparison with the very non-scientific agriculture of our fathers, the practice of to-day is very much less profitable, and the occupation of farming seems to be fast going to the dogs. If we were to aver that agricultural chemistry was the cause of this depression or failure, we should aver that which is clearly incorrect. On the other hand, there remains the undoubted fact that chemistry has done nothing to prevent agriculture from failing ; and although it may not be the fault of chemistry in any way, yet it does not redound to its credit.

It is instructive to learn now that not a few agriculturalists are regarding higher scientific education as the one thing alone capable of

resuscitating agriculture from its present deplorable condition. It is certain that no farmer can be too intelligent or too scientifically educated; but with his science he must combine a sound knowledge of practice, or else the former will not be worth much to him. There seems to be a natural inference—arising from the expressed wish for higher scientific attainments—that the farmer in the past, whilst employing artificial manures, the products of the chemists, has been too much at sea as to their relative values and qualities, because of his ignorance; hence may often have fallen a prey to quacks. We make no such charge, because, so far, the ignorant farmer has had some scientific guidance; but, still, the inference seems obvious. If, in this sense, better scientific education cannot benefit the farmer, then we fail to see how it can in any other way. After all, though treated as a sort of jocular criticism, there seems reason for Mr. Clare Read's pungent remarks, and they are natural enough when it is seen how sadly all the once exuberant praises of the saving powers of agricultural science have been falsified.

Gardeners, happily, are for success in culture very little dependent upon the chemist. It is true we have many useful concentrated plant manures, which give plants food in a temporary or stimulative fashion, and are specially useful for plants grown in the restricted areas which pots afford. But the merest tyro in gardening knows that by soaking a certain quantity of fresh horse-droppings in water for a time, and adding, if needful, some soot to the liquid, that he will have as powerful a liquid manure, and as cheap an one as the best of concentrated or chemical manures can give him. It may be that the latter will furnish what is wanted with more ease, but not more efficiently; then in our gardens we find chemical manures by no means largely employed. Farmers should take a hint from this fact that the chief elements of success in good garden culture—and the best is a very long way ahead of the best farming—is to work the soil freely and deeply, and to use plenty of animal manure. There can be little doubt but that large quantities of stimulative plant food is lost utterly in the field, because washed down into the subsoil, which is so hard and impervious from lack of deep culture, that the roots of plants cannot penetrate into it. For that reason, also, the few inches of surface soil which is moved, very soon parts with its limited store of plant food; hence the soil seems always poor. But garden soils which are deeply worked, enable plant roots to penetrate deeply, and thus find food over a large cubical area, and, in addition, ample moisture in drought, and a fairly dry subsoil in very moist weather.

But for this deep cultivation gardening would soon starve. It is because of this cultivation, too, that we see a garden—perhaps only an acre of land—growing heavy crops, and almost always without rest for generations, never seeming to become exhausted; indeed, good gardening proves the falsity of the by no means uncommon assumption that land will in time deteriorate, and become exhausted. We hear occasionally of the wondrous productiveness of the virgin soil of new colonies, but must doubt very much indeed whether under ordinary culture the best of virgin soils will give produce appreciably exceeding what we have so often seen in old but highly-cultivated kitchen gardens. Gardeners may well attain a higher scientific, and most essentially a chemical education, as well as farmers; but if it be imagined that in consequence practical knowledge is not so useful, a great mistake will be made. Whilst we are so much indebted to animal manures, we may none the less strive to obtain and profitably utilise the best of chemical productions.

WITH reference to the comments in our last on the adoption of the word "JUBILEE" as a specific name, Messrs. James Carter & Co. inform us that, in addition to a new Potato sent to the Royal Horticultural Society's Garden at Chiswick for trial, they have also a new Runner Bean which they call "Jubilee."

MR. H. DEVERILL, Banbury, also informs us that the Onion exhibited by Mr. W. Finlay, gardener to Lord Sondes, Lee's Court, Faversham, under the name of Sheldwick Seedling, at the Royal Horticultural Society's exhibition, on October 26th and 27th, has been re-christened, and will in future bear the name of "Jubilee." This variety is stated to be the result of a cross between the "Improved White Spanish" and the "Brown Portugal," and Mr. Deverill informs us that he has purchased the entire stock.

MR. BRUCE FINDLAY, Botanic Gardens, Mr. R. Tait, 43, 45, Corporation Street, and Mr. F. Robinson, 12, Old Millgate, Manchester, solicit the votes of subscribers to the GARDENERS' BENEVOLENT INSTITUTION, on behalf of MRS. COLE, widow of Mr. William Cole, of Withington, who was for several years a subscriber to the funds of the institution. The case is a most deserving one, and we trust that those who can do so, will kindly assist in this effort to help a most deserving woman. Mrs. Cole is 74 years of age.

The daily papers report a new departure in the CHRISTMAS MISTLETO TRADE, as far as British Mistleto is concerned, several tons of the plant, gathered mainly on the Welsh border of Monmouthshire, having been shipped from London to New York. It is stated that amongst large numbers of genuine English settlers in the United States, so general a desire has been expressed to have sprigs of British Mistleto at Christmas, that it has been made worth the while of speculators to have it brought out from England.

ROSES in December, in the open air, are not so plentiful as to be unworthy of notice; and, therefore, we acknowledge the receipt, on Thursday, of a capital bloom of Baroness Rothschild, from Messrs. Dobbie & Co., of Rothesay, N.B. It was cut in their nursery the preceding day. A week ago the firm cut some respectable Dahlias, but the frost has finished them since.

WE have before (p. 596, vol. II.) directed attention to the merits of the new form of WATERING POT introduced by Mr. T. Hawes, 4, Mayola Road, Clapton, and now have the pleasure to record the fact, that at the last meeting of the Fruit Committee, the new can was highly commended for its new form. We have had one in use for some months, and can say in its favour, that those who have once used it will not take up the old cans again if they can avoid doing so.

A plant of ODONTOGLOSSUM CRISPUM VAR. STEVENSII, with six bulbs, one lead and one branching spike of thirty-seven flowers, was sold on Thursday at Stevens' Rooms for eighty guineas. It is a handsomely spotted variety.

A MUNIFICENT GIFT.—Miss Elizabeth Schaffer, sister of the late president of the Pennsylvania Horticultural Society, has presented to that society the handsome Horticultural Hall on Broad Street, Philadelphia. The first horticultural hall, which was on the same site that the present one now occupies, was built about 1867, but was destroyed by fire in January, 1881, and was rebuilt within a year, ready for occupancy. It is one of the best, if not the best hall in the United States, for general purposes, and especially for floral exhibitions. It is 200 ft. long by 75 ft. in width.

THE following is a list of the committee and officers of the NATIONAL ROSE SOCIETY for the year 1887. President, the Rev. Canon Hole; vice-presidents, the Hon. and Rev. J. T. Boscauw, Rev. J. M. Fuller, Robert Hogg, LL.D., James McIntosh, The Lord Provost of Edinburgh; hon. treasurer, Thomas Burt Haywood; hon. secretaries, Rev. H. Honeywood D'Ombraim, Edward Mawley. General committee: H. Appleby, Rev. H. A. Berners, Rev. H. B. Biron, R. Bloxam, G. Bunyard, J. Burrell, Rev. J. B. M. Camm, B. R. Cant, F. Cant, Rev. A. Cheales, Captain Christy, E. Claxton, J. Cranston, Rev. A. Foster-Melliar, Rev. F. Gall, T. W. Girdlestone, W. J. Grant, T. B. Hall, G. P. Hawtrey, J. Shirley Hibberd, C. F. Hore, W. J. Jefferies, E. B. Lindsell, M. T. Masters, F.R.S., Rev. F. Page-Roberts, G. Paul, F. C. Pawle, J. D. Pawle, Rev. J. H. Pemberton, G. W. Piper, G. Prince, W. Rumsey, J. Sargent, A. Slaughter, A. Turner, R. E. West, E. R. Whitwell, E. Wilkins, Rev. W. Wilkes, W. H. Williams; hon. auditors, J. D. Pawle and F. T. Wollaston.

PRESENTATION TO MR. HOLMES.

ON Monday evening last the annual dinner of the National Chrysanthemum Society was held at the "Old Four Swans," Bishopsgate Street, E.C., with the president, E. Sanderson, Esq., in the chair. A large number of members and friends were present, and a most enjoyable evening was spent. After the usual loyal toasts had been duly honoured, the president gave the toast of the evening, "Success to the National Chrysanthemum Society," and in so doing alluded to his connection with the Society for many years past, and to the great changes which he had seen introduced, to its rapid growth in recent years, and to its present proud position of the premier Chrysanthemum society in the country. We need scarcely say the toast was enthusiastically received. The prizes awarded at the November show, amounting to £223 4s. 6d., were then distributed; and from the hands of the president, Mr. Harman Payne and Mr. W. G. Stevens, Putney, received the Society's Silver Medal; and Mr. Sullivan, of Roehampton, a Bronze Medal, for subjects exhibited by them at the Society's meetings.

A very pleasant incident followed in the presentation of a handsome Silver Cup to Mr. Charles Gibson, gardener to J. Wormald, Esq., Morden Park. It will be remembered that at the last exhibition Mr. Gibson staged one of the finest stands of incurved blooms that has ever been seen at a National show, but had to be disqualified for failing, through error, to comply with the terms of the Schedule. Sympathising with Mr. Gibson in his misfortune, a few friends decided to show their appreciation of the merits of his blooms by giving him a Silver Cup, and which the donors good-naturedly hoped would ever remind him of his error, and prevent him from committing such a blunder again. Mr. Gibson suitably acknowledged the handsome compliment that had been paid him. The health of the president was next proposed by Mr. Richard Dean, and received with musical honours. "The Vice President," and "The Treasurer," followed, and then came the presentation to "the prince of modern secretaries," Mr. William Holmes, of three handsome silver epergnes, and an illuminated address in the following terms:—

"This address is presented together with three epergnes to Mr. William Holmes, by upwards of 100 members and friends of The National Chrysanthemum Society, as a slight mark of regard and esteem. They desire thus to place on record their sense of the inestimable value of the service which he has rendered to the society as its hon. secretary, as well as the immense stimulus which his labours in the cause of Chrysanthemum culture have afforded to growers of that flower throughout the country. They feel that the great success and high position so rapidly achieved by the society are chiefly due to his constant and unwearied efforts on its behalf, and they most heartily wish him a long life and much happiness. December, 1886. Signed, E. Sanderson, president, R. Ballantine, vice president, Norman Davies, hon. sec. to the testimonial fund."

The presentation was made by the president in a speech brimming over with good feeling for his friend whom he had nursed when a child; and, in returning thanks for the gifts, Mr. Holmes gave an interesting account of the society's progress from the day in October, 1872, when he was elected a member at a meeting held at the "Rochester Castle," the then headquarters of the old Stoke Newington Chrysanthemum Society. Being soon afterwards appointed hon. sec. Mr. Holmes, taking into account the waning fortunes of the society, successfully led a movement which resulted in an extension of the society's borders. The show was removed to the Hackney Town Hall, the change was financially successful, and, in due time, further extension had to be sought; the exhibition was removed to the Aquarium, at Westminster, and fortune again favoured them; their exhibitions had grown in size and importance, their financial status had been greatly improved, and the last change that had taken place—the assumption of the title of National—had, from first to last, in every way proved the wisdom of the step that had been taken. They had never had such an exhibition as the last one, and they never before had such a roll of members. But he counselled the members present not to adopt a rest-and-be-thankful policy; there was much yet to be done, as he had learnt from the various suggestions that had appeared in the horticultural press. He hoped they would manfully assist in raising the society to a still

higher position among the leading horticultural institutions of the country, and, for his own part, he would, in all sincerity, assure them that he would ever do his best.

Other toasts followed, including "The four Committees," "The Affiliated Societies," "The Visitors," and "The Press," and the proceedings were brought to a close, when the Vice-President announced that the subscriptions to the special prize fund for the next annual show showed an increase of £10 on the amount promised at the previous annual dinner.

CHRISTMAS ROSES AND LENTEN LILIES.

POPULAR NAMES are very much appreciated by a large class of people, and there is no harm in them when applied to a few well-known and widely-cultivated plants; but when popular names are applied to every flower we meet, they become extremely confusing and misleading. The botanist, as a rule, ignores popular names. Alas for the latter and his classification! The Christmas Rose, as popularly applied to *Helleborus niger* and its varieties, is not a Rose at all; neither is Lenten Lily a *Lilium*. The latter name is applied to the other species of *Helleborus* in some nursery catalogues, to distinguish them from those

It was described by Gerard and Parkinson as the true Christmas Rose, flowering about the end of December and the beginning of January.

Notwithstanding the great purity of the flowers of *H. niger* and its varieties when in their prime, there is a special charm and a delicacy of their own about several species and varieties that flower from January to April, and are sometimes described as Lenten Lilies. These may be conveniently divided into two groups, according as their leaves are evergreen as in *H. orientalis*, or strictly deciduous with few-flowered stems. The deciduous species lack the protection and the attraction afforded by the leaves of evergreen species, but are greatly assisted in that respect by the large foliaceous bracts accompanying the flowers. *H. odorus* may represent the deciduous type, and if the green flowers are unattractive in themselves, they have the recommendation of being sweet-scented. Its variety *H. o. purpurascens*, with purplish red flowers, may find more favour with the general public, and also flowers in spring. The interior of the sepals is green, but this, if defect it may be called, is unobservable while the flowers retain their natural drooping position. There are several other species or forms belonging to this group, such as *H. viridis* and *intermedius*, but that of *H. cupreus* presents such a peculiar and indescribable slaty purple hue, as to merit a place in a collection on account



THE CHRISTMAS ROSE.

generally recognised as Christmas Roses. The whole genus contains about a dozen species inhabiting Southern Europe and Western Asia. Popular as *H. niger* will always be, a collection can never be complete without a good sprinkling of the other representative types; and hardy plant-lovers cannot fail to recognise this on becoming acquainted with *H. colchicus*, *H. olympicus*, *H. orientalis* and *H. atrorubens*.

There are, at least, three distinct varieties of *H. niger* worthy of a place in gardens and the attention of the cultivator. The commonest form in cultivation may be regarded as the type *H. niger*, whose serviceable qualities it would be superfluous to laud. No seasonable flower could be more prized and appreciated in the dull winter months than this hardy subject. *H. n. altifolius*—variously known as *H. n. major*, *maximus* and by other names—is a large form of great merit. The flowers attain a diameter of 4-5 ins. under good cultivation, are pink in bud, but expand of a pure white, with the exception, perhaps, of the edges and backs of the sepals. The flower-stalks and the petioles of the large handsome leaves are spotted with purple, and the leaves themselves, when growing with their wonted vigour, form a canopy over the expanding flowers, affording them that protection necessary to bring them out in their greatest purity. The other variety—*H. n. angustifolius*—has smaller flowers than *H. n. altifolius*, with much narrower leaf-segments, and is valuable on account of its flowering about two months later, thus prolonging the blooming season considerably.

of its distinctness, or out of mere curiosity for its strange and unusual colour.

The second group of Lenten Lilies with persistent leaves and numerous-flowered stems, undoubtedly possess greater variety of character both in the leaves and the flowers. The latter in the different species run through all the colour variations—green, white and purple—common to the genus, and often exhibit such a delicacy and blending of hues, as to compare or contrast favourably with many popular and much cultivated Orchids. Whoever has seen *H. colchicus* and has any sympathy with hardy flowers, could not fail to admire the deep plum-purple colour of the blossoms when fully expanded, and still in their prime; for it must be borne in mind that the flowers of all Hellebores, not even excepting that of *H. niger*, ultimately become green or greenish. This refers to the sepals, as even the inconspicuous petals of *H. niger* are always green.

The flowers of *H. atrorubens* are pale purple, more or less tinged with green during expansion, but deepen to a dark purple more or less pronounced, and ultimately fade again considerably. *H. caucasicus* is a graceful plant with glossy leaves and green flowers, but there is a garden hybrid, *H. c. punctatus*, with rose-coloured and spotted sepals superior in that respect to the type. Comparable to *H. c. punctatus*, but surpassing it in value, is *H. orientalis guttatus*, with white flowers spotted with purple, and 2 ins. in diameter. They are large white or rose-coloured, and numerous produced in *H. orientalis* itself, and altogether the

plant recommends itself to cultivators. Numerous seedlings and hybrids of these types are now in commerce, and let us hope the day is not far distant when all the best of them, at least, may enjoy an extended cultivation like that of *H. niger*. Two other species should be grown for the beauty of their foliage on the margin of shrubberies, by the side of shady paths, or even in the herbaceous border itself where the conditions are suitable to their welfare. I refer to *H. foetidus* and the Corsican *H. lividus*.—*J. F.*

THE CHINESE PRIMULA.

BIRMINGHAM is certainly the stronghold of this popular plant, and there is always a great display of excellently-grown specimens at the Chrysanthemum exhibition of the Birmingham Society, and this has been going on for thirty years or more. It is quite that number of years since the first Chrysanthemum show was held in Birmingham, at the Navigation Inn, in the Wharleys Road, and, at least, two of the promoters are still alive, who take a very great interest in the present society, viz., Mr. Henry Pope, the late senior partner in the firm of Messrs. Pope & Sons, and Mr. Henry Lea, a well-known gardener in the neighbourhood, who is always an exhibitor of fruit at the November exhibitions. From this small society grew the present one, which has a wide reputation, in the Black Country especially, and at which, as we have already stated, the Chinese Primula forms an attractive feature of the exhibition.

Some few years since, Mr. Rose, who was then the house foreman at the late Mr. Tomkins's nursery at Sparkbrook, Birmingham, began hybridising the *Primula sinensis*, and at last took the town by storm by the production of those two grand popular varieties, "Princess Louise," a splendid white of large size, and fine form and substance; and "Marquis of Lorne," a grand rosy-red kind of exactly the same character, both having very stout distinct foliage. This nursery, with a continuance of the culture of the Primula, has since been purchased by the Messrs. Thomson, sons and successors to the well-known seed business carried on for so many years by the late Mr. T. B. Thomson. Mr. Rose left the nursery, and for some time has been with Messrs. Pope & Son, at their King's Norton nurseries, as Primula grower, and a recent visit there has convinced us that some further very fine varieties will, by-and-bye, be introduced into commerce. At the late Chrysanthemum show, Messrs. Pope & Son "swept the decks" in the nurserymen's class for Primulas; and in virtue of this, we notice their collection first.

Of the new kinds which will shortly be sent out, a premier place must be given to Lady Randolph Churchill, which in form, colour and substance closely resembles Princess Louise, but is much finer and larger, and is the result of a cross between Princess of Wales (a variety now extinct) and Princess Louise; it has sturdy fine foliage, flowers pure white, a robust habit, and is truly a splendid variety. From the same batch of seedlings there is another very fine variety closely resembling Lady Randolph Churchill, only that the colour is a lovely tint of white tinted with pink. There is also an improved Marquis of Lorne, not yet named, even of more robust and more compact habit, with finer flowers, and of a darker and more beautiful colour. This will prove to be a telling variety. There is also a very fine Fern-leaved variety, The King, a seedling from the Marquis of Lorne, with an enormous flower which is somewhat coarse in form, but bright in colour, valuable in a collection, and of excellent habit. Emperor is another of the newer kinds, somewhat resembling The King, also a very fine variety.

The Queen is a splendid white, with large, very stout well-formed flowers, and fine foliage; a truly superb variety, which should be in every collection. They have also, at King's Norton, by far the best blue-tinted Primula we have yet seen, a seedling not yet named, but of which they are getting up stock. It is a decided improvement on all other existing blues. Other older kinds are grown; in fact, the Primula is considered a specialité here, and is grown in large quantities, whilst many unbloomed seedling plants are being grown on. Amongst recently introduced kinds, Webb's Purity, white with pale greenish yellow centre, is a very free bloomer, and good for decorative work; the flower is thin in substance, but is very free in producing seed. Sutton's Reading Scarlet closely resembles Chiswick Red in colour, and a bright charming shade

of colour it is, many plants of it being in flower at King's Norton; but it seems to fail in throwing a good head of flower, and is not a sturdy grower like the strain now so popular in Birmingham. Amongst the doubles in flower, Peach Blossom is a charming light pink in colour, very free bloomer, good habit, and very pretty. Marchioness of Exeter is one of the very finest of all our double whites. Seed is saved here in quantities for sale, as Mr. Rose is very assiduous with a camel's-hair brush during the blooming season.

THE SPARKHILL NURSERIES

Are near to Birmingham, at Sparkbrook, and, like the King's Norton Nurseries, are away from the smoke of the town. We have previously alluded to this nursery as having first introduced new varieties of which Mr. Rose was the successful hybridiser, and that special attention is still devoted to the culture of a good collection and raising of new sorts here. Princess Louise and the Marquis of Lorne originated here, and are extensively grown now; Emperor (of which we have previously spoken) is a seedling from the Marquis of Lorne, with the colour of *P. coccinea*—a very bright colour—with clear yellow eye. The Queen is extensively grown here, a compact growing Fern-leaved variety with stout foliage, and large blooms $2\frac{1}{2}$ ins. in diameter—a variety we have before mentioned for its fine qualities. Amongst new ones not yet sent out, there is a very fine Fern-leaved seedling of the Marquis of Lorne type and colour, and a companion variety to The Queen. Another is a very fine seedling of The Queen not yet sent out, partaking of its habit in every way and size of flower, but of the colour of the Marquis of Lorne.

Another new variety not yet sent out is a Fern-leaved form of a blush-white colour, with foliage and habit of The Queen, of which it is a seedling, and a very fine variety, very superior to Webb's Modesty, and of the same colour. A semi-double variety, Maiden's Blush, a Fern-leaved variety of good habit, is an excellent decorative kind, throwing its flowers up freely and above the surrounding foliage. Doubles are cultivated here, a goodly collection, and one of the gems is Miss Eva Fish, of a shaded lilac colour, sometimes striped with white; fine and distinct, and a capital bedding variety. Annie Hillier is another very fine double, fringed margin, colour white tinted with blush. A. F. Barron, blush-white, is another capital variety; and we have already spoken of Marchioness of Exeter and Peach Blossom. It is not only in these two trade establishments that Primulas are so well done, for well-grown plants are to be seen in many private gardens. Mr. Thomson, the well-known seedsman, has for many years past offered generous prizes at the autumn and spring shows for Primulas cultivated by gentlemen's gardeners, and very fine exhibits are always seen. In fact, this firm enjoys a local reputation for the fine quality of their Primula seeds.

GLANGWNA GARDENS.

GLANGWNA is situated about two miles from the Welsh town of Carnarvon, so well-known in connection with the slate industries, and on account of its ancient castle. The mansion is reached through an entrance lodge on the east side of Carnarvon, and on the main road leading to the celebrated Snowdon mountain, so much frequented by tourists during the summer months. The object of my visit to the courteous gardener, Mr. Windsor, was to have a peep at the collection of Chrysanthemums, which, I understood, was the best in the district. Passing up the drive, which is very picturesque, I noted a very fine specimen of *Abies Douglasii*; also another of *Thujaopsis borealis*, and others again of the grand Austrian Pine, which seems to flourish well in this part.

The Chrysanthemums in no way disappointed me, they were very fine. Upwards of 100 varieties are grown, mostly as tall plants, carrying from six to eight blooms on a plant: they are located in two Peach houses, and a finer display could not be wished for. There is no great amount of glass here for the quantity of plants that have to be annually produced, and many thousands of bedding-out plants are required, as the flower garden is very extensive.

The greenhouse was full of the usual winter-flowering plants, and I noticed, specially, a very nice example of *Lapageria rosea*, and also of the fragrant *Luculia gratissima*. Next came the stove, containing a very good collection of flowering and fine foliage plants, in-

cluding a fine specimen of *Adiantum Farleyense* which would not disgrace any exhibition, and also *Adiantum Williamsii*, *Asparagus plumosus nanus*, *Jasminum grandiflorum*, *Eranthemum pulchellum*, and that noble flowering stove plant, *Strelitzia reginae*, which is throwing up many strong flowering spikes; *Pandanus Veitchii*, nice plants for table work; *Crotons*, *Dracenas* and many others too numerous to mention.

In the late Vinery were some very good Grapes hanging, especially Muscat of Alexandria and Black Alicante. Thence we proceeded to the Orchid house, which contains a lot of nice young plants of mainly warm house species. The back wall of the Orchid house has been covered with *Adiantums*, &c., which afford plenty of fronds for cutting. The bulk of the glass is heated by one of Messrs. Weeks' Patent Duplex Boilers, and it gives the greatest satisfaction. Passing through the frame ground I noticed many frames filled with Violets, and the plants were well covered with blooms, providing enough of their fragrant blossoms to supply several fair-sized establishments. The principal varieties grown are Marie Louise, King of the Violets and Swanley White. There has been a very good crop of Pears here this season, but Apples have been very scarce. In the fruit room were good samples of Marie Louise, Beurré Diel, Conseiller de la Cour and Pit-maston Duchess. Mr. Windsor has been in charge of these gardens for about twenty years, and the excellent manner in which they are maintained reflects great credit upon him.—*Visitor*.

CHARLES M. HOVEY.

THE *American Gardeners' Monthly* for the current month contains an admirable portrait of this distinguished horticulturist and an appreciative notice of his life and labours, from which we take the following extracts:—Horticulture on the American continent is probably more indebted to the veteran Charles M. Hovey, of Boston, than to any living man. In the earlier part of the century, J. C. Loudon was editing his *Gardeners' Magazine* in London—a task which did wonders toward raising up an intelligent class of gardeners in the Old World, such as never before had honoured the profession. Mr. Hovey determined to do as much for America, and, in 1835, the *American Gardeners' Magazine* made its appearance under his management, the style as well as the name being an exact counterpart of Mr. Loudon's venture. He was fortunate in drawing around him an admirable line of correspondents, who went into the support of the magazine with zeal and intelligence remarkable for the time. With the third volume came a change in its title, chiefly because other short-lived publications were being issued under similar names. It then became, in 1837, *Hovey's Magazine of Horticulture*, maintained its influential existence for thirty-four years, when it was bought by a Boston literary publication, "*Old and New*," which, however, died a few years after.

He is one of the oldest living members of the Massachusetts Horticultural Society. When he commenced this work in 1835, the society had 500 members, only five of whom are left now to bear him company. Long before this he was a devoted flower-lover, having at one time as many as sixty varieties of Chrysanthemums, among other collections of plants. The culture of fruit in pots was a great source of garden pleasure in the last generation. In this he led off, having, in 1833, exhibited Grapes eighteen months old from the cutting, with eighteen bunches on the cane. We find him with a list of thirty Strawberries as early as 1830, and it is only necessary to refer to the old favourite, Hovey's Seedling, to show how ardently he went into the improvement of this berry. Few, if any variety, held the crown so long. For thirty consecutive years the records of the Massachusetts Horticultural Society show that it gained the first premium against the efforts of many other kinds to take this high honour from it.

As an author we find him, in 1830, a contributor to the *New England Farmer*. In 1848 he commenced his magnificent work, the *Fruits of America*. In these two volumes 108 of our best varieties were superbly painted. Since the discontinuance of his magazine his pen has been still active in the cause, and contributions from him are frequent, both in English and American magazines. His grounds were only an acre till 1840, when he secured his present large area. In five years

after he had collected 1,000 varieties of Pears, 400 of Apples, fifty of Plums, besides numbers of others, many of which we find illustrated in his magazine. As early as 1854 we find him exhibiting 365 varieties of Pears, which was thought wonderful at that time. In order to test all as they came out, they would be grafted on established trees, so that in many cases several kinds are from one tree.

Much of Mr. Hovey's success as an editor was, no doubt, due to the love of labour which he united with his intelligence. His first greenhouse was wholly the work of his own hands.

Numbers of the best new plants and fruits were first introduced to the public from his nurseries and seed house in Boston; and many new seedlings of great merit, especially among Lilies and Camellias, originated with him, and to this day are articles of export to the Old World. He had at one time 200 varieties of Camellias. Some of his seedlings have had valuable premiums; and one of the writer's pleasures was a glance at the houseful of treasures in the shape of medals and premium memorials, with which horticultural societies had rewarded his useful works. A large number of beautiful varieties of trees and shrubs owe their origin to him, one of which, *Thuja Hoveyi*, is well known to all planters of choice evergreens. The famous Massachusetts Horticultural Society has honoured him with the presidency; and it is no small tribute to his energy and popularity in the city of Boston, that during his term of office the membership grew from 500 to 1,000, and \$30,000 were received in donations. The published history of the society states, that to Mr. Hovey's perseverance and determination chiefly the beautiful horticultural hall has become an established fact.

Not only by his writings and by his example has Mr. Hovey been a benefactor to American horticulture, but he has ever been a welcome member of conventions and public bodies where information had to be distributed, and where his earnest manner and fluent utterances always obtained for him marked attention.

During the past six or eight years he has suffered by the loss of wife, three daughters, daughter-in-law and four grandchildren; but the love of fruit and flower culture still affords him consolation. That he may have health and strength to enjoy them for some years longer with us is the fervent wish of every lover of American gardening. Mr. Hovey was born in the old town of Cambridge, October 26th, 1810.

OAKLEIGH, BURNLEY.

If those who walked along the main road from Burnley to Colne some ten years ago could do so again at the present time, they would be struck with the change that has sprung up. A number of villa residences occupy a considerable distance of the road out of the town leading to Colne, and situated on the roadside, just before you come to the village of Brierfield, is Oakleigh, a modern-built house standing on a slight eminence, which commands a good view of the surrounding country. The house and grounds have been completed about three years, and were owned by the late Abraham Altham, Esq., well known in this district for his benevolence, and who will long be remembered by all classes around here. The residence is at present occupied by Mrs. Altham and family. The present gardener, Mr. James Walker, had the whole charge of laying out this pretty place—which is about four acres in extent—and it does him great credit for the manner in which the work has been carried out.

A good and substantial drive from the lodge to the house—made of limestone, with asphalted sides next to the grass verge—brings us to a fine entrance-hall, which is of noble proportions and exceedingly handsome. A little farther on, and at the side of the house, stands a light-built conservatory, with lantern top and stained glass windows. This was well filled with Chrysanthemums, and noticeable amongst them were several standard plants of *Elaine*, with stems about 3 ft. 6 ins. high, and heads about the same in diameter, and carrying fifty to sixty flowers each—good examples of cultivation. In the centre of the house was a good *Dicksonia Antartica*, standing well above all the other plants; also good examples of *Araucaria excelsa* and *Yucca aloifolia variegata*. Climbers of various kinds were beginning to cover the back wall and rafters.

Passing from here round a terrace-corner to the

lawns, on one part are a number of beds that are filled with all the leading kinds of hardy perpetual Roses; on another part of the lawn, and in front of the house, are a few geometrical beds for summer bedding-out purposes. Planted round the boundary of the grounds are a great number of young forest trees and shrubs, which appear to be taking well to their new quarters. A few good conifers and Hollies of various sorts, with a fair sprinkling of hybrid Rhododendrons, have been planted at various places in the grounds. I also saw, in prominent positions, good plants of *Dimorphanthus Mandschuricus*, at present without foliage; but when I saw them last summer they were clothed in a luxuriant garb, the effect they gave amongst other plants being rather tropical.

At one end of the house, and facing north, has been built a large rockery, sloping from the ground-level of the house to the level of the garden; some tons of Lothersdale limestone has been used here, mixed with the sandstone of the district. On the top is a line of large-leaved Hollies, about 10 ft. high, that are intended to form a break from the north winds; and planted upon the rockwork is a general collection of rock plants, mixed with *Rhododendron ponticum*, blush-white *Rhododendrons*, *Azalea pontica*, &c. The kitchen garden is a good square piece of ground to the south of the house, and well filled with the usual occupants.

The range of glass houses at the north end of the garden was erected by Messrs. Halliday & Co., of Middleton, and are constructed on a very light principle, and certainly give abundance of light for any kind of plant culture. These houses are in a good position to catch the full force of the westerly gales, but though light in appearance they seem to withstand them.

A good number of *Chrysanthemums* occupy one house at present; they are well flowered, and are grown mostly for cutting purposes, the Japanese varieties finding special favour. In this house was also a fine sport of *Carnation Souvenir de la Malmaison*, of a beautiful salmon colour; certainly very attractive.

A small but novel fernery is well filled with Ferns of all descriptions, the wall at the back being covered with tufa stone from the stage to the roof, and all filled with Ferns and mosses. The Stag's-horn Fern seemed to be at home on this wall, also some ornamental-leaved *Begonias*. Under the stages a complete rockwork has been made so as to completely hide the pipes from view; a quantity of Maiden-hair Ferns of various sorts are planted in this for cutting from.

Vines are looking well and have just come to their best fruiting period. A lot of *Gloxinias* are grown here, and after flowering are shaken out and placed in boxes, the bulbs close together and covered up with dry sandy soil; they appear to keep well in this vinery at present at rest. A good roomy stove contains some good healthy plants of *Cœlogyne cristata*, *Calanthes*, *Cypripedium insigne* and *Phajus*, a good plant of *Latania aurea* occupying the centre with plants of *Ananassa sativa variegata*, *Phoenix rupicola*, *Poinsettias*, &c. Amongst stove Ferns, good examples of *Nephrolepis Duffii*, *Davallia Fijiensis* and *Mooreana*, and some good pots of *Adiantum Lindcnii*, *Braziliense* and *Farleyense*. The edges all round the centre and side stages are covered with *Panicum variegatum*.

A novel way of raising and lowering suspending baskets, for the purpose of watering, &c., we saw here. A brass pulley was fixed in the ridge pole, and one in the wall plate at the bottom of the roof, a stout brass chain ran over these, and was fixed to the basket; by this means the basket was raised and lowered at pleasure. A very fine plant of *Asplenium longissimum*, with fronds about 8 ft. long, was in one of these baskets in a perfectly healthy condition. A capital collection of *Cinerarias*, *Calceolarias* and *Pelargoniums* were in a large pit in good condition; also *Echeveria* and other bedding-out plants. The houses open out into the potting shed, so that no running in and out of doors is required when potting work is going on—a very wise arrangement, and one that should be more generally adopted everywhere.—*W. G.*

THE spring show of the BOTANICAL AND HORTICULTURAL SOCIETY OF DURHAM, NORTHUMBERLAND AND NEWCASTLE-UPON-TYNE, will be held in the Town Hall, Newcastle, on the 20th and 21st of April next; and a large autumn show will be held in the grounds of the Royal Jubilee Exhibition, August 30th and 31st and September 1st.

GARDENING NOTES FROM SCOTLAND.

Cherries are now ready for planting and pruning (*Morellos* are only casting their leaves in a green state), and the sooner they are made ready for training if necessary the better. No trees are more benefited than Cherries by having a dry firm bottom to rest upon, and good drainage at the roots; a good mixture of lime in strong loam is conducive to their health, and the "spurring" of the wood will then be done without the aid of the knife; no tree resents cutting more readily than Cherries, and gumming (caused by mutilation) soon puts an end to limbs and often whole trees. *Morello* Cherries should be induced to make short growths, such as will require thinning only, but no shortening.

Plums.—These, like Cherries, are always found to produce the finest fruit on natural spurs; and when a well-trained tree is fully developed, kept tolerably thin, bearing wood close to the walls, all snags and useless pieces kept clear of the permanent branches, and the roots induced to grow upwards, becoming a mass of fibre, there need be little fear of having Plums, both in appearance and quality, of the highest order. One may be assured of this if they examine the stone-fruit in some of the collections at the leading northern shows. Some examples, both from the western and eastern counties, were, this season, represented in creditable form.

It is singular how tenaciously some will cling to cutting out wood and laying in a mass every year on Plum trees; the abhorrence some have of spurs—we have of those not close to the walls—and yet it is very natural for the trees to make these spurs. We do not care for artificial ones formed by a knife from gross growth, but we admire a yard of young wood clustered all over with small spur-like buds fitting closely to walls. *Standard*s and *espaliers* are not of much service in northern latitudes; but in southern districts their value is well known—especially this season—where we have seen an extensive acreage of trees weighed to the ground, and much breakage by the loads of fruits.—*M. T.*

Chrysanthemums.—When giving a few simple methods of getting really useful flowers of these in abundance, it is desirable, in the interest of amateurs and young growers, that writers should be liberal in the matter of detail. In the opportune advice given by those who undertake to cater for the wants of readers, very explicit instructions are given; but some ask for tuition which may enable them to attain their object by the simple means at their command. The justly popular *Chrysanthemum* has been a favourite in gardens of every grade since my first attempts at gardening practice. Then, huge plants were grown—dwarf, but very wide, and the hundreds of blooms on one plant were counted with pride; now, large flowers are much in request, and many fail to have a very gorgeous display in their glass structures, because a flower to each stem has to be grown, and few stems of great strength are all that are allowed in each pot. In northern parts many complain that when they attempt to get bushy plants in great vigour, they fail in getting a profuse bloom, and often the crop of flowers is almost nil. Late stopping cannot be practised with impunity. To make the best of time, we would begin propagating as early as cuttings can be had; a cool frame answers fairly well for the cuttings. We have seen them put neatly on an old hot-bed, not quite exhausted, with hand-lights over them; also on shelves in greenhouses and similar positions. Cuttings struck without being checked by flagging from a dry draught are the best, and when rooted and grown with plenty of light and air, they retain their foliage much better; consequently, flowers are more abundant, and of finer quality. To get large plants in late districts, a dozen cuttings or less may be put in a well-drained pot, filled with sandy loam, and placed in a close frame until signs of growth are observable, abundance of air and moisture judiciously administered; and when the pots are filled with roots a liberal shift may be given, at all time, avoiding coddling, and giving all the light obtainable throughout the whole season of growth; the merest novice thus may have a fine display the following season. Another simple method is to pot off cuttings

singly, stop them once (not later than May in Scotland), and put a number of small plants firmly into a large pot in good loam, leaving room for a top-dressing later. Bone-meal in the soil, if it requires enriching, does well, but we like Thomson's Vine Manure for this purpose best of all. Plants for standards, potted singly, make a fine display. Old plants cut back, allowed to break, and divided, answer a purpose, and when grown well, flower freely. Plants for exhibition are grown differently.—*Caledonian*.

Royal Northern Horticultural Society of Aberdeen.—At a meeting of the acting directors of this society, held in the Secretary's Office, Aberdeen, on Friday evening, the 10th inst., Town Councillor Lyon was unanimously re-elected chairman, and Major Crombie vice-chairman.

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

WHENEVER the weather is severe very little work can be done satisfactorily in the kitchen garden; and, in fact, there should be scarcely anything now requiring urgent attention. Most of the root crops intended for use will have been lifted and stored, as previously advised. Celery should all have been earthed, and general work cleared up. Jerusalem Artichokes are useful, easily grown vegetables, and some persons have a great partiality for them; but the taste is an acquired one, and at first they are not agreeable to most palates. Either boiled in the same way as Potatoes or used in soups, they can be rendered very pleasant, and serve to form an additional dish when choicer vegetables cannot be obtained. They will grow in almost any soil, and are too often placed in some corner and neglected, whereas they will repay for the very moderate amount of attention needed. This season we made a plantation on a piece of well-dug ground, and we are now digging tubers of excellent quality, superior in all respects to some from one of the "corner" plots alluded to. They cannot be regarded in any sense as a substitute for Potatoes, but might be more generally cultivated by amateurs than is the case.

Rhubarb that was transplanted into ground which was similarly well dug, prospered greatly this season, and has formed fine solid crowns capitally adapted for forcing. We are taking advantage of this, and have lifted some roots for the purpose, which, with several other vegetables of a similar kind, are accommodated in a small shed, which is rendered very useful as a forcing house. A good bed of fermenting manure, litter and leaves is formed, and upon this the roots are placed, surrounded by a little light soil, then some litter is heaped over the crowns, and we seldom have long to wait for the delicately tufted leaf-stalks. A little later in the season we generally surround the plants out of doors with the manure, which gives rather less trouble; but in this, sticks should be bent over the roots to keep the manure from them, as it must be employed in a hotter condition and more of it than for the sheds. When used under cover it is not well to place the manure in until the rank heat has escaped.

Seakale is treated in a similar way, but requires even less heat than Rhubarb; and there is scarcely any vegetable that can be forced so readily and quickly as this. A small quantity of light soil and leaves is sufficient to lay the roots in, and the crowns can be covered with either litter or leaves, but if they are surrounded by a small quantity of manure, they are best without any substance over the crowns if the shed be kept perfectly dark, as that is essential to ensure blanching. Out-of-doors the crowns are usually covered with large earthenware pots, somewhat bell-shaped, the top portion of which is removable in the form of a lid. Manure is placed round and over these, and a supply of crisp shoots for cutting is quickly procured. One advantage of this method is that the plants are not exhausted, like they are when lifted and forced, as the latter are useless after undergoing that operation, and must be thrown away; whereas, with liberal treatment, the plants left in the ground soon recover.

Endive should be placed in frames for blanching; while, if severe weather is anticipated, it is a good plan to lift a few roots of Parsley, which are always in demand; pot them and place them in a cool house or frame protected from frost. In frames, Radishes can still be obtained by successional sowing, also Mustard and Cress.—*Scolytus*.

THE GREAVES, SCOTFORTH.

SCOTFORTH is a suburb of Lancaster, and The Greaves is the residence of E. G. Paley, Esq., and one of the few gardens in the vicinity worthy of note. Unlike most towns in Lancashire there are no cotton mills in Lancaster, with their huge chimneys pouring forth volumes of smoke, vitiating the air and foiling the attempts of the cultivator. The appearance of the buildings in the town testify to this, and they strike a stranger as having been recently cleaned. Roses thrive in front gardens, and Gloire de Dijon is a favourite on the walls of the dwellings. Clematis, Cydonia japonica, Berberis, Cotoneaster, Cratægus pyracantha and other creepers were as clean and healthy as if in the country, and the absence of wealthy manufacturers, who are usually such liberal patrons of horticulture, will account for the paucity of gardening establishments in the neighbourhood of the town.

At The Greaves grapes are well grown, Golden Queen being unusually fine in bunch and berry, but, unfortunately, the inclement season prevented the bedding-out plants being turned out as early as usual this year; the Vines were late in starting, and the Grapes have, in consequence, failed to put on the desired amber colour. Black Alicante, in the same house, was better finished, and were very good examples of Grape culture. With us, Golden Queen finished rather streaky at first, but for the past two seasons its colour has been equal to that of a Muscat. Is this rusty appearance of the Grape peculiar to it where the Vine is young, or is it experienced at any age? In an adjoining house were healthy pioneers of the Orchid family, and when once these enter a garden they become favourites, and other members of the family rapidly follow. On a shelf at the back was a well-grown batch of *Calanthe Veitchi* and varieties of *C. vestita*, *Cypripediums*, *Dendrobium nobile*, *Celogync cristata* and *Oncidium sphacelatum* in the body of the house. In another compartment I noticed good specimens of Tea Roses in pots, and in an unheated frame were some healthy plants of Czar Violets, which is a treat to see in Lancashire; and as to Marie Louise, I have not heard of its succeeding anywhere except at Holker, under the care of Mr. Fox. The conservatory, which is attached to the dwelling, was filled with Chrysanthemums, which Mr. Thomson, the gardener, has to either pinch or train, as space will not permit plants to be grown with the view of producing large flowers.—*W. P. R.*

THE HOLLY AND MISTLETO AS LEGENDARY PLANTS.

WHEN at Christmas time persons decorate their houses and churches with Holly, a practice that has been handed down for many generations, how few are aware of the great amount of tradition which has gathered about this remarkable plant. It is held by some, that the practice of dressing houses, &c., with Holly is a relic of Druidism. Dr. Chandler mentions that during the time of the Druids, priests' houses were decorated with boughs, "that the sylvan spirits might repair thither, and remain unnnipped by frost and cold winds, until a milder season had renewed the foliage of their darling abode." Mr. Folkard traces the custom of decorating with Holly from the Romans, "who were wont to send boughs to their friends during the festival of the Saturnalia, which occurred about the same period; and the Oaks being then bare of leaves, the priests obliged the people to bring in boughs of Holly and Evergreens." Pliny tells us of many superstitions concerning the Holly, saying, in the words of his translator, "as touching the Holly, or Hulver tree, if it be planted about a house, whether it be within a city or standing in the country, it serveth for a counter charm, and keepeth away all ill spells and enchantments." Among the other remarkable things connected with the plant, the Roman naturalist relates that its flowers cause water to freeze and repel poison, while, if a staff of Holly-wood is thrown at any animal, even if it falls short of touching it, the animal will be subdued by its influence, returning and laying down by it. Mr. Folkard relates an old English superstition, that "elves and fairies join the social gatherings at Christmas, and thus led to branches being hung up in hall and bower, in order that the fays might hang on each leaf and cling on every bough during the sacred time that spirits have no power to harm."

The Holly or Evergreen Christmas was not taken down until Candlemas Eve. During the time the branches were hung up in dwellings, and even in stables, evil spirits were driven away and the spells of witchcraft had no powers to harm. In Cambridgeshire it is still believed by many, that if the Holly with which the house is decorated at Christmas is removed before Candlemas Day, the prosperity of the tenant will vanish with it, and not return before the following year.

The Holly was formerly called Holine, said to be derived from the Anglo-Saxon Holeyne; it was also

One incident relating to the Holly is given on the authority of Miss Plues. She states it is related that a certain John di Castro, having learned the method of boiling alum at Constantinople, returned to his own country to pursue his researches in natural history. He found, near Tolfa, the Holly tree growing; and as he had observed the same shrub to flourish in the alum districts of Asia, he began to search for alum beneath the soil. Ere long, he was able to establish profitable alum works.

The first English alum works were opened in the



BOUQUET OF DRIED FLOWERS AND GRASSES.

known as Hulver, or Hulfere. Chaucer writes it Hulfere, and it is supposed he derived it from the old Norse Hulfr. The word Holly is considered to be a corruption of Holy Tree, the name given to it by the monks on account of its old use in decorating churches. The plant is still called Holme in Devonshire, while in Norfolk it is still called Hulver, as Chaucer did; but the former of the two is regarded as the oldest designation. Skinner suggests that this name is either from the English word "hold" and the Anglo-Saxon

neighbourhood of Guisborough, in Yorkshire. Sir J. Challoner first observed that the foliage in that district was a very light green, and this suggested to him the presence of Alum.

But the Mistleto is even more associated with legendary history than the Holly. It occupied a foremost place among the ancient traditions of Scandinavia and other European countries, and thus it became invested with a peculiar interest in consequence of this association. It was regarded as a mystic plant, and,



BASKET OF DRIED FLOWERS AND GRASSES.

"fear long"—a plant lasting long, or from "holdfair," because it keeps its beauty all the year. One authority tells us that "the Holly is called, in French, Le houx; in German, the Stechpalme; in Italian, the Agrifoglio; and in Spanish, the Acebo; the two last, and the Latin specific name, Aquifolium, signifying needle-leaved."

Certain hallowed associations have grown up around this plant. It was formerly an article of belief that, unknown before, the Holly sprang up in perfection beneath the footsteps of Christ when he first trod the earth; and that, though man has forgotten its attributes, the beasts all revere it, and are never known to injure it.

as Schow says, "It is not a matter of surprise that a plant of such peculiar aspect, and which occurs in such a remarkable position as the Mistleto, should have awakened the attention of various races, and exerted influence over their religious ideas. It played an especially important part among the Gauls. The Oak was sacred until then; their priests abode in Oak forests; Oak boughs and Oak leaves were used in every religious ceremony, and their sacrifices were made beneath an Oak tree; but the Mistleto, when it grew upon the Oak, was peculiarly sacred, and regarded as a divine gift. It was gathered with great ceremony on the sixth day after the first new moon of the

year. Two white oxen, which were then for the first time placed in yoke, were brought beneath the tree; the sacrificing priest (Druid), clothed in white garments, ascended it, and cut off the Mistletoe with a golden circle; it was caught in a white cloth held beneath, and then distributed amongst the bystanders. The oxen were sacrificed, with prayers for the happy effects of the Mistletoe. A beverage was prepared from this, and used as a remedy for all poisons and diseases, and which was supposed to favour fertility. A remnant

formation concerning the Mistletoe. Among others he mentions that "in the West of England there is a tradition that the Cross was made of Mistletoe, which, until the time of the Crucifixion, had been a noble forest tree, but was thenceforth condemned to exist only as a mere parasite." Culpeper remarks that it was sometimes called *lignum sanctæ crucis*—wood of the holy cross—from a belief in its curative virtues in cases of consumption, apoplexy and palsy—"not only to be inwardly taken, but to be hung at their necks." It

called parasites, but in reality they are nourished by the moisture of the air, or by the soil lying in the crevices of the bark. But the Mistletoe inserts its roots into the very substance of living vegetables, and the experiments made on it confirm the opinion derived from observation, that the tendency of a root is always towards the centre of the object on which it grows, and that the young shoots invariably take the opposite direction. Dr. Darwin ingeniously accounted for this, on the principle that the leaf-bud was stimulated by air, and the roots by moisture, and that, therefore, each elongates itself when it is most excited. It is well known that Mistletoe can be artificially propagated by rubbing the berries on the smooth bark of an Apple tree. The Rev. F. D. Horner nearly covered some of the Apple trees in the vicarage garden, at Kirkby Malzeard, in this way. But those desirous of having trees with Mistletoe on them, can purchase standard Apples already furnished with the parasite.—R. Dean.

DRIED FLOWERS & GRASSES.

AT few seasons of the year does the Central Avenue of Covent Garden Market present a more animated appearance than during the week or ten days preceding Christmas. The shop windows, or rather their contents, give one the idea that the whole world has been ransacked for saleable products, so great and so exceedingly interesting is the wealth of good things—floral and pomological—there displayed. Trade has not been good in the Market for some time; but, with the hope of improvement during the coming week, there has been a general brightening-up during the last day or two. Mistletoe has come to hand in large quantities from Boulogne, Havre, Bordeaux and other French ports, and the place presents the appearance of what a Mistletoe fair would probably resemble. Holly and Ivy will come next—all in due time. The fruits and vegetables are as "fine and large" as ever; the Gros Colmar Grapes, the monster Pears and other luxuries are as tempting as of yore. Mr. Dickson, Mr. Buck and other florists have fine displays of cut flowers and plants in pots than which none better can be seen anywhere; but for warmth of colour, elegance of form, and pleasing variety, nothing seen in the Central Row surpasses the extensive show of dried flowers and grasses on view in the windows of Messrs. Hooper & Co.'s shop.

The Messrs. Hooper have been engaged in the dried flower and grass trade for some years; they have worked up a gigantic business, and mainly through their instrumentality, there have been introduced into commerce such a variety of handsome, novel and useful decorative subjects, as were never dreamed of in this connection a few years ago. To the millions who cannot afford a constant supply of fresh flowers, the "Everlastings," dried grasses, Pampas grass plumes, &c., furnish substitutes that are much sought after, providing, as they do, decorative materials of no mean value. The Messrs. Hooper have collecting agents in all countries wherever suitable subjects for their trade can be obtained; of some things, such as the White Cape Everlasting, they import millions, and at this season quite a small army of girls and young women are engaged in making up the flowers, &c., into bouquets, wreaths, &c., while a considerable part of their trade comes under the head of dyeing—quite a number of subjects passing through the dyers' hands before being put into commerce.

In the windows already alluded to, glorious plumes of the Pampas Grass may be seen in almost all the colours of the rainbow, and especially pleasing are the shades of orange, rose, pale green, warm brown, &c. These plumes form the staple of the larger-sized floral devices, and some idea of their value as a commercial article may be gleaned from the fact that the Messrs. Hooper import about a million plumes from California. The plumes, we should add, are not those of the ordinary variety grown in this country, but a distinct and superior form, being whiter and the plumes more feathered. A noble grass, that may also be seen in quantity, is *Uniola paniculata*. This is obtained from the marshes of Florida, and is highly valued for creating bold, handsome effects, so much so, indeed, that the firm have this season bought all they could find. *Erianthus Ravennæ*, a plant of Italian growth, is also largely used, and of the elegant *Bromus brizæformis*, some tons are required to meet the demand. Besides these and several other well-known



A "MAKART" REGAL BOUQUET.

of this seems to still exist in France, for the peasant boys use the expression, 'An Gui l'an neuf,' as a New Year's greeting."

The Mistletoe is now excluded from the boughs which deck the churches at Christmas, either because of its heathenish associations, or because being so often in rustic places associated with Christian merriment, it might awaken remembrances little favourable to thought and devotion. The playful custom beneath the Mistletoe bough is of old antiquity in our land, having originated when the plant was dedicated to Friga, the Venus of the Saxons.

Mr. Folkard, in his book on *Plant Lore*, has gathered together a large amount of legendary and historic in-

formation concerning the Mistletoe. Among others he mentions that "in the West of England there is a tradition that the Cross was made of Mistletoe, which, until the time of the Crucifixion, had been a noble forest tree, but was thenceforth condemned to exist only as a mere parasite." Culpeper remarks that it was sometimes called *lignum sanctæ crucis*—wood of the holy cross—from a belief in its curative virtues in cases of consumption, apoplexy and palsy—"not only to be inwardly taken, but to be hung at their necks." It would appear that it is but rarely the Mistletoe is found growing upon the Oak; it is found upon many trees, but is most common on other than the Oak. At Strathfield-saye it grows freely on Thorn. It occurs in Gloucestershire on the common Maple, and in Bedfordshire on Lime trees and Locust trees. Some years ago the Society of Arts offered a premium for the discovery of Mistletoe on the Oak, and a specimen was sent to them from Gloucestershire; and Mr. Jesse mentions having received a piece of Mistletoe from an Oak growing near Godalming, in Surrey.

One writer remarks, "The Mistletoe is a true parasite, for no one has ever succeeded in making it take root in the earth. Mosses and lichens are often popularly

grasses, there are a number of South African species which have not yet been identified, but which are much appreciated for their handsome form and natural brown tints of colour. Bleached fronds of various Palms are also requisitioned in large numbers, of the Date Palm, *Phoenix dactylifera* especially, large quantities of which are obtained from Egypt, and which, by the use of curling irons, are made to assume shapes which are certainly novel, if not quite true to nature. The leaves of *Latania borbonica* and a species of *Thrinax* are also bleached; and those of a species of *Geonoma* dried their natural colour, have a very imposing effect in a large bunch or other device, such as the "Makart" bouquet.

Among the dried flowers there has not been much change as regards the bulk, *Helichrysums*, *Rhodanthes*, *Acrocliniums*, &c., both plain and coloured, contributing largely to the general stock; but, as an article of commerce, the comparatively new "Cape Everlasting," a very beautiful satin white kind of *Helichrysum*, puts all others in the shade, being literally sold by millions. The flowers come from Table Mountain, and are simply invaluable in the composition of every kind of floral device. The Messrs. Hooper are ever on the look-out for novelties, and expect, ere long, to introduce many subjects regarded as botanical curiosities. They have already in *Echinops ritro*, a "Globe Thistle" of a pretty steel-blue shade of colour, and another curiously contorted thistle-like plant from Africa, which are expected to prove of commercial value. In the limits of a short article, of course, only a very few subjects can necessarily be mentioned, nor can much valuable space be devoted to descriptions of the many floral devices that can be made of dried flowers and grasses; but we strongly advise those who may visit the market during the next few weeks, to look into the Messrs. Hooper's windows, and see for themselves what beautiful objects can now be obtained for winter decorations.

In the preceding page we give an illustration of one of their "Makart Regal Bouquets," so named after Hans Makart, the famous painter, who was the first to show what fine effects can be obtained with Palm leaves, dried grasses, &c.

NOTES ON PEAS.

THE Pea crop for 1886 was with us an excellent one, and I think this has generally been the case in the district, except, perhaps, as regards the earliest sorts, which suffered for want of moisture early in the summer. I attribute our success with the earliest sorts and the good supply we had all the season to a plentiful supply of water being given, especially during the swelling of the pods. We half sink some hogsheads between every alternate third row, which are kept filled, so that we can water whenever we please, and get in return an abundance of pods and peas of most delicious quality. The following remarks concern such varieties as have proved to be the best in this northern county. Your correspondent, Mr. Fry, has alluded to the difference in quality of varieties in different districts, and there is certainly a marked difference: Dr. Maclean and Veitch's Perfection may be cited as instances of this; both are very well thought of generally, but here they do not crop nearly so well, nor are they so good in quality as I have seen and grown them in other places. As regards new Peas, the cry is—"still they come," and I hear that we are likely to have a large influx of them next spring; well, the more the better if they are decided improvements on existing sorts, and not merely old acquaintances re-christened.

EARLY KENILWORTH AND EARLIEST OF ALL are about equal in merit, and none compare with them for earliness, colour, flavour and cropping. The first-named is, if anything, a few days earlier than the last. Dickson's First and Best is still a good old sort, which does well in the north, and is always to be relied upon.

WILLIAM THE CONQUEROR is by the same raiser as Early Kenilworth, and is easily recognised by its dark green foliage, and numerous well-filled pods containing from seven to nine peas, which are of good colour, being, like the foliage, deep green, and of excellent quality. It comes in with Dickson's First and Best, grows 5 ft. high, and is a most desirable variety.

PRINCE OF WALES is a dwarf, white, wrinkled marrow, of first class merit; 3 ft. This has been a favourite for many years, but it requires catching at the proper moment—just before the pods are full—or it quickly gets past its best and loses its flavour; a most abundant cropper.

WILLIAM HURST is another grand 3 ft. Pea; a good companion to the above, but better in colour. The haulm is literally covered with fine well-filled pods of superior quality. This is one of the best new Peas of recent introduction; a fine variety for market gardeners.

ABUNDANCE AND EVER-BEARING are not equal to the last-named, despite the flourish of trumpets with which they were ushered in upon us. The haulms with me are very strong, but whilst their cropping qualities and flavour are good they do not surpass the two above-named, or the old sort, which follows.

THE PRINCE.—This is a good old favourite, and for a late dwarf is still one of the best. It is a white wrinkled marrow of branching habit, pods long and well filled; an abundant bearer, and of excellent flavour. It must not be confounded with the Prince of Wales, as it somewhat differs from that variety; it being hardier and later, and withstands mildew better. I have failed in some seasons to get this true, Veitch's Perfection having been sent instead.

TELEGRAPH AND TELEPHONE are now firmly established as two of the best introductions in recent years, in the 5 ft. class. They are good croppers, and the pods of both are large and handsome. The first-named lacks flavour, but is of a deep rich green colour; whilst Telephone has the flavour, but is deficient in colour.

FAIRBEARD'S FORTYFOLD AND NE PLUS ULTRA are too well known to require any description, as they are two of the best cropping sorts extant, and for flavour not yet surpassed, if equalled.

DUKE OF ALBANY.—It is almost needless to speak of the merits of this truly grand and distinct sort; for as an exhibition sort it carries all before it. I have seen samples of this shown during the last season with pods over 6 ins. in length, perfect in colour, fulness of pods, and symmetrical in form. It would be as well for our hybridisers to centre their thoughts upon this variety, and if they cannot improve upon it to keep all other new ones back until they can. Taking all the qualities of this Pea into consideration, it is the finest introduction of recent years. Undoubtedly, this is the Pea your Scottish correspondent, "M. T.," was enquiring about a few months ago.

DUKE OF CONNAUGHT (Eckford).—There are two varieties which bear this name, but this is a new one of last year. Height 5 ft.; a good cropping variety; pods thick, blunt and well filled with from seven to nine large peas of superior flavour. It is somewhat after Sharp's Paragon, and does not appear to differ much from that sort.

PONTEFRAC CASTLE is not exactly a new one, as it has been grown largely as an exhibition sort in Yorkshire, but is being discarded in favour of Duke of Albany. It is, as it seems to me, a selected stock of Ne Plus Ultra or General Wyndham.

SHARP'S IMMENSE LONGPOD—given to me for trial by the raiser, Mr. J. T. Sharp, Almondbury—is a white wrinkled marrow, 5 ft. in height, with large, healthy, succulent foliage, light green in colour, and the pods large and of good depth. As an exhibition variety this is inferior to Duke of Albany, as it lacks colour and flavour, and, moreover, requires higher cultivation. The growths have to be well pinched or thinned; and some of the immense pods are perfect windbags, whilst others will contain their fullness of peas—thirteen in each pod. A type of Culverwell's Giant Marrow and Laxton's Superlative.

WEBB'S STOURBRIDGE MARROW.—A very good general cropping sort; some of the pods are of fine proportions, and with good cultivation would no doubt make a capital exhibition sort. Height, with me, over 5 ft., and the pods dark green, produced in pairs, each pod containing from eight to eleven peas of first-class quality. A commendable sort.—B. L., *Huddersfield*.

THE POTATO TERCENTENARY.

(Concluded from p. 234.)

At the Friday morning conference held in connection with the Potato Tercentenary, the chair was occupied by Mr. W. S. Mitchell.

Dr. Maxwell T. Masters, F.R.S., read the first paper upon "THE PRODUCTION OF VARIETIES BY CULTIVATION." He said that the question for discussion was whether the modes which we now adopted for the purpose of obtaining new varieties were sufficient to insure the attainment of the object worked for. On the whole he did not think they were, and he would take

the opportunity of drawing attention to the extreme vagueness that attended all the efforts at the present time to raise new varieties of the Potato. A wider knowledge and a greater precision in scientific method were much wanted. The practical men were rather apt to depreciate the value of scientific inquiries, but he believed that a little more information upon the object aimed at, and the best ways of attaining it would be very beneficial. The most general method of producing varieties was that of selection; but he was of opinion that nothing useful could be derived from this method. Another process was that of cross-breeding, or producing new varieties by the application of the pollen of one variety to the stigma of another. This method has been practised for many years. The third method was that of hybridization proper, or the crossing of two reputedly distinct species. This process had not been much attended to in England until it was taken up by Messrs. Sutton at Reading. There was yet another mode by which new varieties might be obtained—namely, grafting. Very many Potato cultivators absolutely denied the possibility of anything like grafting, but he believed it to be a practical and realisable idea. He had, himself, obtained intermediate forms by the process, and he had seen remarkable results obtained by grafting the Potato on to the Tomato and other species. These were all the methods at present practised for gaining new varieties of the Potato; there might be more, but he did not think it probable. What he would wish to emphasise was that all these modes, except that practised by Messrs. Sutton, were merely ringing the changes on the old varieties over and over again. If any really important result were to be obtained in the future in the point of greater adaptability to our climate, power of resisting disease, or general robustness, we should have to infuse a new strain into our varieties, and the only way to do this was by hybridisation of species. It was not necessary to confine the experiments to tuberous *Solanums* only, but other hardy species of the *Solanum* might be put under requisition. The process, however, would be very long and tedious, and it would hardly be within the power of private individuals to undertake the experiments, which would require quite twenty years of constant attention.

The Chairman referred to the want of scientific knowledge associated with what was called practical knowledge, illustrating his remarks by pointing out that when Lord Cathcart offered a prize for an essay on the Potato disease, out of the ninety-four competing papers sent in not one was considered to evince sufficient knowledge of the subject to deserve the prize.

Mr. Alexander Dean said that at the time when the prize was offered for an essay on the Potato disease, scientific men themselves hardly understood the subject. With regard to the process of selection for producing new varieties, he could say, as one who had had much experience in the matter, that the only result to be obtained was a slightly better stock for a year or two, which, however, would soon degenerate. The only real means by which distinct varieties have been introduced was by cross-breeding; and by this means from the simple *Solanum tuberosum*, a thousand distinct varieties have been obtained. They had also produced many varieties entitled to be called disease-resisting, and had put themselves in the position to say that Potatoes were never better or cheaper than at present.

Mr. Arthur Sutton (Reading) said he did not wish to claim any of the credit for having originated the experiments referred to by Dr. Masters. The idea had emanated from Lord Cathcart, and he believed that in its execution, they had a pleasing example of the union of scientific and practical knowledge. He had never known any new variety to be originated by selection, and he believed such a thing to be impossible.

Mr. William Earley said, that while he did not assert the possibility of obtaining new varieties by the process of selection, the fact was not to be overlooked that by continually choosing the best specimens of a variety, a better standard of excellence was maintained.

Mr. Charles Ap Thomas said that he had resided for twenty-five years in Chili and Peru, and was conversant with the edible plants there. There were three varieties of the Potato, one of them, the yellow Potato, being very suitable for introduction into England. Its name was given it on account of the colour of its flesh; and it was very similar to the Rector of Woodstock variety. It was indigenous to the soil, and had been found in the country by the Spaniards when they first arrived.

Earl Cathcart expressed a hope that Mr. Ap Thomas's information might be put into a form available for future reference.

Papers were then read by Mr. Richard Dean on "The cultivation of the Potato," who dealt with the importance of deep tillage, manuring and trenching in autumn if the former was necessary, but recommending that a crop of Potatoes should follow one for which the ground had been well manured. He also advocated the selection soon after the crop is dug of the handsomest tubers, and those most true to character, selecting them of medium size; also cultivating well, keeping the ground clean, and earthing up with great care; by Mr. Alexander Dean on "Raising new Varieties," who narrated the methods by which he had raised new varieties, dealing with the details of several crosses made for the purpose of securing certain definite results, and especially varieties ripening early with robust hard stems that would entitle them to be termed disease resisters; and by Mr. Earley on "The advantage of lifting the crop early as a preventative of disease."

RAILWAY RATES OF TRANSIT.

In the evening Mr. T. H. Bolton occupied the chair. In opening the proceedings he said that it was generally admitted that the railways had hardly answered the requirements of the public either as to accommodation or cheapness of transit. In the last Parliament a measure had been introduced, on the responsibility of Mr. Gladstone's Government, to place the railway companies under greater supervision, and to require that they should more fully discharge the duties which had, under Parliamentary sanction, been entrusted to them. This measure was not then carried through, but its passing into law was only deferred, and the railway companies would have finally to submit to Parliamentary control. We had had very great reason to complain of the unfair preference that was practically given to foreign producers in connection with the main trunk lines into the great cities. It was no use for the railways to plead that they could not afford to satisfy the demands of the public, for it could be seen from any returns that most of the chief lines were paying good dividends.

Mr. W. A. Hunter, M.P., then read a paper on the subject under discussion. He said that the subject of railway charges for carrying of Potatoes might be considered under the following heads:—(1) Preferential charges in favour of foreign as against home-grown Potatoes; (2) irregularities in the charges compared with the service rendered; (3) charges by railway companies exceeding the *maximum*; (4) excessive proportion of the charges to the value of the article; (5) suggestions for cheapening the rates for conveyance. With regard to the last consideration, could cheaper rates be obtained? It was first to be remembered that as it stood now the law could do nothing to help the Potato grower. On the Brighton line the rate charged per ton per mile, exclusive of collection and delivery, varied between 4*d.* and 6*d.*, while in America the Pennsylvania Railroad Company charged less than ½*d.* per ton per mile on the average of its whole goods traffic. This was lower than the English average for the coal traffic only. The secret of the low American rates was not in the unremunerative character of the work done, but in the mode of conducting railway business. What was required was a truck rate besides a tonnage weight. By such an arrangement the trader could have the option of sending by the present system, or having a truck and loading it as he pleased and with what he pleased, up to the full carrying capacity of the waggon. At a rough guess he would say that an eight or ten ton truck ought to be charged about 6*d.* per mile for short distances (say under forty miles), and a diminishing rate for long distances, so that for 200 miles it ought not to exceed 4*d.* per mile. It might be said that though this system would be beneficial to the large trader it would not be so to the small trader. Indirectly it would, however, for the moment a fair truck rate was established, a class of carriers would spring up who would collect the traffic of small men and make their profit by sending full truck loads. Under the present system the independent carrier had been exterminated, and the railway companies had established a monopoly. If a truck rate were fixed, the business would be made more profitable to the companies, and at the same time the railway monopoly would be smashed.

THE "JUBILEE" FLOWER CUP.

EXHIBITORS of Chrysanthemum blooms too well know the necessity for using cups and tubes, in order to properly set up their flowers, to need any recommendation of them from us. But there are cups and cups, tubes and tubes, good, bad and indifferent, and all do not know that most of the leading exhibitors have discarded the old wooden cups in favour of tin or zinc ones, on account of their greater durability. Tin cups, however, should not be used by those who can afford to pay a little more for zinc ones, as the former are so liable to rust. In combination with zinc cups, some exhibitors have been using a zinc tube, with two small pieces of brass fixed inside to form a spring, so that the cup can be fixed to any height that the exhibitor may desire when arranging his blooms.

Mr. B. Field, Swan Place, Old Kent Road, has just introduced another form, which many exhibitors have expressed a high opinion of. In his pattern the zinc cup is telescoped into the tube, and the fit being perfect, when water is put into the tube, the cup can be set at any height, and the use of springs is entirely obviated. In the neck of the cup and at the base, rings of zinc wire are fixed, forming a close clip for the flower-stems. We like the appearance of Mr. Field's introduction, and they are well and neatly made in three sizes. We note that Mr. Field moves with the times, and has secured the title of "Jubilee" for his latest idea.

GARDENING MISCELLANY.

Work for Spade and Pick.—A correspondent writes from the Cape of Good Hope:—"Gardening is neither so pleasant or remunerative here as some suppose, and many of the gardeners who came out here 'on spec.' will, no doubt, join the rush to the Transvaal Gold Fields, the good and well-authenticated news about which has already caused hundreds of people from this district to hurry thither. It is said that there is plenty of gold, and that, too, without excessive labour in the getting; and I have no doubt that the quantity obtained will astonish the world when the diggings are properly worked. There are very ancient workings found, which seem to indicate that this is the district from whence Queen Sheba got that immense quantity which allowed of her making so great a gift to King Solomon."

Shelter Caves for Plants.—Many years ago I visited a garden where the mud banks had been hollowed out so as to make caves to shelter plants. A short time back, acting on this idea, and having a quantity of mould got by digging out a pond, I made a long mound, and at the north side of this let in pieces of sandstone so as to make back, sides and top, and brought the soil so as to cover these. I then planted the caves with known hardy Ferns, such as *Hypolepis millefolium* and *Adiantum pedatum*, and among them *A. cuneatum*, and the shelter and warmth of the covering earth have made these resist the frost of the two last winters, and of the present one. I mean to carry out this plan on a larger scale, and believe that *Primula obconica*, which was not much cut in the open last winter, and possibly *P. floribunda*, may be grown out of doors by this means. I have some shelters which I believe to be new, and which promise well; when these have been proved a little longer, I propose to send you a note on them; meantime, I may say that a common wicker hen-coop with bracken worked round it, makes a good portable shelter.—*George F. Wilson, Heatherbank, Weybridge Heath, Dec. 13th.*

Gaultheria procumbens as an Edging Plant.—Mr. G. F. Wilson is to be congratulated on his aptitude in finding out interesting features of horticultural interest, and for the felicitous manner in which he makes them known to the readers of the horticultural press. One is tempted to remark that "there is nothing new under the sun," for at least this is true as regards the use of *Gaultheria procumbens* as an edging plant. About twenty years ago it might have been seen used for this purpose, and round such a bed as possibly it may startle some to hear of, being no other than a bed of *Yucca filamentosa variegata*. It may be well to place this fact on record, to prevent any mistake being made as to its hardness in after years. The *Yucca* not only grew well but flowered well, and this was the un-

fortunate part of it, for it was the beginning of its end. The stools had to be taken up after the flowering season had passed, and my friend, Mr. William Casey, of the Clapton Nurseries, who knew the value of those stools better than I did, persuaded me to let him have them in exchange for some young plants.—*George Thomson, Knap Hill, near Woking, December 14th, 1886.*

Sutton's Seedling and Abundance Potatoes.—Having tried these two introductions of Messrs. Sutton, and found them such decided acquisitions, I cannot refrain from advising all who are not yet acquainted with them to purchase without delay for next season's planting. The "Seedling" I like immensely, from the rapidity with which it ripens its crop, which is, indeed, in every way satisfactory, both as to size and quantity; while its cooking qualities leave nothing to be desired. Abundance is a much stronger grower, and yields an immense crop of tubers, large in size and of excellent quality. In short, I predict for these varieties a very successful career, and congratulate both the raiser and introducer of such sterling novelties.—*W. C.*

Winter-flowering Pelargoniums.—At the meeting of the Floral Committee, last Tuesday, Messrs. Cannell & Sons showed a stand of one dozen superb bunches of single-flowered zonal Pelargoniums. The varieties were:—Queen of the Belgians, white; Hyacinth, scarlet; May Caswell, pale peach; Mr. Cannell, crimson-scarlet; Lady Reed, white with salmon centre; Lord Chesterfield, crimson; Kate Greenaway, rose-pink; Cato, bright scarlet; Swanley Gem, light scarlet; Kentish Fire, crimson; Olivier, salmon; and Linette, crimson-scarlet.

What is the Cause?—A correspondent writes as follows:—"I recently observed, in one of your contemporaries, a selection of Pears recommended for garden culture—among them *Beurré Rance*. I have a tree of this variety in my garden (Wiltshire), the fruit of which ripened on the tree at the end of November, but with this drawback: before they were fit to gather they commenced to crack, so that one-third, at least, of the crop was unfit for storage. Of the remaining two-thirds, the majority have gone rotten in the form of little specks all over the surface. The soil is a black loam on a sandy bottom, and plenty of surface manure has been applied. If anyone can point out the cause or causes of such a state of things, I shall be very glad. So far, I fear that *Beurré Rance* is not a Pear adapted for culture in this neighbourhood." What do some of the Pear cultivators say?

A New Discovery (?)—It was stated in a London newspaper recently, and formulated, too, as a new discovery, "That wonderful effects may be obtained by watering fruit trees and vegetables with a solution of sulphate of iron. Under this system Beans will grow to nearly double the size, and will acquire a much more savoury taste. The Pear seems to be particularly well suited for this treatment; old nails thrown into water and left to rust there will impart to it all the necessary qualities for forcing vegetation as described." Although one would like to know on whose authority this statement is made, sulphate of iron may possibly possess the virtues ascribed to it; at any rate, the experiment is worth trying. If any of your readers have already tried a solution of sulphate of iron as a liquid manure, I shall be glad to be informed of the result.—*Simon.*

Prize Celery.—During September I saw, at a country flower show, some wonderful Celery, not only large in size, but remarkably solid, and, when tasted, I found it to be singularly crisp and sweet. I asked the exhibitor to set forth his cultural process—for his sticks of Celery far outstripped, in point of size, as well as of quality, anything competing with it—and he has done so in the following pithy words: "Sow the last week in February or first week in March, in a gentle heat, in fine and rich soil; prick off on a gentle hot-bed as soon as the plant can be well handled, and shift on as required, always using sweet and rich soil, until all danger from frost has passed; then plant out in the trenches, previously prepared by thorough digging and the placing therein of a liberal quantity of good sound manure from the stables and pigstye. Shade from hot sun until the plants, which should have been put out with large bases of soil about them, have got well hold; then, unless the season be wet, water liberally, giving liquid manure, after the first month, with every second application of the watering can. Take care the plants

are not broken down or injured by winds, and when their growth is well made, slightly soil up, and first binding the stems carefully together, wrap around the plants dry sweet moss in paper, and leave them to blanch." It is in this way my correspondent grows such fine prize Celery.—*R. D.*

Schizostylis coccinea.—This is one of the most beautiful autumn and winter-flowering plants that can be grown in the herbaceous border. I have in this garden some clumps that were divided and replanted last spring, and which have been throwing up strong Gladioli-like spikes of scarlet flowers for the last two months, and are still showing flowers. It is an excellent plant for cutting, coming in at a season when most other things are over. I regret to say that it is not planted so extensively as it should be, considering that it is so very easily grown. No collection of herbaceous plants is complete without it.—*G. Tyler, Plas-Tirion, near Carnarvon.*

Classification of Dahlias.—Having had occasion very lately to look over all the gardening papers published in London, I have been much struck with the great amount of varied correspondence kept up on all subjects connected with gardening. It has been said by somebody that "mind governs the hands, and that in all good society the man of intelligence must direct the man of labour." As one of the latter class, and living a good distance from Loudon, I thought of suggesting that in the strict sense of the term "Cactus" we have but one Dahlia as yet having that distinct peculiarity—viz., pointed florets—and it seems to me that a new classification is necessary. Would not the heading "Zinnia-flowered" be more distinctive for such varieties as Cochineal, Constance, Mrs. Hawkins, Picta formosissima, and Glare of the Garden? This latter, to my mind, is very like a scarlet Zinnia. We must not forget the new white one, A. W. Tait; certainly, this variety has more of the peculiarly pointed florets than any other rival to Juarez. We might also include Annie Harvey. I would like to know what Messrs. Ware, Cannell, Turner, Keynes, &c., will say to the suggestion.—*Corkagensis.*

Passiflora Raddiana.—There is a figure of this plant in Martin's *Flora Brasiliensis*, Vol. xiii., Part I., fig. 126. It is, probably, most universally known in gardens under the name of P. kermesina, and this is the name given in the *Botanical Magazine*, t. 3, 503. Whatever name it receives at the hands of cultivators, there is no question but that it is one of the most useful, economical and ornamental plants that the cultivator could take in hand. The sepals and petals are similar in texture and colour—that is, of a lively deep carmine. The corona consists of slightly-spreading, deep purple filiform processes, and the whole flower is attractive in no small degree. The plant is one of the most economical that could be grown, from the great masses of flowers it produces all through the autumn months, and, more or less, into winter, furnishing a supply for cut flower purposes. The whole plant is moderate in growth, and may be cultivated in pots or planted out. In the former case, it would require more attention and feeding; while in the latter, a freer growth and a longer flowering period would reward the cultivator. The leaves are three-lobed, deep green above, and of a beautiful vinous purple beneath.—*J. F.*

The Carnations at Tring Park.—After years of trial, that clever grower of plants, Mr. E. Hill, gardener to the Right Hon. Lord Rothschild, has come to the conclusion that the old winter-flowering Carnations are the best; and his grand house of bloom is this year almost entirely devoted to Lucifer, scarlet; Othello, scarlet and white flake; La Belle, pure white; Empress of Germany, white, with occasional white tip; Andalusia, pure yellow, and Miss Jolliffe, blush. In his selection of winter-flowering Zonal Pelargoniums, Mr. Hill, too, is particularly happy, his selection chiefly falling on Cannell's sorts; of these, Eureka is the only pure white; but Mr. Cannell's other varieties are so numerous and so fine, that particularisation is rendered very difficult.

White Pottebakker Tulips we find much appreciated—that is, if forced in time—but they must have been in flower a few days before being used, or their beauty is not seen. Camellias, too, may be retarded by being lifted out-of-doors if in pots, or if planted out extra ventilation must be employed; in short, use every means to furnish a good supply.—*W. C.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CINERARIAS for late flowering should now receive their final shift, as if they are allowed to remain long pot-bound, they will never make good well-furnished specimens. A well-grown plant should retain all the foliage which should be sufficient to completely hide the pot; when staged, plenty of room must be given, or damping of the foliage must be expected, the house must also be thoroughly ventilated. The same remarks apply to the different sections of Pelargoniums.

FLOWERS FOR CHRISTMAS.—As Christmas is fast approaching, care must be taken to retard or force such plants as may have been put into heat to prepare for the usual decorations; much may be done in this respect if care is exercised. The flowers of the Ethel Chrysanthemum are particularly suited for all kinds of floral decorations, and may very readily be kept if the weather is open, by placing the plants out of doors in some shaded and sheltered position; but should frosts interfere and prevent their being placed outside, let the plants be grouped together, and the position be thickly shaded with mats, which will greatly assist in keeping the blooms pure in colour—so great a desideratum.

WHITE AZALEAS, too, may be similarly treated without much damage to the plants, provided that as soon as possible afterwards they are placed in a moderate heat to make a new growth, and by this means be prepared for next season's early work. Callas, too, are greatly admired when employed for decorative purposes, especially when the foliage is used in conjunction with the flowers; in fact it is rather a difficult matter to arrange the flowers satisfactorily unless the foliage is employed; nicely placed they are very effective, and as they stand any amount of heat, if potted up in sufficient time, no difficulty should be experienced in having a good supply. Another subject equally as serviceable—only more amenable—is

THE CHRISTMAS ROSE.—We have to-day lifted and placed on a hot-bed a dozen good stools, beautifully set, in fact hundreds of buds are pushing up; these will be in good time, and we find them immensely useful, as they stand so well and look as fresh as possible for days; and if only a sprinkling of water can be given them they will last.

THE FORCING HOUSES.

GENERAL WORK.—What with the extremely short days, and the endless number of matters claiming immediate attention, all is activity in this department. The second batch of Sea Kale being well advanced, more roots have been lifted and placed in the Mushroom house for succession. We have also made up another Mushroom bed, and as soon as fit the spawn will be inserted and the bed cased down. We are drawing some very nice

RHUBARB from the first batch; the second lot is also making a good start, and as we put in about a score of stools, we shall have ample for a long time. The Chicory, too, is now fit for use; a couple of pots will be placed in at intervals according to the demand. A hot-bed must also now be made up for the sowing of Horn Carrots and Radishes; if pit room cannot be found, some warm position outside must be given, and after the seed is sown, hoops must be placed over the bed, and be matted up every night.

CUCUMBERS.—We have sown a good batch of Cucumbers to succeed the winter fruiters. At this season we always sow singly in 60's, the young plants being so extremely tender and liable to injury if subject to potting off. Complete the tying of the late Peach trees as early as possible, and have all the houses cleaned; doubtless occupants will shortly be found for them.

IN THE EARLY VINERIES if the laterals touch the glass loop slightly, but be careful not to overdo it, and while the weather continues mild, ventilate as freely as possible, of course, maintaining a temperature of about 65° with air on; the night temperature may be advanced to 55°. The early Peach house may now be closed, but no fire-heat should be employed for a time; the trees may, however, be syringed at mid-day, which will quickly cause them to start into growth.

THE KITCHEN GARDEN.

DIGGING.—The weather being favourable we have resumed digging operations; we always like to complete as much as possible of this work before Christmas. We have been busy transplanting, and have made good some of the Red Currant quarters, which, from old age, had become worthless; should the weather continue favourable, as the pruning is finished, digging between the trees will follow, so that the weather may act on the soil and thoroughly sweeten it. It is only by this means that soil of a heavy nature can be got into good workable order.

CLEANING THE PLEASURE GROUNDS, rolling of turf and walks, in fact making all as clean and neat as possible also requires attention. The cutting of turf must not be forgotten, this is frequently a serious matter; however, obtain the best procurable, but do not put it in too large a heap for special purposes, and as the stacking goes on bone dust may be sprinkled through the layers to enrich the soil.

STAKING ROSES.—If not already done, put new stakes where required to Standard Roses, so as to make them secure against storms. Let the planting of all fruit trees be completed as soon as possible; it is foolish to postpone to spring work which it is in every way advisable should be done in the autumn. All newly-planted standard trees should be made secure as the work proceeds.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Syringing Orchids.—It is now a considerable time since Mr. James O'Brien mooted the question of syringing Orchids. I must say that up to that time I had been very fond of the practice of watering Orchids overhead. On reading Mr. O'Brien's very lucid and temperate arguments on this subject, I was induced to hold my hand and watch. I may say that the result has surpassed my highest expectation, and I have no hesitation in attributing my former spotted-leaved Saccolabiums, Vandas and other plants to the evil effects of the syringe. A friend of mine took exception to Mr. O'Brien's ruling about the syringe, but determined to discontinue it for all other plants, but to continue it for the growing of Dendrobiums. Curiously enough, his own houses supplied him with the best confirmation of Mr. O'Brien's statements, for whereas his Dendrobe house, which he syringed once or twice a day, exhibited nothing extraordinary in growth (in fact, rather below the average), the plants of Dendrobium Wardianum, which he left in the dry Cattleya house, were stout, clean and beyond compare for vigour, and infinitely better than those which had been syringed. I have no hesitation in endorsing Mr. O'Brien's original opinion that, as a rule, Orchids of any kind should not be syringed, and if any of your correspondents want evidence on the subject I am prepared to furnish it, at all events, so far as a new convert can.—*A. C.*

Angræcum Leonis.—This recently introduced species bids fair to become a general favourite with the majority of Orchid growers, and deservedly so I think, as it flowers freely in a small state, and is of free yet compact habit of growth. I have grown them with Phalaenopsis, under which treatment I find them to succeed admirably; rooting and growing freely in suspended baskets with the sphagnum kept growing throughout the year. So far as I can see, they revel in moisture at all seasons, but less will suffice during the dull months of winter. Our strongest plant, a single piece with about eight leaves, and which flowered about June from a stunted spike of about 1½ ins. long, gave us three of its beautiful white flowers, which lasted about a fortnight in perfection. The base of the flower stem emitted roots, and the point of the flower spike kept fresh and green after the flowers had fallen, and looked as if another flower was likely to come. Not knowing whether the old spike flowered for years in succession, I allowed it to remain, but instead of a flower, the point of the spike has developed into a leaf about 3 ins. long, and which is just commencing a second leaf. As far as I have been able to ascertain, this is unusual, and it would be interesting to know if any other cultivators have had the like experience with it. This mode of increasing itself by growths formed on its flower spikes, if at all general, will add to its other good qualities of growth, enable it to become rapidly propagated, and thus freely circulated.—*E. Dumper, Limerick.*

Angræcum eburneum.—This large-growing Orchid is not so popular as it deserves to be, seeing that it flowers in the middle of winter, and lasts for five or six weeks in bloom. Its peculiar noble-looking spikes of flowers are freely produced, and this is another consideration to be remembered. A plant of it here, and which had for three years been in a 9-in. pot, was last spring one entire mass of roots, so much so, that I potted it on just as it was, pot and all, into a larger pot, at the same time putting it lower down, as it had lost some of its lower leaves. The naked stem thus treated, and which was covered with sphagnum for about 2 ins., has thrown out from under the sphagnum two flower spikes, one of which met with an accident while in a young state. This is the first time I have known it to do so, seeing that it has flowered in the usual way each season it has been here, and is also doing so at the present time. I may say that the flower-spike in question is not so strong as the ordinary ones are.—*E. Dumper, Limerick.*

Oncidium Jonesianum.—Not only is this a comparatively recent introduction, but it is rapidly becoming one of the most popular *Oncidiums* we have. There are various reasons whereby this may be accounted for. In the first place, the plant is of easy culture and free-flowering; while, on the other hand, both the leaves and the flowers afford a very distinct type amongst a vast assemblage of species where the prevailing colours form a mixture of green, yellow and brown. In this instance, the flowers are moderately large, with greenish white sepals, more or less distinctly blotched with brown, and in good varieties this is shown off to the best advantage by a greater purity of the white ground-colour. The large bifid labellum is white, with a few brown blotches and yellow basal lobes. The quill-like leaves of this species are one of its peculiar features, and cultivators are at great variance as to whether these leaves should stand erect or be suspended. It is also grown in pots, small baskets, or on rafts—in the latter case, with a small quantity of sphagnum tied over the roots, while in the former case, the plants evidently enjoy the treatment, produce leaves of great thickness, and flower strongly. There is a figure of the species in *Williams' Orchid Album*, t. 183.

Coryanthes speciosa.—This species has flowered in several varieties in Major Lendy's garden at Sunbury House, Sunbury-on-Thames; and in connection with it the gallant Major points out to us a crucial test between *C. speciosa* and *C. macrantha*, a matter which sadly puzzles some of our growers. *C. speciosa* has the connection between the cap and the body of the labellum quite plain, whereas the same position in *C. macrantha* is indented, so as to form a correct representation of the cerebral axis in a skeleton. As the varieties *Albertina*, *punctata*, &c., may be referred to *C. speciosa*, and others to *C. macrantha*, this test is of importance.

Cypripedium insigne maculatum.—From Mr. William Bull, and also from Mr. F. W. Moore, the curator of the Royal Botanic Gardens, Glasnevin, Dublin, we have received this pretty plant. Well! it is distinct from *C. insigne Maulei* and all other varieties, and is a very desirable kind. In form its flowers are as regular as the best shaped of the species. Its dorsal sepal is better shaped than that of *C. insigne Maulei*, but less purple spotted. The flower approaches nearest to *C. insigne albo-marginatum*, but it is far finer than that variety.

HORTICULTURAL SOCIETIES.

Bolton Horticultural Mutual Improvement.—This society has only been established a few months, yet has met with much success, about fifty gardeners of Bolton and the district having already become members. It has been decided to hold seven monthly meetings during the present session, which commenced on October 7th, when the president, Mr. Herd, gave an opening address. On November 4th, the secretary, Mr. Charles Jones, gardener, Wellesley House, Bolton, read a paper on the *Chrysanthemum*; and on December 2nd, Mr. Hicks, gardener to Mrs. Haslam, Ravenswood, Bolton, contributed a paper on bulbous plants, with special reference to the *Eucharis*, of which he is a very successful grower. He remarked that among bulbous plants there were to be found many gems, but he considered the *Eucharis* the finest

of them all. In its cultivation some were successful, while there were others who failed to grow it even under most favourable circumstances, as regards house accommodation. The best soil in which to grow the *Eucharis*, he considered, was good fibrous loam, pulled to pieces by the hand, of about the size of Walnuts, with a good sprinkling of charcoal about the size of Beans, some good well-decayed leaf soil, and enough sand to make the whole thoroughly porous. The latter was an important essential, as the plant is nearly an aquatic, and loved to be watered unsparingly, both over head and at the roots. It was also greatly benefited by liberal supplies of liquid manure during the growing season. It liked a steady temperature of about 65°, and shade from the direct sun during the summer months. While not quite exempt from the attacks of insects, the *Eucharis* is not so subject to them as many other plants. Mealy bug and scale were the most troublesome pests to its foliage; but it has a most insidious enemy in the *Eucharis* mite, and when this attacks a batch of plants, he believed there was no cure, but a good preventative could be found in strong soot-water, applied clear, which was more or less obnoxious to all root insects, and was at the same time beneficial to the plants. An interesting discussion followed, in which Messrs. Amos, Pointain, Turner, Corbett, Harrison, Herd, Wilson, Shuttleworth, Fletcher and Mr. Cochrane, of the firm of Messrs. F. & A. Dickson & Sons, Chester, who was present by special invitation. The next meeting will be held on January 6th, when "The Primulas" will be the subject of a paper by Mr. Smith.

Birmingham and Midland Counties Gardeners' Improvement Association.—*Dec. 1st.*—Mr. Page, for many years gardener at Maple Bank, and one of the oldest and most successful exhibitors of the *Chrysanthemum* in the midlands, read a paper at this meeting on "Chrysanthemum Culture." He dealt with his subject in a most able and interesting manner, and at the close of his remarks was accorded a most cordial vote of thanks from the 150 members of the society who were present. Alluding in the first place to the history of the *Chrysanthemum*, he referred his hearers to the excellent book written by Mr. F. W. Burbidge, and which he said was available to every member, being in the library of the association. Specimen plants—his chief forte—were dealt with at some length, commencing with the cutting, upon which everything depended, and illustrating the proper one to select; he travelled somewhat out of the beaten path, by advocating, if available, a slight amount of bottom-heat in which to propagate the same, gradually inuring to light and air, and growing perfectly cool until the first week in February. By this time the young plant should be in a condition to "stop" for the first time, to induce a "break" of four or five shoots, and about March 15th re-pot into 6 ins. pots, the plants being ready for another stopping by the end of that month. April he considered a most important period in the history of the plant; every endeavour should then be made to induce them to make free and strong root-action, and this Mr. Page said was brought about in his case by again placing the plants where they could receive bottom-heat, giving, at the same time, an abundance of air to encourage sturdy growth. By the end of April they would again be in a condition for re-potting, after which he again used bottom-heat for about a fortnight, stopping about the middle of May, and placing the plants at the end of this month in their flowering-pots. About June 15th, Mr. Page said, he pinched the plants for the last time, taking from the break about thirty-five shoots, and allowing unrestricted growth to the bud, giving them manure water according to their strength and condition; advising a careful use of stimulants during the formation of the bud, or a secondary growth would most likely ensue.

Laying great stress upon the absolute necessity for careful supervision in respect to watering, and alluding to the time—about the middle of August—at which the buds should appear, he remarked that the grower should on no account allow the plants to suffer from want of water, or the ruin of the foliage would result. Mr. Page next gave directions for mixing the manure in solution—using the various ingredients in the following proportions: Sheep or cow dung, one peck; soot, half a peck; lime, quarter of a peck; sulphate of ammonia, quarter of a pound; which the lecturer said he was always in the habit of well mixing together, boiling and straining; and using the liquid in the proportion

of one quart to three of water, and occasionally doubling the strength in the case of backward plants.

Mr. Page said he always made a point of beginning early with the manure-water, increasing the strength according to the capacity of the plants, to absorb the additional food. The compost recommended for them was: loam, two parts; stable-manure, one part; the remaining part to consist of sand, well-decayed cow-manure, crushed bones and old mortar in about equal proportions. Mr. Page concluded with a few clear and intelligible instructions respecting growing for the production of cut blooms, and also plants for decorative purposes. The chair was filled by Mr. W. B. Latham.

Maidstone Gardeners' Society.—*Dec. 1st.*—Mr. Carr presided and Mr. Archer occupied the vice-chair at this meeting. The whole of the evening was occupied by a discussion on Orchid cultivation, and amongst other specimens of this beautiful and interesting family of plants were *Liparis pendula*, *Calanthe Veitchii* and *Maxillaria picta*, by Mr. W. Peters; *Lycaste Skinneri* and *Odontoglossum crispum*, by Mr. Goacher; *Zygopetalum Mackayi*, by Mr. Cuckow; *Cypripedium insigne* and *C. barbatum*, by Mr. Leonard. Several water-colour drawings of Orchids were lent by Mr. K. Peters. The debate was opened by Mr. Bridgland, who confined his remarks to the genus *Dendrobium*, and gave careful and exhaustive directions for the treatment of the various species. Mr. Goacher followed, selecting the *Odontoglossums* chiefly as his subject. He strongly deprecated the use of the syringe, except under special circumstances, and advocated liquid manures. Mr. Ocock scouted the idea that special houses for Orchids were the absolute necessity some growers pretended. Some of the finest specimens he had ever seen were grown in mixed collections of plants. He gave some excellent hints on the cultivation of *Vandas*, *Arides* and *Saccolabiums*. Composts were then noticed, Messrs. Hicks and Archer being the chief speakers. Mr. W. Peters, an amateur, in the course of a lengthy and very practical speech, recommended young growers to reason why certain soils suited certain things, and why certain treatment would grow one genus well and be death to the next, and advised them to get out of the too prevalent rule of thumb methods. He gave a list of some twenty species he had now in flower, and greatly regretted that he had not the opportunity of growing his plants as he should like to grow them. The temperature of the water to be given to the warm Orchids was also discussed, and a very instructive meeting was closed by a few remarks from Messrs. Leonard and Carr.

FLORICULTURE.

CHRYSANTHEMUM CUTTINGS.—I suppose that thousands of cuttings are being put in this month. Now that the plants are out of flower, cuttings should be made from the young growths thrown up from the base of the stem, and these can be inserted in pots in a light sandy soil, firmly pressed about the cuttings, and be placed in a cold frame unless a greenhouse is available where only sufficient heat is given to keep the frost out. Here they strike root more quickly, and I am certain they are also safer when struck. All that is required is protection from frost and cold winds. But one cannot always get all their cuttings at one time; some sorts throw up suckers, not only very sparingly but not until January or February. Cuttings may remain in the striking pits until the end of January, and then such as require to be grown on at once may be potted off singly and kept close for a time until established.—*R. D.*

LORD LYON PINK.—This is one of the admirable forcing Pinks, raised by the late Mr. James Clark, of Bury St. Edmunds. I thought I had lost it, but to my great joy found that, during the past summer, I had a few plants left among some seedlings. I think it was the very best Pink Mr. Clark raised; it is a good grower, makes pipings freely, and it blooms abundantly—large, full lilac-purple flowers. I remember once calling upon Mr. Clark, and finding that he struck cuttings of his Pinks by making up a bed among his Gooseberry trees, and putting a common hand-light over them. It is so well deserving of being extensively grown that I have no hesitation in calling attention to it. It is Lord Lyon, not Lord Lyons. It was named by Mr. Clark, after the celebrated race-horse, Lord Lyon; and not after the once-popular admiral and ambassador Lord Lyons.—*R. D.*

NOTICES TO CORRESPONDENTS.

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

To save time, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bona fides*. No notice whatever will be taken of anonymous letters.

QUESTIONS AND ANSWERS.

BLACK CURRANT.—*Anxious* asks if he can grow Black Currants on trellises, if he prunes them similar to Peaches?

FORCED BULBS.—*Anxious*: Take care of the forced plants, after they have done blooming, and plant them out in spring. Plant in beds or in masses in mixed borders, and they will give you blooms for cutting another season.

THE CHRYSANTHEMUM.—*J. W.*: Many thanks, but hardly up to our standard.

ASPIDISTRA LURIDA.—*B. P.*: Belongs to the natural order Liliaceae, and was introduced from China in 1820. Perhaps the best room plant we have, and nearly hardy, where the climate is mild.

MEALY BUG ON VINES.—*Vine*: Rub off all loose bark, but do not scrape the canes. Then to one part of coal tar add twelve parts of clay, well work the whole together, and pass through a sieve to remove the lumps. Dress the Vines carefully with the mixture, and you will not have much further trouble. For further details see our number for Feb. 7th, 1885, which can be obtained from the Publisher.

COMMUNICATIONS RECEIVED: H. L. & Co.—R. D.—T. T. P.—E. J.—A. O.—J. L.—G. F.—J. E. L.—G. F.—W. D.—T. B. M.

TRADE CATALOGUES RECEIVED.

HOOPER & Co., Covent Garden, London.—Improved and New Cereals.

FRANK LAW, The Carnation Gardens, Oldham Road, Rochdale.—Carnations and Picotees, &c.

JAMES CARTER & Co., 237, 238, High Holborn, W.C. Vade Mecum for 1887.

LONDON SEED TRADE.

December 15th, 1886.

Messrs. **HURST & SON**, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small demand for Red Clover seed at rates current last week. White Alsike and Trefoil unchanged. Rye Grasses are dearer. Bird Seeds neglected till after the new year.

COVENT GARDEN MARKET.

December 16th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1	6	3	Pine-apples, St.	
Grapes, per lb.	1	0	2	Michaels, each	1
Kent Cobbs, 100 lbs.	65	0	7	Pine-apples, Eng., lb.	1
Melons, each				Strawberries, per lb.	1

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3
Beans, French, per lb.	0	6	8	Lettuces, per dozen	1
Beet, per dozen	2	0	3	Mushrooms, p. basket	1
Cabbages, per doz.	2	0	2	Onions, per bushel	4
Carrots, per bunch	0	6		Parsley, per bunch	0
Cauliflowers, English, per dozen	3	0	5	Radishes, per dozen	1
Celery, per bundle	1	6	2	Sea Kale, per basket	1
Cucumbers, each	0	6	9	Small salad, punnet	0
Endive, French, doz.	2	6	3	Spinach, per strike	2
Herbs, per bunch	0	2	4	Tomatoes, per lb.	1
				Turnips, per bun.	0

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4	0	6	Liliums in variety, 12 blooms	
Arum Lilies, per doz.	18	0	24	Marguerites, 12 bun...	3
Azalea, 12 sprays	0	9	1	Mignonette, 12 bun...	1
Bouvardias, per bun.	0	6	1	Parma Violets (French), per bunch	3
Camellias, 12 blooms	2	0	5	Pelargoniums, per 12 sprays	1
Carnations, 12 blooms	1	0	3	— scarlet, 12 sprays	0
Chrysanthemums, 12 blooms	0	6	2	Primula, double, bun.	0
Chrysanthemums, 12 bunches	4	0	12	— single, 12 bun.	4
Czar Violets (French), per bunch	1	6	2	Pyrethrum, 12 bnchs.	2
Dahlias, 12 bunches				Roses (coloured)	1
Daisies, common, per dozen	0	6	1	Roses, Tea per dozen	1
Epiphyllum, 12 blms.	0	6	1	Roses, red (French), per doz.	1
Eucharis, per dozen	4	0	8	— Saffron (French), per doz.	0
Gardenias, 12 blooms	6	0	12	Stephanotis, 12 sprays	4
Gladioli, 12 sprays				Sweet Sultan, 12 bun.	
Heliotropes, 12 sprays	0	6	1	Tropeolums	1
Lapageria, red, 12 blooms	1	0	1	Tuberose, per dozen	1
Lapageria, white, 12 blooms	2	0	4	Violets, 12 bunches	1
Lilium longiflorum				White Jasmine, bun.	0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	Ficus elastica, each	1
Asters, per dozen	6	0	12	Foliage Plants, vari-	2
Begonias, per dozen	6	0	12	ous, each	0
Bouvardia, per doz.	9	0	12	Fuchsia, per doz.	2
Chrysanthemums, doz.	4	0	18	Gladioli, 12 pots	0
Cyperus, per dozen	4	0	12	Hydrangea, per doz.	6
Dracena term., doz.	30	0	60	Liliums, per doz.	6
— viridis, per dozen	12	0	24	Marguerites, per doz.	6
Epiphyllums, per doz.	18	0	30	Mignonette, per doz.	4
Erica gracilis, per doz.	9	0	12	Palms in variety, each	2
— hyemalis, per doz.	12	0	24	Pelargoniums, doz.	6
— Regerminans, doz.	9	0	12	Pelargoniums, scarlet, per dozen	3
— various, per doz.	8	0	24	Petunias, per doz.	6
Evergreens, in var., per dozen	6	0	24	Primula sinensis, p.dz.	4
Ferns, in var., doz.	4	0	18	Solanums, per doz.	9

POTATO MARKET.

December 11th, 1886.—The ruling prices in the Station Yard at King's Cross during the week were as follows:—

	Beds.	BkLnd.	Lnclns.	Kents.	Yorks.
Magnums, gd. smpls.	55/-, 60/-	52/6	57/6	57/6	65/-
Regents do.	..	..	60/-	55/-, 95/-	75/-, 80/-
Beauty of Hebron do.	70/-, 75/-	..	70/-, 75/-	90/-	..
Heroes do.	..	..	60/-, 65/-	..	..
White Elephants do.	..	..	75/-, 80/-	..	85/-, 90/-
Celery do.	..	..	6/-, 8/-	per doz.	..
Savoys do.	..	..	4/-, 5/6	„ tally	..

During this week 320 trucks arrived at King's Cross, and 531 trucks were emptied; 39 trucks arrived this morning, and the total in stock to-day is 552 trucks.

Trade is very steady; a decided improvement is expected now, in view of Christmas. Trucks should be well covered with straw now, as a good many in the yard have lately severely caught the frost.

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PRIMULAS, in four finest fringed varieties; strong blooming plants, in $\frac{1}{2}$ -in. pots ... 4s. & 6 0

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The Gardeners' Royal Benevolent Institution.

NOTICE is hereby given that the Annual General Meeting of the Subscribers of this Institution will be held on Friday, the 14th January, 1887, at "SIMPSON'S," 101, STRAND, W.C., for receiving the ACCOUNTS and the REPORT OF THE COMMITTEE for the present year, and for electing officers for the ensuing year. Also for the Election of FOUR PENSIONERS on the Funds of the Institution.

The chair will be taken at THREE O'CLOCK PRECISELY.

The Ballot will close at Five o'clock precisely.

By Order, EDWARD W. CUTLER, Secretary, 50, Parliament Street, London, S.W. 23rd December.

N.B.—The Voting Papers have all been issued; any subscriber not having received one is requested to notify the same to the Secretary.

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National Chrysanthemum Society, Royal Aquarium, Westminster.

THE MID-WINTER EXHIBITION will be held on Wednesday and Thursday, January 12th and 13th, 1887.

CHRYSANTHEMUMS, CYCLAMENS, PRIMULAS, SOLANUMS, &c., &c.

Schedules and all particulars (free) of Mr. WILLIAM HOLMES, Hon. Sec., Frampton Park Nurseries, Hackney.

Miscellaneous Exhibits invited for Special Awards.

Shepperton & Thames Valley Horticultural Society.

THE FOURTH ANNUAL SHOW will be

held at Sunbury Court, on Thursday, June 30th, 1887. Open prizes for Roses and Orchids. Schedules and particulars to be obtained of EDWARD RUTTER, Hon. Secretary and Treasurer, Shepperton-on-Thames.

Birmingham & Midland Counties Chrysanthemum Fruit and Floricultural Society.

THE TWENTY-SEVENTH ANNUAL

EXHIBITION OF CHRYSANTHEMUMS will be held in the Town Hall, on Wednesday and Thursday, November 16th and 17th, 1887. Schedules are in course of preparation, and will be forwarded, when ready, on application to J. HUGHES, Secretary, Metchley Lane, Harborne, Birmingham.

Next Week's Engagements.

WEDNESDAY, Dec. 29th.—Sale of Hardy Plants and Bulbs at Stevens' Rooms.

THURSDAY, Dec. 30th.—Sale of Lily Bulbs from Japan at Stevens' Rooms.

FRIDAY, Dec. 31st.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, Jan. 1st, 1887.—Sale of Hardy Plants and Bulbs at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 25, 1886.

EXEUNT 1886.—With the present number of THE GARDENING WORLD we bid adieu to the year 1886, for when our next issue is put before our readers we shall have entered into another—the Jubilee year of Her Majesty's reign. We need not now pause to anticipate the nature or prospects of that year, as far as gardening is concerned; but being hopeful that the disturbing influence which so seriously affects trade, and especially Agriculture, may have passed away, we may at least anticipate that under its auspices gardening may still continue to increase and flourish.

During the past year, in spite of some adverse circumstances, it cannot be said that gardening has suffered in any appreciable way; though as regards the introduction of new plants, new fruits or new vegetables, the number of sterling novelties which have been brought forward has been considerably below the average; and this is a matter of some importance, because novelties the great mass of garden lovers are always on the look-out for, and will have if they are attainable. Perhaps the most important feature of horticultural interest during the year was the endeavour, on the part of the Royal Horticultural Society, to re-establish its once admirable series of provincial exhibitions, by promoting one on an unusually extensive scale

at Liverpool last summer. The effort was not only well intended, it was an ambitious one; but unhappily failed so utterly, that we cannot hope to see any provincial shows held under the auspices of the society again, much as we should like to see the society go to the provinces every year as the Royal Agricultural Society does.

Within its own immediate domain, the Royal Horticultural Society has been, with the assistance of the Colonial Exhibition Commissioners, doing useful work at South Kensington; its series of shows held there during the year—and especially the later ones—showing not only remarkable success, but also exceptionally high quality in the products displayed. The Fruit and Floral Committees have done much to re-habilitate themselves in the estimation of the gardening community, though the feeling undoubtedly still exists among provincial horticulturists that the interests of the provincial nursery and seed trade are not sufficiently represented on either of those bodies. Still, we have no hesitation in saying that whatever may happen to the society in relation to its domestic arrangements, at least it will never lack reputation so long as it maintains its Fruit and Floral Committees, and does its utmost to secure the confidence of the horticultural world in those bodies. Ordinary exhibitions are good, and gardeners rarely tire of them; but, still, the honorary exhibitions created by the labours of the Fruit and Floral Committees are of exceeding interest, and we sincerely hope will be not less so in years to come than they have been in the past.

It is easy to aver that the committees make mistakes, but then there exists no mortal bodies of a similar character who are infallible. On the other hand, there is so much careful and meritorious work done by these honorary bodies, that even for their maintenance alone, if for nothing else, the Royal Horticultural Society merits the respect and support of the gardening community. We know well the good and useful work it does, and cordially wish it well out of its present difficulties, especially as regards its London habitation. Happily, South Kensington is no more London than London is England, and if South Kensington fails, other places may be found where the society will find shelter; and heartily glad should we be for a change, for we have no faith whatever in the South Kensington connection bringing any prosperity to the society.

In most other parts of the kingdom horticultural societies seem to have fairly well prospered, and there does not appear to have been any special lack of support shown towards them on the part of the public. Flower shows in their remarkably varied aspects have become recognised public institutions, and we can but wish for them all a prosperous year in the one which will so soon be with us. To gardeners, on the whole, the passing year has not been altogether ungenerous. If we have had some bad weather, we have also had very much that has been truly pleasant and delightful; and under such benign influences, gardening has been very enjoyable. Crops, generally, have been very good, and market growers have found them to have been almost too abundant, the market returns being relatively so poor. Still, there has been plenty for the poor, as for the rich, and that has been consolatory. We will not attempt to dive into the future of market gardening, and its ultimate position in relation to ordinary trade. It will be pleasant if, after the close of the following year, we can report good crops and remunerative prices, because we wish to see all the trade thrive and prosper. Not only does a big prosperous trade mean wealth to the grower, it means also ample employment for the labourers, and plenty to the vast body of consumers.

Beyond the fact that some fruit crops were exceptionally good, we cannot place the passing year higher than as of a good average character in all things. The weather has, indeed, been of fairly even character, with very little that was of a phenomenal nature. Gardening thrives best under average weather, and any sensational meteorological features rarely conduce to its welfare. It is interesting to be enabled to mark a year for its exceptional heat and drought, for its coolness or lowness of temperature, or for its storms and tempests, its frosts and snowfalls. But visitations of this kind, if remarkable, are undesirable; and, therefore, it is far pleasanter to refer to the year's weather as being of a fair average rather than of an exceptional character.

With 1886 there have disappeared from the gardening muster roll not a few men who made, during their lives, honourable entries on its pages. Their memories we cherish, feeling sure that no monuments mortals can erect to them can excel in fitness that monument of warm esteem which is found in the human heart. Even the poorest in his sphere has left footsteps on the sands of time, in which the rising generation of gardeners will do well to walk. If the young can make as good men and gardeners as some of those who have so recently passed away, they will do well; it will be hard, indeed, to excel them. Whilst not a few cherished friends and faces have passed away, others have sprung up, and, in a sense, filled their places; and so is it said of Father Time, that men may come and men may go, but he lives on for ever.

The number, 121, on the front page of our issue to-day, shows that THE GARDENING WORLD has passed out of the stage of babyhood, and is fast growing into the age of robust youth. The passing year has not been unkind to it, and we have no reason to resent its conduct towards ourselves. Slow and sure is an excellent motto, and it invariably means increasing prosperity and inevitable success. That such is the destiny of THE GARDENING WORLD we feel assured, and in wishing our readers a happy Christmas, we realise that on their part the wish to us is heartily reciprocated.

H.R.H. THE PRINCE OF WALES has been elected an honorary member of the Linnean Society.

MR. GEORGE GOODFELLOW, who was for many years gardener to the Honble. Mrs. Mure, Caldwell, Ayrshire, has succeeded Mr. Macdonald as gardener to E. A. Stuart Gray, Esq., Kinfauns Castle, Perth.

THE exhibitions of the CHISWICK HORTICULTURAL SOCIETY for 1887 will be held as follows:—Summer Show, July 14th; and Autumn Show on Nov. 17th.

WE have received from Messrs. JOHN WEEKS & Co., King's Road, Chelsea, one of their Horticultural Pocket Books with Diary for 1887. A serviceable and useful present for a gardener.

MR. H. PEWTRESS, late of Waddesdon Manor Gardens, Aylesbury, has succeeded Mr. R. G. Waterman, as gardener to Alfred Tate, Esq., Roseleigh, Woolton, Liverpool. Mr. Waterman is seeking another engagement.

MR. W. BRITAIN, late of the Royal Horticultural Society's establishment at South Kensington, has been engaged as gardener to Lady Pollock, at Hatton Park, Feltham.

IN the eleven months ending November, the total number of gardeners, florists and nurserymen gazetted BANKRUPTS, was sixteen, as compared with fifteen during the corresponding period of last year.

MESSRS. SUTTON & SONS, Reading, have just issued their POCKET GARDEN CALENDAR for 1887, a neatly got up and useful little pocket reference for amateurs.

THE FIRST FLORAL EXHIBITION OF 1887 will be that held by the National Chrysanthemum Society on January 12th and 13th, at the Royal Aquarium, Westminster. The executive of the society being laudably desirous of encouraging the production of

good Chrysanthemum blooms in January, offer money prizes in seven classes for cut blooms, besides Certificates for new or rare varieties, and it is sincerely hoped that all who have blooms will do their best in assisting to make the show a success. We may add also that the Royal Aquarium Company offer prizes for Cyclamens, Primulas, Solanums, Hollies, Ivies and Conifers in pots, tubs or baskets, and that schedules may be obtained from Mr. W. Holmes, Frampton Park Nursery, Hackney.

THE NEW CATALOGUES.

MESSRS. JAMES VEITCH & SONS' new seed catalogue contains a coloured plate of some fourteen varieties of Chinese Primulas. They also announce a novelty in *Zinnia elegans robusta grandiflora plenissima* (Phœbus, what a name!), a Continental novelty which grows in the form of large bushes 3 ft. high, with flowers 5 in. and 6 ins. across. Another floral novelty is a new perpetual ten-week Stock named Princess Alice, a variety of good branching habit, and pure white. In the vegetable section we note the new Mammoth Scarlet Runner Bean, a most desirable acquisition; the Chiswick Favourite Potato, a new round white, which came well out of the ordeal of trial at Chiswick; and the four new Peas Prodigy, Chelsea Gem, Sturdy and Gladiator, all of which have been highly tried and found worthy of recommendation.

MESSRS. JAMES CARTER & Co.'s *Vade Mecum* for 1887 is as bulky as ever, and contains showy coloured plates of various flowers, vegetables, &c., besides a host of engravings, and a large sheet representing their new Pea "Anticipation," natural size. Amongst other novelties, we notice a new Pea named Lightning, which the firm considers "the earliest Pea in the world"; the Jubilee Runner Bean, "the largest-podded variety in cultivation"; a new Beet, named Crimson Ball; the Phoenix Kale, "a winter necessity for gardeners"; the new Tennis Ball Onion; Carter's Cetwayo, a veritable black Potato, both in skin and when cooked, &c. The firm's Tobacco field, in Kent, is also spiritedly illustrated.

THE novelties of which MR. WILLIAM BULL offers seeds for the first time include two of Mr. Eckford's seedling Peas, Magnificent and Victor, the first named of which has received the First Class Certificate of the Royal Horticultural Society; five new sweet Peas, viz., Duchess of Edinburgh, Imperial Blue, Isa Eckford, Orange Prince and The Queen; the handsome and elegant *Aristolochia elegans*; the Sikkim Rhubarb, *Rheum nobile*, a very remarkable plant; and *Pyrethrum aureum selaginoides*, &c.

MESSRS. SUTTON & SONS' *Amateur's Guide on Horticulture* for 1887, which reached us on Wednesday morning, is the finest of the long series of annual seed catalogues which they have issued. For style and beauty nothing better could be desired, for it is, in all respects, admirably turned out. The coloured plates represent beautiful strains of double Petunias; double and semi-double Chinese Primulas; three new Potatos to be sent out next season, and named respectively Sutton's Twenty-one, Thirty-six and Forty-four; two new Peas, "Royal Jubilee," offered now for the first time, and Satisfaction, one of the 1885 novelties; and half-a-dozen varieties of Lettuces, Cos and Cabbage. The work is also profusely illustrated with excellent engravings, specially noticeable being those of the Michaelmas White Broccoli, the new Onion Abundance and the Imperial Green-fleshed Melon.

MESSRS. JOHN LAING & Co.'s new catalogue contains novelties in flower seeds, besides well-selected lists of annuals, vegetable seeds, &c. In the plant section, the lists of general stove and greenhouse plants are well chosen; the florists' flower lists are select and good; while the list of named Begonias, mostly of their own raising, is very complete.

The spring catalogue issued by MESSRS. WEBB & SONS, Wordsley, Stourbridge, is one of the handsomest of the annuals that have yet come to hand. It has all the appearance, at first sight, of a Christmas Annual, but displays an amount of artistic elegance and finish that would put many of those publications to shame. The design of the cover is exceedingly tasteful, and the two coloured plates by Severeyns, of Gloxinias and other choice strains of flowers, are admirable examples of colour printing. The colouring of the Gloxinias and hybrid varieties of *Mimulus* is most vivid. We note the appearance of several novelties, especially in the vegetable section, of which good illustrations are given; and for the amateur who has not much practical knowledge, the various pages contain information of a helpful and instructive character.

IRIS TINGITANUM.

WHEN calling, in June last, at Mr. Barr's establishment, King Street, Covent Garden, he showed me a nice lot of bulbs of this Iris, which Mr. Brooks, who had just returned from Tangier, had brought to him. Mr. Barr very kindly gave me half a dozen bulbs to try. These were planted in good compost close under a south-west wall in September, and very soon after showed growth, which developed so rapidly that by the first week in November bloom was visible. Coming at so late a period, it was necessary to protect the blooms with a sash and mat.

I despaired of its maturing, as there had been already 10° of frost. Early in December it began to show colour, and soon opened. In growth this resembles the English Iris; but the bloom is more like that of the Spanish Iris, being in size about that of *Iris lusitanica* "Thunderbolt." The bloom, a singularly beautiful one, is in colour shaded light blue and purple, with a white lip and golden spot. It has been figured in the

1872, but under what conditions we do not know. The flowers are of a brilliant violet-purple colour, with a rich golden yellow disc.—ED.]

LADY BEATRICE LAMBTON
PINE APPLE.

UNTIL I saw this Pine Apple in the *Dictionary of Gardening* included in a list of the best varieties, and there spoken of as "likely to prove under good cultivation one of the best for general use," I had come to the conclusion that it was not thought well of. It is not within my province to attempt to criticise anything that is written in the above work, neither do I wish to condemn this fruit because I have not succeeded in growing it well. At the same time I do not think it deserves to be ranked amongst the best kinds, nor do I believe the opinion expressed respecting it will be realised. My object in writing is to speak of it in accordance with our own experience, and to try to elicit from those who may have succeeded with it, what the

This is the point on which I am sceptical. I question if the mode of culture is in practice, or forthcoming, that will obliterate this imperfection, which appears to be inherent in the constitution. By maintaining a dry atmosphere, and keeping the plants dry at their roots for a time before they commence to colour and while they are finishing, might be beneficial; but I doubt if it will wholly remedy the evil.

This variety was, I observe, raised in 1860, and has been some years in commerce. It is remarkable, being a very large fruit, that it has not been exhibited—I believe am well within the mark in saying—half a dozen times. Probably, it has been pretty generally tried, too, and by most of the exhibitors, for, as a rule, they are on the outlook for new subjects, being aware of the weight which novelties, when deserving, carry with the majority of judges. The only fruit I have noticed as being exhibited was that in the collection which was awarded the first prize at the Shrewsbury show, last autumn, and of this it was stated that it almost caused the tables to be turned against Mr. Roberts, the exhibitor. From this there is not much encouragement to try to grow it well.—*Mon.*



IRIS TINGITANUM.

Botanical Magazine.—J. T. Poë, Riverston. [Our illustration was prepared from a flower sent by Mr. Poë, whom we congratulate on his success in blooming a plant of great beauty and considerable interest. It may be added that Mr. Barr received the roots in question from an English gentleman, Mr. Brooks, who regularly resides at Tangier during the winter months; and as other roots out of the same parcel were sent to Glasnevin, and to the Trinity College Botanic Garden, Dublin, and some were planted at Tooting, we may hope to hear more of the plant, which few have succeeded in flowering. It is figured under the name of *Xiphion tingitanum* in the *Botanical Magazine*, t. 5981, and Sir Joseph Hooker states that during his visit to Morocco, in company with Mr. Ball and Mr. Geo. Maw, the party first saw it on the dinner table of His Excellency Sir J. Hay, at Tangier, in whose garden the specimen grew. Sir John Hay stated that it was found wild not nearer than ten miles south-west of Tangier, at Laraish, and Mr. Maw made two excursions into the locality in search of it. On the second visit he was successful in finding it, and specimens from this source, as well as from Sir J. Hay's garden, were sent to Kew, where they flowered in May,

routine of cultivation is that is necessary to get it in good condition.

By succeeding with it, I must not be understood to mean the growing of one or two perfect fruits out of a dozen or more, but success similar to what is easily obtained with Charlotte Rothschild, Smooth Cayenne or the Queen. It is large and well-flavoured, and on that account well worth any special treatment that would bring it to perfection. We have not attempted anything in this way, having simply cultivated it as we do the Smooth Cayenne and Charlotte Rothschild, and I may remark that the treatment that produces these two (somewhat easily grown kinds I admit) from 8 lbs. to 9 lbs. each, and in other respects satisfactory, does not meet the requirements of Lady B. Lambton.

What we have to complain of is the way in which the pips discolour and decay, a defect which commences before the fruit is ripe, and gives to it a most unwholesome appearance. The discolouration, however, does not penetrate deeply; on cutting fruits through, we found their flesh clear and of good flavour. Now, as previously stated, the size and flavour being all that can be desired, if extra pains in the culture will rectify the blemish, it will be well worth the care involved.

CHRISTMAS FLOWERS.

"TIME's revolving wheels" having brought round the Christmas season once more, I thought that it would be interesting to note what were the flowers in season at this time of year; and, further, being in the neighbourhood of Slough, I fancied I could not do better than call at the Royal Nursery. Securing Mr. Arthur Turner as my pilot, I was informed by him that the development of the cut-flower trade has been something wonderful of late years; and now, although almost everything they could do in the way of furnishing flowers was done, yet they had to buy many in addition to what they grow, and especially so during the week or ten days preceding Christmas. Flowers are largely wanted for church decoration, for Christmas presents, and for memorial wreaths, and of the latter they not only make them up, but see that they are placed in Kensal Green and other cemeteries, doing this for persons who live at a distance. Not only are cut flowers wanted, but plants in bloom also; and so a good deal of forcing, as well as retarding, autumn-blooming plants is necessary. In all departments of life, almost, flowers have come to play an indispensable part; and if the undertaker loses by the tendency towards funeral reform, the florist is a decided gainer.

First in order came a long, low span-roofed house, with hundreds of plants of *Chrysanthemum Princess Teck* planted out on a low border to flower at Christmas. They were raised from spring-struck cuttings grown on and planted out in the open ground in April, and lifted into the house during the last week in October. This is a valuable late-flowering variety, and it had produced large crops of flowers. Just a little warmth was being given to keep the damp away. In an intermediate house was a batch of one of the best of white *Azaleas* for forcing—*Deutsche Perle*, fine, semi-double and very free. Of this variety it can be honestly said, "it should be in every collection." Here were a number of Christmas Roses in pots, of that early form known as *Angustifolius*, the flowers of which are of a snowy whiteness when forced. Here were *Bouvardias* also in variety, all flowering; some *Tuberoses*, the very latest of the summer batch; some plants of *Choisya ternata*, yielding bloom; and some little bushy plants of *Aucuba japonica*, bearing dense crops of berries; they were not more than 9 ins. in height, and having been artificially fertilised, were laden with berries. Next was a batch of the Italian paper-white *Narciss*; and some red, white and yellow *Duc Van Thol Tulips*; also white *Roman Hyacinths*, and plants of *A. mollis* coming on into flower. Mr. Arthur Turner said that the flowers remained longer on English plants that had been established for a time in pots, than on those that are fresh imported from the Continent. Near by was a batch of *Richardia Æthiopica*, with their large trumpet-shaped spathes; and plunged in a bed of Cocoa fibre, were some pots of *Hyacinths*—three in a pot—that had been brought on in the usual way, and over each trio was inverted another pot, which serves the useful purpose of drawing up the spikes of bloom further than they would otherwise come; the upper pot is removed when the spikes have reached three parts of the way up it.

Next was a house of *Camellias* coming on into bloom; some fine flowers of the double white were already

expanded. Mr. Turner states, that Camellias will not bear much forcing, as their buds fall off so, while the flowers are quite as valuable late as they are early. In another house could be seen a capital lot of Poinsettia pulcherrima; their scarlet bracts rich in colour. In another house were Chinese Primroses, double and single, the former including the double purple and the double white, and a pale rosy purple seedling; of the latter there were some excellent varieties. By these was a batch of Heliotropes, emitting a delightful fragrance; they were spring-struck cuttings in large 60-sized pots, and in the generous warmth they were flowering freely, and were found very useful for cutting purposes. Here, also, was another group of Bouvardias in flower, including the new double crimson variety. In another house were the last of the Chrysanthemums, and I imagine from what I have seen, and what I hear, there is much greater difficulty in keeping Chrysanthemums this winter than last. The mild weather during October, no doubt, brought them on very rapidly at the time, and as the racing men would say, "they have been deficient in staying power."

Lastly came the winter-flowering Carnation house. If it were not that cut flowers were in so great demand that they are compelled to gather the blooms before anything like a general display can be secured, this house would have been very gay. That tree Carnations will bloom in mid-winter there can be no doubt. First of all a large batch of seedlings that were lifted from the open ground in October, and potted up to perfect their flowers under glass. Mr. Turner said that fully 90 per cent. of these had double flowers, and that there were few really inferior ones among them. Then there is a large batch of named varieties, and these were producing numbers of flowers on strong plants. But success in winter-flowering of these is to a great extent a question of early striking of cuttings; the sooner they can be struck in March the better. Of that there can be no doubt. I may add that only sufficient fire-heat is given to prevent harm from damp, and to keep out frost.—R. D.

THE "GREEN FRUIT" TRADE.

UNDER the shadow of the Monument, not long since, a man, perched upon a mass of brickwork, steadily, with each stroke of his pick, knocked away the bricks from beneath his feet. The labourer was engaged in demolishing buildings which had in part stood since the great fire of London, and which were last used as fruit warehouses. Room was wanted for the new street, and so they had to come down. Some time prior to 1769, cut in stone against a house in Pudding Lane, there was an inscription recording that "here began that dreadful fire," which the same tablet ascribed to "the malicious hearts of barbarous Papists"; but the annoyance produced by idlers gathering round the house to read the writing upon the stone, led to its removal. In some neighbouring cellar, it is said, that relic lies forgotten. The house itself has not survived the wholesale destruction which has taken place in Pudding Lane during the past year, and the only clue to its site is the Latin inscription upon the pedestal of London's "tall bully," which says that the great conflagration which devastated 436 acres in 1666, broke out 202 ft. eastward of the column.

It is in this historic quarter, hard by Billingsgate, and intersected by Fish Street Hill, that the green fruit trade of the metropolis is carried on. A bird's-eye view from the Monument affords much to engage and bewilder the eye. There is a medley of tortuous and narrow lanes, with an expanse of unpicturesque roofs, bounded on the one side by the modernised Eastcheap, on another by the ever busy approach to London Bridge, and on the south by the muddy current of the Thames. In Monument Yard there are vans, carts, barrows, horses, ponies, donkeys, men and boys in apparently inextricable confusion. Running out and in, diving into alleys, emerging from dark openings, a crowd of human ants, each laden with his store, pass from van to van in one scarcely ever-ending procession.

SHOULDER-KNOT PORTERS.

Grains of Corn these busy people do not carry, but barrels, boxes or cases, cleverly balanced upon their heads and shoulder-knots. You may see them bringing the packages ashore from the black and red steamers which sound their shrill whistles at the wharves, and the sight is always an attractive one to the loungers upon London Bridge; they never seem tired of watching the

cranes drag from the vessel's hold the trim chests bursting with their golden contents; and it is amusing to note the rapidity with which each case is seized by the waiting porter, who, with sure foot, nimbly speeds with it down a narrow plank, and thence, by ladders, cautiously descends to the quay. One man promptly succeeds another—let the procession once stop and collision seems inevitable. Like boys upon a slide, the safety of all rests in keeping the game going; and they say that qualities of body and mind are required to fit a man for this kind of labour which are not possessed by all. Whatever the state of the wage market may be, there is nearly always a greater demand for shoulder-knot porters than there is a supply.

These men accomplish some smart feats. One Saturday afternoon recently, a schooner, one of three ships dealt with in like manner arrived in the Thames with 2,000 cases aboard. In six or seven hours the whole lot was deposited in the warehouses, and necessarily on a short December afternoon very little of the work had been despatched by daylight. The cases were landed at Fresh Wharf. A stranger who ventures into this locality may be pardoned if he wanders in mistake upon the staging of St. Katherine's adjoining, but if he sees fruit there he may be told that it is German "soft" and not "green," and it is intended to be sold not in Pudding Lane, but at Covent Garden or on the spot. Similarly, there are other wharves close by, which more properly belong to the dried fruit and to the Tea trades. The steamers which bring our Oranges and Grapes from sunny Spain or more favoured St. Michael, are generally berthed alongside Fresh and Nicholson Wharves, and hemmed closely between them are cumbersome lighters, which have conveyed goods from the docks further down the river. Drays belonging to the several railway companies are backed up close to the water's edge. How they have got there is not at all clear, nor is it easy to say how they will get out, for the surrounding storehouses, dark and towering, provide at first sight no means of exit from the yards. But a closer inspection presently discovers tunnel-like approaches, through which may be seen a vista of a crowded street beyond.

THE GREAT WAREHOUSES.

There are other gullets, many of them new lined with glazed bricks, which swallow up the porters as they quit the wharves. Following them we come upon a maze, in which, without a pilot, one would speedily lose his way. Lofty buildings, sheds and cellars are utilised similar to each other; indeed, it is the likeness which the arrangements of one bear to those of its fellow, that adds to the risk there is of going astray. The walls are whitewashed, the partitions formed of rough scantling with wide gaps between each plank for better ventilation, and the stairs are steep, and well nigh perpendicular. There is a fruity atmosphere, whether it be on the fifth floor, or in the lowermost cellar. In one chamber hundreds of cases of Oranges are waiting the morrow's sale, another is stored with St. Michael's Pines in boxes, a third with Nova Scotian Apples in barrels, a fourth with bags of Redan Chestnuts and Greouble Walnuts, and a fifth with Spanish Onions. Passing from one vault to another there is suddenly heard the rumble of traffic overhead. We are in the cellars formed by the lower range of arches which constitute the foundations of London Bridge on the Middlesex shore; and as we go from arch to arch, a sharp look-out is necessary to avoid a contusion from a corner of a case borne on the head of a perambulating porter, who sings out by way of warning "Head's up."

Very necessary these vast ranges of warehouses are to the green fruit brokers, though it is the theoretical rule of the trade, and at such a busy season as Christmas it is the practice, to dispose of the consignments a few hours after they arrive. For instance, the cargo of 2,000 cases, which has been already mentioned as having been discharged on the Saturday, was duly set down for sale by auction on the Monday following, and for delivery on the Tuesday; but it may happen that some parcels require to be kept for a while, although not for long.

SOME STATISTICS OF THE TRADE.

During the past season, dating from the first arrival on September 7th to the last on November 24th, there have been imported into London from Lisbon and Almeida 200,000 barrels of Grapes—that is to say, ten times the quantity which was imported twenty years ago. Ten days ago, the "remainder of

stock, ex sundry ships," were offered, and this aggregate was a little short of 20,000 barrels. This one item will give an idea of the magnitude of the business transacted. It would be somewhat misleading to quote the imports of Oranges for the present year, as from some cause the numbers have fallen much below those of 1885, and, in consequence, there is hardly the same activity roundabout the Monument as at last Christmas.

But it is interesting to observe the vast augmentation which has taken place since sweet and sour Oranges were first sold by the candle at Garraway's Coffee House, in Change Alley. Brokers' catalogues, dated 1776, are yet preserved, in which the Spanish Oranges were classed as "sour" and "China," a distinction which is still retained, the sour meaning bitter—such as marmalade and wine-makers use—and the China being the sweet for eating. Statistics have been kept of the imports of the latter only, and to take 1884 as a specimen year, of 805,000 cases of "Chinas" sold in London, the bulk, 625,000, came from Spain, and of the remainder, St. Michael's, in the Azores, sent 80,000, the rest coming from Portugal and Sicily. Apples from America and Canada have been arriving in huge quantities, and the consumption of Cocoa or "Coker" Nuts is enormous; for not less than 10,000,000 are annually brought in London, and quite lately a ship with 340,000, and another with 305,000, were in the docks. Of Spanish Nuts there are enough and to spare, and the cargoes in bulk range from 1,800 to 6,000 bushels, which have been conveyed from Gijon in the holds of small Devonshire craft.

THE METHOD OF SALE.

By what system are these immense imports sold? The question is easier to answer than might be imagined. The wholesale green fruit trade is practically confined in the first instance to four firms of brokers. In years gone by each broker sold on his own premises, but three or four years since a limited liability company was formed, and a magnificent sale-room erected by it in Monument Yard. On sale days, which are frequent, the rostrum is occupied from 11 a.m. until sometimes 7 and 8 at night by the four firms, each taking their turn of about two hours. The privilege of selling first and the disadvantage of selling last are evenly allotted, a "share and share" alike principle being enforced by the expedient of altering the rota each month. A broker may have on his catalogue from 10,000 to 12,000 packages to knock down at the hammer each day, so that it needs pretty rapid work to accomplish the task. Such a catalogue would be divided into about 500 lots, varying in description according to the article. The catalogue gives these and other particulars: (1) the import mark or brand; (2) the name of the ship; (3) the docks or warehouse where the fruit is waiting delivery; (4) the nature of the package, and whether to be sold by weight or bags or cases (or if Cocoa Nuts by the 100); (5) the number in each lot.

Armed with his catalogue, the buyer proceeds to the several show rooms, where he may see Malaga Figs in "frails"; Persian Dates in boxes; Turkey and Cocoa-nuts in bags; Chestnuts and Walnuts in ditto; St. Michael's Oranges in flat boxes; Valencia Oranges in cases; Spanish Onions in cases; and American Apples and Almeria Grapes (in cork dust) in barrels. A St. Michael's box of Oranges weighs from 1 cwt. 12 lbs. to 1 cwt. 20 lbs.; and Valencia cases from 1½ cwt. to 1¾ cwt.; but a Valencia case of one size may contain 420 large Oranges, 490 a little smaller, and 714 smaller still. The St. Michael's fruit is wrapped in Maize leaves, and Spanish in white tissue or fancy-coloured wrappers. In the show rooms there may be to-day displayed a vast quantity of Onions, to-morrow a great array of Apples, with the heads of the barrels knocked off; and in other rooms may be viewed Grapes, shot out of the barrels upon low staging, representing perhaps 3,000 or 4,000 packages. It is in the improvement of the show rooms that the latest development of enterprise is most discernible, and their erection has, to a large extent, accounted for the architectural improvement of Pudding Lane. Those of Messrs. Keeliug & Hunt in Botolph House are very large, well ventilated, and what is the greatest recommendation of all, splendidly illuminated, not merely by the aid of gas jets which give light at any angle required, but by reflected light from the walls, which are tiled, and which with the ceilings are of the purest white; for, as Mr. Knott, the firm's courteous representative remarks, "light in judging fruit is a great essential."

THE FRUIT SALE ROOM.

From the show-room to the sale-room, with his catalogue properly annotated, is but a step for the fruit merchant, fruiterer or costermonger, and the latter class of buyers is by no means the least important or the least esteemed. Costermongers, as a body, deserve the praise which the late Earl of Shaftesbury was never tired of bestowing upon them; they are keen judges, prompt payers, and good business men. Temporarily, the fruit sale-room is now entered from Pudding Lane, the passage from Monument Yard being closed whilst there is any danger from falling bricks to be feared. By this latter entrance it is necessary to ascend a flight of stairs, which leads to the upper tier of the amphitheatre, the seats being arranged in this form. The room, or hall, is oblong in shape, and what with oak panelling, crimson curtains in the alcoves, and silver-grey tinted walls, it has quite an aristocratic appearance. It is far more imposing than the Commercial Sale Rooms in Mincing Lane, and not less handsome than the Stock Exchange in Throgmorton Street, although, of course, far less spacious. In the well of the amphitheatre, and cutting it into a semi-circle, is placed the rostrum, which, in this case, is not a pile of boxes with a rough moveable desk at top, but a broad gallery of such a height that the auctioneer and his assistants have full command of every corner, and are able to detect every strange face. As there is no necessity for a second showing of the samples, the attendant litter of unpacking is avoided, and there is no check upon the putting up of the lots as quickly as may be desired. Without a catalogue it is in vain to attempt an understanding of the transactions which succeed each other with marvellous rapidity. No time is lost in puffing goods, nor in "nursing" bidders; and there is less of market chaff than at Covent Garden. Yet a very quick eye is needed to discover the buyers, for here, as elsewhere, they are sometimes "tricky." But what strikes the observer most, is the decorous behaviour of the costers, the attention which they pay to the prices made, the carefulness with which they record them on their catalogues, although this is hardly required, for at the close of each day a second edition of the catalogues are printed, and in these are inserted the prices realised.

Close to the sale room there is an office at which purchasers pay for their lots, and receive the delivery notes; and in this apartment may be often noticed the well-known character, "Old Phil," whose fur cap, coloured neckcloth and long overcoat dragging to his heels, contrast strangely with his profuse jewellery. His iron-grey hair fringing his skull beneath his cap, his lantern jaws and sunken cheeks, his strange tongue, combine to make him appear to the fancy as some land-born Vanderdecken, and mayhap the Oranges which he sells have, for his customers, a more luscious flavour than fruit retailed by less mysterious-looking hawkers.

GARDENING NOTES FROM SCOTLAND.

Galashiels Horticultural Association.—

At a largely attended meeting of this Society on Saturday last, the 18th, the Rev. Dr. Gloag read an interesting paper on British Ferns. The Rev. Doctor, who is an ardent admirer of all nature's works, takes a special interest in Ferns, and has eagerly sought for, and, when found, duly prized, some of the rarer varieties of British Ferns.

Dr. Murray then followed with a lecture on "How to supply a moderate-sized family all the year round with fresh vegetables from a plot of ground 12 yards square." The doctor began by drawing attention to the fact that in many small gardens the entire space is devoted to Potatos, late Turnips, late Cabbage, Leeks and Onions.

He said in a small garden, such as he was describing, it was nonsense to have Potatos, as they could be obtained, better than they could be grown in garden ground, from the produce of the field. He said late Cabbages of a monstrous size were a great mistake, and could not be eaten in less than two or three days by an ordinary family; and, in consequence, the virtue of freshness was wanting in at least a portion of them.

Late Turnips and big Onions could easily be bought, and do not come into the category of vegetables that

needed to be, or ought to be, eaten when pulled or cut. What the doctor would like to see is a proper arrangement and system of cropping and rotation, whereby a small piece of ground might produce all such vegetables as Peas, Beans, Cauliflower, early Cabbage, early Turnips, Carrots, small Onions, Beet, Parsnips, Celery, Rhubarb, Greens, Brussels Sprouts and Leeks.

By the aid of a large diagram, the doctor showed how he would place the different vegetables in the plots of ground, the different space required by each, and rotation of crops.

All the vegetables were recommended to be grown in lines running north and south, so that the most benefit would be derived from the sun. Dr. Murray, who is a keen amateur gardener, entered very fully into the various kinds of vegetables best suited for such a piece of ground as he was referring to, and remarked on the best times for sowing, &c. Altogether the lecture was very interesting, delivered with marked ability, and in a manner that showed the very keen interest in gardening that the doctor takes.

It is to be hoped that his efforts to improve the gardening in and about Galashiels, in regard to a good supply of fresh vegetables, in greater varieties than most people attempt who have only a small piece of ground, may be successful. It has been said, that "the man who makes two blades of grass grow where there was only one before, is a benefactor to the race"; I think it may be said of Dr. Murray, that if he causes a more varied and more wholesome lot of vegetables to be grown in and around Galashiels, he is a benefactor. In most towns, and also in country gardens of the cottager class, there is often to be seen a great want of variety, and a very poor succession, if any at all, of vegetables. Such a lecture as Dr. Murray gave would be extremely useful, if read and thought over by many, who, possessing a small plot of ground, either from want of knowledge or want of interest, do not make as much of the ground as they might.

It is to be hoped that an improvement may soon be noted in this respect; and such advice as given by Dr. Murray is, undoubtedly, valuable, and goes a long way towards enabling all who want to improve to do so.—*J. Thomson, Clovenfords.*

North of Scotland Horticultural Association.—The usual monthly meeting of the North of Scotland Horticultural Association was held on Friday evening, the 17th inst., in the hall of the Christian Institute, Aberdeen. There was a good muster of members, and the president, Mr. A. Robson, occupied the chair; Mr. A. Gillespie, Aberdeen, and Mr. Peter Elder, gardener, Daneston House, were admitted new members. Papers were then read on novelties and specialities in fruits, flowers, vegetables and plants. Mr. J. Wilson, Charleston Gardens, led off with the first paper on rare vegetables, followed by Mr. A. Grigor, Sunnybank, on a similar subject; the secretary read a paper sent by Mr. R. Farquhar, Fyvie Castle, on Potatos. Discussion followed the reading of the papers, in which many of the members took part, and at the close the authors of the papers were warmly thanked. Mr. Robert Mortimer, Aberdeen, then opened a discussion on fruit, with some very intelligent remarks. At the close of the proceedings, which were wound up by a vote of thanks to the president for presiding, the members had an opportunity of inspecting some beautiful specimens of Chrysanthemums, plants and vegetables, which were forwarded for exhibition. This meeting makes the last one for 1886; and among the papers which are to be read at the meetings of the association in the coming year are essays on botanical geography, herbaceous plants, worms, formation of lawn-tennis grounds, amateur Grape growing, &c., &c.

The Gros Maroc Grape.—I should be greatly obliged to any successful growers of this fine-looking Grape if they would kindly inform me how to cultivate it so as to render its quality fit for dessert. We have information enough of the fact that it suits the market men to grow it; but as far as I have ever seen it in shops its appearance was only fair, and not at all equal to what I have seen in private places. Its flavour, too, was never more than of third-rate quality, and such as no proprietor who has been accustomed to high-class fruit would care to eat. I have had exceptional opportunities of testing the quality of this fine-looking Grape, both north and south of the border, but have always found the primary quality—flavour—wanting.

Still, though one may have failed in attaining a high-class standard with this or any other Grape, that is no reason why we should altogether condemn it. I can get berries of immense size, colour beautiful, and bunches of useful weight, very compact, and suitable for sending to a distance; but the leathery skin, coarse flesh, and "Cider-Apple"-like flavour almost entirely divests it of value for tutored palates. In a Muscat house Gros Maroc compares most unfavourably with Gros Colmar and Lady Downes, which do well under such treatment. In a late mixed house Marocs are even worse flavoured than those in the Muscat house, the berries are smaller, but of average size, and the colour under such conditions is very beautiful.—*M. Temple.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

CHRISTMAS DECORATIONS occupy considerable attention for several days before the annual festival arrives, and though, of course, attention is concentrated on the adornment of rooms, yet some care must be devoted to the greenhouse or other structures which the amateur may possess. Visitors are numerous at this time of the year in many families, and if we are proud of gardens and plants it is only natural that we should try to display them in the best manner, as in some degree indicating our horticultural skill. Perhaps, too, some of our friends may be critics, who are themselves the possessors of carefully-tended gardens, and who would detect any deficiencies in our houses with slightly irritating acuteness. Thus, for our friends and ourselves, we make a special effort to render our floral attractions satisfactory, and there is little difficulty in the matter, as even if we had not grown quite sufficient for the purpose, winter-flowering plants are now so cheap that the expenditure of a few shillings supplies us with quite a stock of useful little specimens.

Cyclamens are now in capital condition, Primulas also furnish abundance of flowers, for as the earliest get exhausted we remove them, and fill their places with the successional plants. Ericas, of hyemalis and gracilis types, are particularly valuable, and it is well to have a plentiful stock of both sorts, as they last a long time in flower. Of larger plants, we have some Princess of Teck Chrysanthemums, which may prove very useful at Christmas time, both as decorative plants and for cuttings. Then, to furnish brighter shades of colour, Zonal Pelargoniums are freely employed, with a few Poinsettias for the back part of groups, banks or shelves. Carnations and Mignonette yield a pleasant fragrance, and their flowers are also useful for cutting either for bouquets or employment in vases or glasses. Richardias are very effective when employed judiciously, but if crowded amongst other plants their beauty is lost; they should be placed where their white spathes can rise above other dwarfier plants, either Palms or Ferns, with some brighter tinted plants to relieve the quieter tints. When seen peering out from amongst graceful foliage in this way the Richardias are very beautiful, and cannot be too highly valued.

At the warm end of the house we have our little group of Ferns and Orchids, the latter being now principally Odontoglossums; and near them we have another small arrangement of Bouvardias and Adiantums, with a few Cyperus and small Palms. This system is adopted throughout; instead of having long formal lines of one kind, the display is broken up into a series of small groups, which renders the house much more interesting and the appearance more tasteful. It is always easy in this way also to arrange the plants in the part of the house most suitable to them; those that need the most heat can be placed at the warmest end, and the more hardy at the coolest part of the structure. No ventilation can be given when the frost is as severe as it has been in the early part of the week, and careful attention to the heating arrangements will be necessary to ensure the plant's safety. Do not, however, allow the temperature to rise very high, or the plants will be greatly weakened, necessitating frequent applications of water. The chief endeavour must be to prevent the temperature falling below 40° at the lowest, and 45° is far better as a minimum where mixed collections like those named are grown. The common danger is that during the day the heat will be excessive, owing to the frequent attention the fire

receives; and that by early morning it will have fallen excessively low—possibly below the freezing point, and some of the plants are damaged. At the first visit the low temperature is noticed, the fire is re-lighted or increased, and the heat of the house raised as rapidly as possible. Then the damage is done, for frozen plants thawed rapidly, either by exposure to sun or fire-heat, rarely recover. In the event of any mishap occurring, the heat must be applied very gradually; and if the weather be bright, the plants must be shaded, damping slightly with water through a fine rose-can.—*Scolytus*.

HEATING GLASSHOUSES.

IN my last communication I mentioned that, in my opinion, a vertical rise of the flow-pipe direct from, or at a point as near as possible to, the boiler would be preferable to the old method of fixing, which necessitates a continuous rise to the further end of the pipe. Since then we have been favoured in your columns with two separate plans, both being modifications of that which I proposed. The plan proposed at p. 213—which is, without doubt, an ingenious one, and, at first sight, looks to be a step in the right direction—would not, I am afraid, meet with much encouragement. This, to me, does not lie so much in the two objections which are stated in connection with it, although, no doubt, serious enough in these days of reduced incomes and corresponding reductions of expenditure in gardening establishments. A much more serious objection, in my opinion, would be the extra care and attention that a house constructed on this method would entail, on account of the extra danger to either plants or fruits grown in it. The idea is a good one, so far as it takes into account the cold weather; but what would be the likely consequences in an ordinarily, not to mention an exceptionally, hot summer? We all know the attention requisite to prevent burning and scalding in a hot season with even our present lightly-constructed houses; but what would it cost us with a house enclosed, as it were, in a case of hot air, which it would be if double glazed?

The second plan—that proposed by “A. D.,” at p. 230—would, I think, be more preferable, and, indeed, it almost meets the views which I have hitherto held; and I can see no difficulty in heating any number of houses on this principle, provided it be carried out in its entirety—viz., carrying the flow-pipe to the highest point at once from the boiler. Of course, with boilers and flows fixed as at present, no great extent of glass could be heated satisfactorily by this system from a single boiler without an increased expenditure of fuel. By this I mean houses in different ranges; but I think that any number of houses or divisions could be properly heated in a range of any length, or even two ranges side by side, or, at least, with their ends near each other. The Messrs. Cannell, and others who have tried the plan of heating the upper parts of the houses, have had perfect satisfaction with it, I believe, although it may differ slightly in construction from the system I proposed.

In any case, even with the system at present generally in use, I cannot see the utility of sinking the boiler more than about its own depth, as the flow generally issuing from the top of the boiler is fixed at about 1 ft., more or less, from the floor of the house to be heated. This is done, I suppose, on the theory that heat ascends, and therefore must reach and warm the upper part of the house. But what do we find in practice and also in fact—and I assert it to be a fact beyond dispute, although hot-water engineers ignore it—simply that the heat from the pipes, in place of rising towards the top of the house, is radiating equally in all directions; and so, in addition to raising the temperature of the house, the soil, brickwork and materials near the pipes, including, in many cases, roots also, are being actually roasted by their proximity to the heat. It is not the heat itself, but the air which it warms and sets in motion that rises in the house, and the greater proportion of the heat is absorbed where not required, and so, therefore, simply wasted.

A great deal may be said for the better convenience and appearance of the pipes, as fixed on the present prevailing method, but these are considerations which should not prevent us from finding some means of arriving at the same or better results at a far less cost. The reduction of the coal bill by one-third or half would be an item which would cover some faults in

appearance or otherwise, if, indeed, that were the only favourable result. As to the placing of the boiler in a deep stokehole, unless in some exceptional case, there is no actual necessity for doing so.—*R. Stevens, Paston*.

“Is our present method of house-heating the right one?” This question is asked by your correspondent, “A. D.” at p. 230. He then proceeds to propound a theory, which would have to be based on assumption, that heat will descend. I strongly suspect he will find “practice make game of it.” Something analogous to this was tried more than a century ago, when four flues were mounted on the top of one another along the back wall of lean-to houses, expecting them to heat right out to the front; this was a failure, and I fancy “A. D.’s” theory will share the same fate, unless as a preventive of condensation. I am much interested

tagc may be got from it, the pipes should be as near the ground level as possible. In the case of a vinery, or other fruit house, “A. D.’s” system might work after the vines were up; but I suspect temporary pipes would have to be put in on the old system for the first two or three years of their existence, or little good would be got from the Vines.

“A. D.” speaks of “the heat under the present system being fast cooled in the air, the brickwork, the ground beneath, and all sorts of material, alive and dead.” I had always thought that it was to heat the cold air in a house that the apparatus was fitted up; and as to the brickwork and other material inside, it will not take more heat to warm than the same amount of air would, and it will keep warm longer, so that in it there is so much stored-up capital which can be



BEGONIA BOLIVIENSIS.

in this subject, and would be glad to hear of any improvement on the present system, both as regards economy and efficiency.

I have experimented a little on the subject, with a view to finding the right position for the pipes in the house, and my opinions are quite the reverse of “A. D.’s.” I find that hot-water pipes, like fireplaces in rooms, are placed, as a rule, too high for the effective heating of their respective spaces. The question is, in what part of a glasshouse is the heat required? First, take a plant house, it will at once be admitted that the greatest heat should be on the stages among the plants; to economically have this, it is clear that just under the stage is the proper place for the pipes. I have found that a thermometer placed 3 ft. above hot-water pipes will register 5° more than one placed 3 ft. below them, and experience teaches me that heat will not descend until forced to do so, neither will it spread level over the house; it rather rises at a considerable angle to the roof, and, in order that the greatest advan-

drawn on at will. Outside walls ought to be hollow to prevent waste.

“A. D.” says, “No wonder boilers are driven to their utmost capacity, pipes made almost red-hot, and fuel consumed beyond the real needs of the case. This leads me to ask direct whether “A. D.” can, with his system, efficiently heat a house for, say, stove plants at as small a cost in fuel as he can one of the same size on the old system? When boilers have to be driven at all, they are either too small for the work, or the amount of piping in the houses is insufficient for the temperature required. As to the depth of a stoke-hole, a little sinking might, in many cases, be necessary. If manufacturers of boilers would make the common saddle and its allies lower and wider, and send the outlet horizontally away from the end, instead of out at the top, as is usual, a still greater choice would be afforded to owners of glasshouses in fixing the depth of their stoke-holes.—*R. Bell, Morton Hall, Midlothian*.

THE TUBEROUS BEGONIA.

ITS HISTORY AND CULTIVATION.

ALL the varieties of the tuberous Begonia now in existence, both single and double, are derived from six species—viz., *B. Boliviensis*, *B. Pearcei*, *B. Veitchii*, *B. rosæflora*, *B. Davisii* and *B. Clarkei*, the five first-named of which were introduced into this country by Messrs. James Veitch & Sons, of Chelsea, and by them put into commerce.

BEGONIA BOLIVIENSIS, which was the first of the series introduced by Messrs. Veitch, was collected by their traveller, Mr. Pearce, in Bolivia, and sent home in 1857. It was first exhibited in public at the International Horticultural Exhibition, held at Paris in May, 1867, and in the following year, 1868, it was put into commerce. In 1867 it was figured and described in the *Botanical Magazine*, tab. 5657, as “a tuberous-rooted deciduous kind, attaining an average height of 2 ft. Its foliage is of a rather light green colour of the

species was discovered by Mr. Pearce, near Cuzco, in Peru, at an elevation of 12,500 ft. It is figured in the *Botanical Magazine*, t. 5663, and described as having “the habit of *Saxifraga ciliata*, immense flowers of a vivid vermilion-cinnabar-red, that no colourist can produce.” *B. Veitchii* was put into commerce in 1869, and is still cultivated in considerable quantities by some growers, its constitution being remarkably good; and this fact, coupled with its freedom of flowering and the bright appearance of its numberless blossoms, renders it valuable as a bedding variety. It is, however, now greatly surpassed in effectiveness in this capacity by numerous varieties, most of which, if not quite all, are largely indebted to it for their best qualities.

BEGONIA ROSÆFLORA was imported by the Messrs. Veitch from the Andes of Peru, where it was collected at an elevation of 12,000 ft., and it flowered first in the Chelsea Nursery in July, 1867. It has stout red petioles and scapes, broad round leaves with deeply-

as very abundant, these points also are reproduced to a great extent in hybrids obtained from this species as one parent; and, in fact, most if not all modern single varieties of the “erect” type, as well as the newly introduced and exceedingly valuable class of dwarf, upright, double-flowering kinds owe their best qualities to it. The fine double varieties, *B. Davisii hybrida flore plena*, *B. Davisii flore plena superba*, *B. Davisii lutea plena*, *Canary Bird*, *M. Casset*, &c., may be cited as admirable examples of the result of intercrossing this species with other varieties; and among the singles may be named *Miss Constance Veitch*, *Mrs. Arthur Potts*, and such more modern novelties as *Scarlet Gem* and *Novelty*.

BEGONIA CLARKEI was first flowered by Colonel Trevor Clarke in 1867, but he had had the plant for several years previously, having received it from Messrs. Henderson as a native of Peru. Though at first sight resembling *B. Veitchii*, there is a consider-



BEGONIA DAVISII.

‘fuschioides’ character; and its small drooping flowers are of a bright cinnabar-scarlet colour.” For a long time after its introduction, its small and thin-petalled flowers were much prized by horticulturists, though it was not by any means showy enough to attract the attention of the general public.

BEGONIA PEARCEI, the next to arrive in 1865, also came from Bolivia, having been collected at Le Paz by Mr. Pearce, in whose honour it was fittingly named. This also is figured in the *Botanical Magazine*, t. 5545, and described as being “nearly allied in botanical characters to *B. cinnabarina*. Flowers yellow, about 1 in. to 1½ in. across; leaves dark velvet-green, and nearly glabrous above, dull red beneath excepting the nervures.” Its clear yellow flowers and handsomely-marbled foliage are characteristics still found—and, in some cases, very conspicuously—in many of the varieties of the present day, which have been more or less directly derived from it.

BEGONIA VEITCHII was the next addition, made in 1867, and a most valuable introduction it proved, for, practically, it is the progenitor of the varieties which give the round flowers now so much admired. This

impressed veins, and bears numerous pale red flowers “like those of the Brier Rose,” and about 2 ins. in diameter. This species was not much used by the hybridist, but is one of the parents of a few of the earlier raised hybrids.

BEGONIA DAVISII was discovered by Messrs. Veitch’s collector, Mr. Davis, near Chupe, in Peru, at an elevation of 10,000 ft., and flowered for the first time in the Chelsea Nursery in July 1876, though it was not put into commerce until 1879. It is figured in the *Botanical Magazine*, tab. 6252, and received a First Class Certificate from the Floral Committee on August 2nd of the same year. It is a very dwarf-habited species, with bright scarlet flowers, and smooth and glossy foliage; and it has proved itself remarkably valuable to hybridists, for by the judicious crossing of this species with other strains derived from the *Boliviensis* and *Veitchii* types, a number of varieties have been obtained, both single and double-flowered, possessing the characteristics of a remarkably dwarf and compact habit, with moderate-sized but brightly coloured blooms. The inflorescence of *B. Davisii* being naturally of a more or less erect character, as well

able difference between them, *B. Clarkei* being the least hardy of the two, and requiring a warmer temperature. It grows about 2 ft. high, has leaves from 6 ins. to 8 ins. in diameter, of a dull green colour above; and flowers from 2 ins. to 2½ ins. in diameter, of a bright rose-red colour. It is figured in the *Botanical Magazine*, t. 5675, and, like *B. rosæflora*, has only been sparingly used as a parent.

There is yet another species, *BEGONIA FRÆBELII*, which should be noticed in this place, and which produces more or less tuberous roots; but as this plant does not appear to be amenable to hybridisation, it must be recorded against it that the present race of tuberous-rooted Begonias owes nothing whatever to it. *B. Fræbelii* was introduced in 1872 from Ecuador, by the Messrs. Fræbel, nurserymen, of Zurich, and has a remarkably dwarf habit; the strong stems, so peculiar to the other species, are almost entirely absent, while the flower stalks are produced from quite the base of the plant. The blooms are small, but of a very bright scarlet or light crimson colour, and very showy; the foliage is also small, much more circular in shape than that of any other Begonia of the tuberous class, and

thickly covered with fine whitish hairs or down. B. Frœbelii, as has been stated, does not ally itself with any of the other species, but seeds freely when fertilized with its own pollen. The resultant seedlings are always more or less true to the parent type, some, however, being considerably superior to others in size and colour of the flower, and in other respects. If some mode of crossing this species with the ordinary varieties could be discovered, we should probably obtain an entirely new and distinct race of hybrids.

(To be continued.)

ADIANTUM FARLEYENSE.

No one seems to be able to settle satisfactorily the question being agitated amongst gardeners at the present time concerning the reputed sterility, or otherwise, of this handsome stove Fern. The asserted discovery of seedlings similar to, or identical with, A. Farleyense only serves to add fuel to the fire. Many believe it to be a hybrid, and even go so far as to assert that its hybrid origin would be established if undoubted seedlings of A. Farleyense should be discovered in a house where established plants of the latter had never been grown.

What could prevent spores of the latter—if any are ever produced—from being carried about by winds amongst soil, on pots, or on the clothes of gardeners themselves, just as those of other species undoubtedly are, and germinate where the conditions are suitable? A. scutum is generally advanced as one of the parents. Now, A. scutum is a variety of A. tenerum, and originated in Mr. Williams' nursery some years ago, and good authorities are agreed that A. Farleyense is merely a form of A. tenerum, and was introduced from Barbadoes in 1865. Fronds are frequently produced on large well-established plants, with their margins recurved so as to protect the sori. Sporangia are more or less developed, or altogether absent, in those cases; but I have never detected spores. At the same time, it seems quite possible that a perfect spore might now and again be developed, and that the reputed seedlings originated in that way.

The sterility of A. Farleyense is urged as evidence of its hybrid nature; but I believe it to be a variety of A. tenerum, where excessive vegetative growth of the pinnules hinders, or altogether prevents, the production of spores. We cannot fail to observe that the segments of sterile fronds, both in ordinary cases and where there are two forms of frond, are much broader than the fertile ones. Again, has anyone asserted that Polypodium vulgare cambricum, and Scolopendrium vulgare crispum are hybrids because sterile? If they both occurred in a wild state, where or what are the other species by which they were crossed?—J. F.

AN ENGLISH CELERY SHOW.

MANY of the hardest workers and those whose work is of the most cheerless description are enthusiasts as regards some hobby. These are notably coal-miners and mill operatives, whose productions in the direction of the humbler varieties of fruit, flowers and vegetables vie with the efforts of great gardeners. Especially is this so in the counties of Lancashire and Yorkshire. Fruit and vegetable growing there is universal. At one time Rhubarb was the plant which everyone grew. Then came Gooseberry culture, when big Gooseberries were not merely the autumnal production of newspaper paragraphists, but could be seen in dozens as big as Victoria Plums at shows. Afterwards came Cabbages and Cauliflowers, whose dimensions and weights would be regarded as fabulous did I name them. And now the rage is Celery-growing. Each of these hobbies has yet many followers, but fashion changes. With these there are flowers which receive a like attention. Pansies, Gladioli and Asters appear to be the favourites just now, though Pelargoniums and Fuchsias are always popular.

In a Lancashire town, which shall be nameless, I recently saw the advertisement of a Celery show, and an unique advertisement it was. Projecting from the upper window of a public-house, called "The Shoulder of Mutton," was a flagstaff, upon which were hung a dozen copper kettles, and at the extreme end a big bunch of Celery. Nothing could be more suggestive, and it combined two eminent necessities in successful advertising—prominence and effectiveness. I learned that the show was to take place that evening; it was Saturday, and in due course I paid my twopence—

which, by the way, was good for a pint of "drink" as I came out—to find the show in the long room of the house. Here was gathered together a remarkably good collection, not only of Celery, but of Potatoes and Pansies, of Cabbages and Cucumbers, of Fuchsias and fruit, vegetables and flowers. But the Celery was decidedly in the ascendant. Behind the winning lots of this latter edible were the copper kettles, or the britannia-metal teapots, the latter given as second prizes. The winning lot of untrimmed Celery weighed 14 lbs. 4½ ozs., and the corresponding victor in the trimmed class, 9 lbs. 8½ ozs. These weights will give some indication of the size, and from what I could see of the bunches, they were tender and beautifully white.

Nights and days had been spent in their culture; heaps of manure had been supplied to the ground around them, and doubtless during the week previous to the show, the grower had worked by day and sat up all night watching his plants against the designs of some unscrupulous person. It is no uncommon thing for Gooseberries and flowers to be watched day and night previous to a show, lest some evil befall that which is hoped will secure the copper kettle, the height of the competitor's ambition. A Lancashire house is never complete without one of these utensils; and polished as only Lancashire women can polish—that is, with plenty of the stuff known as "elbow grease"—they are brilliant ornaments in the kitchen, or house, as it is usually called. Many of those to be seen in Lancashire houses have been won at such shows as this one. A young fellow feels impelled to win a kettle either before or after his wedding, in order to maintain his claim to manhood. But there is a reverse side to the shield. Held in public houses promoted by publicans, they are a direct incentive to drinking, especially with the drink ticket. We were regarded as strange mortals indeed, because we did not use our privilege and "hev a soop." Some of the prize-winners were already, at the early hour on which we attended the show, far gone, and probably the kettles which they had won would be very expensive articles ere they got them safely home.—S. B., in Country Gentleman.

VINE BORDERS.

A few days since, I was looking through the contents of a volume of the *West of Scotland Horticultural Magazine*, published in 1865, and I came across a paper on "The Making of Vine Borders," by Mr. David Mitchell, formerly of Hamilton Palace Gardens. One passage, in which he sets forth what he had himself accomplished is, I think, well worthy of republication. He was writing in the month of December, and he said, "I have had a good deal to do here in the way of making new borders, and also renovating old ones. The soil I have used for the new borders is what may be termed clayey loam, taken from an old pasture—not merely the turf pared off, but a good spit deep, at least from 6 ins. to 9 ins. Necessity compelled me to use a quantity of it in a fresh state, and the Vines, so far, have suffered no evil effects from it. But my usual routine has been as follows:—On the arrival of the soil it is piled up in a square heap, and when it is about 3 ft. high I put a layer of broken bones, about 1 in. thick, all over the heap, the bones being broken into pieces about 1½ in. in size; then above the bones I add 2 ft. more of turf, then a good layer, not less than 6 ins., of old lime-rubbish; above that, 1 ft. more of turf, and thus my preparation is complete.

"The compost is allowed to stand for two or three months, covering it up to keep dry, and then commence at one end with the spade, chip it down in good-sized pieces, wheel or cart it into the borders, and all is ready for planting. You will observe I use only three ingredients—turf, bones, and lime-rubbish, and the Vines have succeeded beyond my expectations. Although only planted two years last May, many of their stems measure at 3 ft. from the ground, from 3 ins. to 5 ins. in circumference; and during last season I cut bunches of Black Hamburgs which weighed upwards of 5 lbs. I have made no difference in any of the sorts; Muscats and all the other varieties are planted in the same soil, and they all seem to thrive. My borders are all well drained, but four of them are heated, and in these the difference is very perceptible. I am an advocate for thorough underground ventilation.

"When you are making the borders it is no use to half do them, but do them well, the difference in cost

being only trifling when compared with the importance of the work. When chambering is not carried out, some recommend for under-ground ventilation 4-in. drain pipes. I prefer brick drains, and my method is this. After the border has been thoroughly concreted or paved, and a good drain run lengthwise to carry off the water, brick drains are built about 6 ft. apart, running north and south; and similar drains are formed from east to west at the same distance, the whole communicating with each other. The spaces between the drains are filled with broken bricks, &c., to the height of the drains, which is about 8 ins. or 9 ins. Two bricks on edge are what I prefer, and one laid on the top; all built without lime, and rather open. I should mention that eyes or little chimneys ought to be carried up to the surface of the borders at the ends of the north and south drains, to allow the warm air to descend and circulate. A border made in this way I consider perfect for Vines not required for early forcing. For early houses by all means introduce a couple of hot-water pipes, and the result will, I am quite sure, prove satisfactory and profitable."

Because I think this method of Vine border-making a good one, I have ventured to extract this passage, and I hope you will be able to find space for it in THE GARDENING WORLD.—A. B. C.

ASH GROVE, SHEFFIELD.

THE gardens which surround the neat and beautiful suburban residence of W. Stones, Esq., are not extensive, but at all times of the year there are objects of interest to be seen there. The glass department was the centre of attraction at the time of my visit, a dull day in November. The first house I passed through was the span-roofed conservatory, 40 ft. long, and 18 ft. wide, and here was a floral picture good enough to please the most fastidious critic. The centre stage, which is very low, was filled with Chrysanthemum plants of various heights, the dwarf ones being placed in front of the door, the taller ones towards the opposite end of the stage; by this arrangement every flower could be seen at a glance. On the side benches there was a fine lot of plants which had been grown tall with the object of getting fine blooms, not with the idea of showing in competition, but there were to be seen flowers that would have done credit to Mr. Fletcher, the gardener, had he staged them at any exhibition. Mr. Fletcher's system of arranging tall Chrysanthemums is one worthy of imitation, as there are many gardeners who would grow specimen blooms if they could but accommodate the plants under glass. This difficulty is overcome at Ash Grove by placing the pots on the side stages, and tying the plants to wires on the roof, so that the flowers hang over the walk on each side of the centre group, while the pots are hidden by plants of Primulas, Heaths, Epacrises, Solanums and other flowering subjects.

The next compartment is the stove, which is the same size as the conservatory, and filled with a choice collection of plants, amongst them being some clean and well-coloured Crotons majesticus, pictus, Evansianus, Johannis, Queen Victoria, Dayspring and others. Dracanas are also done well here, Baptistii being a very fine plant; amabilis was also in excellent form. Anthuriums crystallinum and Warocqueanum were carrying some fine foliage; Asparagus plumosus and tenuissimus, with many other objects of interest which cannot be mentioned here, were all in the best of health, and cannot fail to give pleasure to their owner.

The two succeeding compartments are devoted to Vines and Camellias, &c. Both houses are lean-to's, the vinery having a west aspect, while the Camellia house faces east. This aspect appears to suit the Camellias very well, for they look wonderfully healthy, with an abundance of flower buds upon them. These are all in pots, and will be removed to the conservatory to open their flowers, and take the place of the Chrysanthemums when they have done flowering. The other block of houses consists of three span-roofed structures, each about 40 ft. long, the centre one being the largest. This has a bed in the centre, and here again are some fine Camellias planted out; the side stages are filled with Azaleas, Heaths, greenhouse Rhododendrons and other hard-wooded plants; Princess Royal Rhododendron is represented by two very fine plants, one of which is about 5 ft. high from the top of the pot, and is feathered with foliage to the bottom. This is one of the finest specimens of its kind in existence, and Mr.

Fletcher told me it was seldom out of flower. In the same house, at the end, was a beautiful specimen of the New Zealand Flax, *Phormium tenax variegatum*, also two good pieces of *Araucaria excelsa*, and the more beautiful form named *glauca*. The two end houses are devoted to growing soft-wooded plants and propagating. Mr. Stones, who is a generous supporter of gardening, has everything kept in good order.—*J. W. S.*

GARDENING MISCELLANY.

Poinsettias at Clarendon Park.—In paying a visit to the gardens of the above-named place a few days ago, we had the pleasure of meeting with a very excellent and well-grown collection of *Poinsettia pulcherrima*, which merit a passing word of comment, not so much on account of their admirable arrangement, but chiefly with regard to the system of culture adopted. The plants average from 24 ins. to 30 ins. in height, with bracts 18 ins. to 20 ins. across; the smaller sizes being the more handsome by reason of their symmetry and general appearance; the larger sizes having two or three separate heads, so to speak, on each shoot. The old plants are started in heat towards the end of March, having been previously cut down; in due time cuttings are taken off for young stock and rooted. Later on the old plants are hardened off by degrees, and planted out on a south border in good soil about the second week in June; here they remain till the season's growth is almost completed, and lifted carefully with as many roots as possible, and potted up the second week in September, and put inside either a house or warm frame. Briefly, this is the system of culture as carried out by Mr. Warden, the gardener at Clarendon Park, and that it is a good one for the south of England there cannot be much doubt, as the plants under notice fully prove.—*Visitor.*

Celery, Clayworth Pride.—Who is not fond of good Celery? Personally I am very fond of it, and can well recommend this as one of the finest pink varieties grown. It is not one of the largest sorts, but this deficiency is fully made up in point of quality. The stalks are very solid, crisp, and of a rich nutty flavour. I cannot recall to mind who raised it; but I have noticed large breadths of it in the outskirts of the quiet rural village of Clayworth, in Nottinghamshire, midway betwixt Doncaster and Retford, where it is evidently the pride of the village.—*B. L.*

Gentiana acaulis.—In reply to "Con," p. 235, I may say that, in my last place in West Cornwall, this Gentian grew to perfection, judging from what I have seen elsewhere. From a patch 8 ft. by 6 ft. one could gather hundreds of flowers at a time of the most lovely blue imaginable. They were so thick that you could scarcely put two fingers between the flowers; the ground was a complete carpet, and the only thing done to the bed was keeping it regularly weeded, which was a very troublesome business, as the ground was as hard as the walks. I think firmness is a great point in their culture. The plants I mention have not been disturbed for several years, and they are in common garden soil below the average in quality.—*T. J.*

The Globe Dahlia.—Of one of the "Dahlias of the Olden Time" mentioned by Mr. Fry, p. 236, The Crimson Globe, I have a pleasant recollection, and very glad should I be to see its singularly beautiful flowers once more. It had been cultivated here for a much longer time than my memory goes back, and was much prized, and a general favourite. The rich colour, perfect form and dwarf habit all combined to make it a most desirable variety; and now, in the days when novelty is so much thought of and sought after, I am sure it would make a stir if Mr. Cannell, of Swanley, could but get hold of it, and bring it again to the front. I have always regretted that through some misadventure the whole stock of this beautiful Dahlia was lost here about twenty-five years ago. I have never met with it since, either in the nurseries or in any private garden.—*J. T. Poë, Riverston.*

Elæodendron orientale (Aralia Chabrieri).—The plant grown in gardens under the name of *Aralia Chabrieri* had always a suspicious look about it. Erroneous descriptions are also getting disseminated, where the leaves are described as alternate and pinnate, with long linear leaflets. Now the plant in gardens is a juvenile stage of the tree above-mentioned

with very polymorphous leaves, which are opposite or more rarely alternate, and narrowly linear in the young state. From this very circumstance arises its value as a decorative stove shrub. These narrow leaves are closely produced on branches proceeding horizontally from the main stem, are leathery, and deep green with a red or purplish midrib. It belongs to the same natural order as the Spindle Tree of our shrubberies, and is, consequently, not an *Aralia* at all. The tree is very common in Rodriguez, Mauritius and Madagascar, where it is utilised as a timber tree. The flowers are small, green, and produced in November and December. When it attains the fruiting condition the leaves become broader, shorter and oval, oblong or obovate and crenate; thus losing all beauty, for which the plant is cultivated in its juvenile state.—*J. F.*

Chinese Primulas.—In the notice in our last week's issue of the Birmingham Primulas, an unfortunate error crept in, which demands immediate correction. It was stated that at the November exhibition of the Birmingham Chrysanthemum Society, Messrs. Pope & Sons "swept the decks" with Primulas in all the open classes, and that Mr. T. B. Thomson took the second prizes, while the facts are that all the first prizes, viz., Class 19, twelve Primulas, single varieties; Class 20, six Primulas, single varieties; Class 21, six double-flowered Primulas; and Class 22, six Fern-leaved Primulas, were won by Mr. T. B. Thomson, with admirably grown plants, Messrs. Pope & Son being second in those classes. We regret the error exceedingly, and have the more pleasure in making this correction, inasmuch as Mr. Thomson has for several years been a liberal donor of prizes for Primulas grown by amateurs and gentlemen's gardeners. Since writing our notice in last week's issue, we have had an opportunity of seeing a long span-roofed house full of well-grown Primulas, including the Queen, Emperor, Princess Louise, Marquis of Lorne and other singles, as well as leading doubles, in the gardens of the Right Hon. Joseph Chamberlain, M.P., at Highbury, where Mr. Cooper does them so well.

Carnation Maggot.—I find that a small white maggot, much the type of the one found in the Apple, is making serious inroads on the collection of Carnations and Picotees grown at the Royal Nursery, Slough. How the marauder originated is not exactly known. Knowledge has been had of it for some three years past; but its ravages this season are much worse than they have ever been before. The insect appears to pierce the main stem and leaves of the plant, and bores its way along inside them, apparently feeding upon the tissues, and irreparably injuring both shoots and leaves. How it originates is not known; probably, eggs are deposited in the leaf-axil or in the soil, and so the enemy is developed. It would almost appear that the attack is made at the upper portion of the plant, and the progress is a downward one. If the maggot bores its way down the stem until the soil is reached, the plants rot at the collar. How to grapple with and overcome the destroyer is not yet clear; capture is the only kind of warfare yet attempted. It would be interesting to know if the maggot has been found in any other collection.—*R. D.*

Keeping Frost out of a Cold Greenhouse.—I am afraid that it is almost an impossibility while the frost remains so sharp as it was on the 19th and 20th; the best one can do is to mitigate its effects. I may state that I have abandoned the use of anything like oil stoves, finding that they caused more trouble than they appeared to do good; and they always emitted a most disagreeable smell. What can be done in the way of mitigating the effects of the frost one cannot wholly keep out? In the first place I allow the plants to become as dry as possible at the roots, only giving during the depth of winter enough to keep them alive. A little deterioration may ensue, but not so much as would be caused by frost. Then I place all the tenderest plants in the warmest part of the house; the hardiest are in the more exposed positions. Then all the plants are raised above the floor of the house, so that the pots do not come in contact with it. To secure this temporary wooden stages are extemporised, and inverted flower pots and seed pans answer the same purpose; then the house is perfectly close during the time frost prevails. Lastly, I cover up with old newspapers, allowing them to stay on day and night while frost lasts. Really, I lose but few things—mostly Fuchsias and Heliotropes; but I successfully winter many things of a varied character, and some that it

might be supposed would require a warm house to preserve them unharmed.—*R. D.*

A Winter Decorative Plant of great beauty is *Libonia Penrhosiensis*, of which Mr. R. Cooper has at least two dozen plants now in full beauty at Highbury, Birmingham, the residence of the Right Hon. Joseph Chamberlain, M.P. In habit it bears a close resemblance to *L. floribunda*, but it is much brighter in colour and very free-flowering; is unquestionably a very valuable plant for winter decoration, and a fine market plant. In one of the houses *Ipomæa Thompsoni*, the lovely white *I. Horsfalliæ*, is blooming, and is an acquisition to our warm-house creepers. The Orchids, a grand lot, look well throughout, and many choice ones are now in flower; another new *Dendrobium* house has just been completed. The Highbury collection is now a very extensive one.

A Hardy Veronica.—The *Veronica* which I showed before the committees at South Kensington, on the 7th inst., excited some interest, owing to the flowers and foliage having stood 17° of frost. I was asked to get the correct name, as the one I had it under, *V. salicifolia*, was disputed. A sprig was, therefore, sent to Kew to Mr. Baker, and he has kindly named it, saying that it will not pass muster for a form of *V. parviflora*, but considers it *V. legustrifolia*.—*George F. Wilson, Heatherbank, Weybridge.*

Ipomæa Horsfalliæ, var. Lady Briggs.—In spite of the general similarity between the type figured in the *Botanical Magazine*, t. 3315, and the variety under notice, there is a marked distinction between the two in many points. The leaves of the variety are perceptibly more membranous than the type, and frequently much less divided or less perfectly segmented. The pedicels are more slender and paler, with a pale purple calyx; while that of *I. Horsfalliæ* is nearly black. The corolla-tube is distinctly longer, and little more than half the thickness of the latter; while the deep shining rose colour is much the same in both. The whole inflorescence may be as floriferous as the parent plant, but is less dense, owing to the more elongated condition of the pedicels. Some cultivators may find in these characters argument for a more extensive cultivation of the variety; but, in general, those who possess the type will be satisfied with that in their stove collections. Either is excellent as a stove-flowering climber, enlivening the dull winter months with its brilliantly-coloured flowers. Cuttings of this species do not succeed so readily as layers, and this latter mode of propagation has been found convenient in consequence. The variety under notice, or *I. Horsfalliæ* itself, may be grown in pots or planted out. In the former case, owing to the rambling nature of the roots, large pots, or even tubs, must be used, and filled with a rich compost consisting of fibrous or lumpy loam, well-rotted manure, with or without leaf-mould, and a good sprinkling of sharp sand to keep the drainage open and the soil sweet. A similar composition may be used when grown in a bed or border, paying good attention to the drainage.—*J. F.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

TEA ROSES.—With the multitudinous duties arising from this festive week, it is almost useless to write anything as to general work; but still as the new year is fast approaching, and with it its cares, it is advisable, perhaps, to say that if time can be found, select a good batch of Tea Roses for placing in heat. If frost prevail, lift the plants from the plunging ground and place them under cover, that they may thaw gradually, and be careful to avoid giving them water.

It is generally recognised that this section requires little or no pruning; in fact, if the plants receive attention during the summer in the way of removing any over-gross shoots, no pruning whatever is necessary, which, with any subject introduced to the forcing house, is a decided advantage. Whatever structure may be selected in which this early batch of Roses are to be placed, it is absolutely necessary that, independent of other occupants, they be particularly studied.

It will be advisable to withhold water until growth has fairly started, when a thorough soaking of tepid water may be given. Care must be also taken that the house is properly ventilated every day, as these plants will not bear coddling; in fact, unless they are

liberally dealt with, they speedily become infested with aphids and mildew.

NEAPOLITAN VIOLETS.—The pots of Neapolitan Violets are throwing up a nice crop of flowers, consequently we have placed a batch of them on the front of the greenhouse stages, where their delicious perfume is quickly perceptible on entering the house. A good show can now be made in

THE DECORATIVE HOUSE with Ericas of sorts, Primulas, Roman and other Hyacinths, Tulips and such-like, together with pot Camellias, Salvias and Eupatoriums. Chrysanthemums, with the exception of the late flowering-varieties, had now better be removed out-of-doors, placing them in some sheltered position; let them be cut back and all the stakes removed, and also use caution that the labels are not displaced, or endless annoyance will be caused next season in the case of more cuttings being required to be taken to prepare sufficient stock.

THE FORCING HOUSES.

BOTTLING GRAPES.—It will now be advisable to bottle off the late Grapes, such as Lady Downes, Alicantes and others, as often at this period they keep better in the grape-room than on the vines. If care has been exercised in the cutting of those with rather short wood, those remaining should all be fit for bottling. Be careful not to make more than the one cutting of the lateral, the one at the base. Should leaf-stalks remain on the laterals, let them be removed with the hand. A few pieces of charcoal should be placed in each bottle to assist in keeping the water sweet; and the nose of the bottles should also be plugged with dry moss or cotton wadding to prevent evaporation. Let the room be kept as dry as possible, and, on bright warm days, if the Grapes are expected to hang long and keep plump, the room must be ventilated. Maintain, if possible, an all-round temperature of about 50°, but do not exceed this by artificial heat, or shrivelling will ensue.

IN THE EARLY VINERY let the disbudding be carried on very steadily, being careful not to rob the vine of too much of its new growth at any one time; half an hour devoted each morning to this work will keep it well in order. As frosty weather prevails, pay particular attention to the looping down of the laterals or they will quickly be injured. Remove all surplus bunches (of course leaving the most promising), and thus with ordinary care at setting time, little fear need be entertained.

THE EARLY PEACH HOUSE will now be coming into flower, that is if the fruit is required in May; as the flowers open keep the trees and atmosphere of the house drier, remembering at the same time, that the house must be ventilated more or less every day. When the pollen is perceived on the anthers it will be advisable to go over the blooms at mid-day with a camel's-hair brush, lightly touching each flower so that a good set may be secured. Introduce weekly to the forcing house—as may be required for supply—Hyacinths, Tulips, Deutzias and other such-like

PLANTS FOR FURNISHING a good yield of cut-flowers; a dozen or two of Jules Margottin and Baron Prevost pot Roses should also be placed in heat, and if a mild bottom heat can be afforded to induce root action, so much the better. It will now be time to place a second batch of Strawberries on the shelves, and these may be relied upon to give a crop of fruit. Due attention must always be paid to the thinning down of the crop in good time, particularly those early in the season.

TARRAGON AND MINT.—It will be advisable to place in heat a successional batch of Tarragon and Mint, as the first will not last long. We put in a good batch of Sea Kale last week, the first lot being exhausted. Should this cold weather continue, it will be advisable to place mats or other covering material over the roof of the Cucumber house, so as to reduce as much as possible the necessity for hard firing; so productive is it of red spider with these plants.

THE KITCHEN GARDEN.

GENERAL WORK.—In this department "Jack Frost" reigns supreme, completely stopping all ground work with the exception of wheeling operations, which should be carried on with all speed. The burning of garden refuse, prunings, &c., can now be attended to so that it will be ready for wheeling out on to the square intended for Potatos next season. Should very severe frosts prevail, extra litter must be placed over Celery,

and if a handful of litter or Fern be placed over each of the spring Broccoli, it will greatly assist in keeping them sound.

DECORATIONS of all kinds will in most places employ some of the hands, and with the hope that all may have abundant material wherewith to complete their designs, I heartily wish my readers "A Merry Christmas."—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Dendrobium Deari.—Without any hesitation I affirm that this Orchid is my favourite, and if only growing one, and having plenty of heat, if the choice were left to myself, this would be the one. Two plants of it have alternately been in flower since May last, sometimes both together, during which time we have had three or four spikes of ten flowers each, besides several smaller ones with five to eight flowers; and as the individual spikes last for ten weeks if not too damp, it goes far, I think, to justify my estimation of it. During the present dull weather it has become spotted in much less time: in fact, a spike just opening has become so in a bud state, caused by the fogs and damp of a fortnight since. To anyone who has not seen it I may say that the flowers are of a beautiful snowy white, with an emerald green blotch covering one-third of the lip, which, however, changes to a deep greenish yellow with age, while the white maintains its purity to the last. The individual flowers are about 3 ins. across, some of them rather more.—*E. Dumper, Limerick.*

This beautiful Orchid is one of the most lasting of flowers. A plant which produced three fine heads of bloom this year has now (Dec. 18th) carried them fresh and fair for over five months; for opening, as they did in the second week in July last, it is only within the past week that they have shown any signs of fading, and it will be at least two weeks more before the last of them will have to be removed. The purity of the white blooms with delicate green spot on the lip makes it a valuable flower, even if its enduring qualities were not so great.—*J. T. Poë, Riverston.*

Veitch's Manual of Orchidaceous Plants.—Messrs. James Veitch & Sons announce the publication, in parts, of a new work bearing the above title, and which will be uniform in size and style with their admirable *Manual of Coniferae*, published a few years ago. Each part will contain a monograph of the cultivated species and varieties of one of the most important genera, or of a group of genera; thus Part I. is devoted to the genus *Odontoglossum*, and this will be followed in due time by II., *Cattleyas* and *Lælias*; III., *Dendrobiums*; IV., *Cypripediums*, &c.

A Specimen *Odontoglossum Rossii majus*.—There is a plant here of the above growing in a 6-in. pan, suspended from the roof of the cool house, bearing twenty-five spikes and about three dozen fully expanded flowers. The spikes average 2 ft. each, and the plant will form a perfect bouquet when all the flowers are fully open, being symmetrical in shape; and the blooms, which are equally distributed, hang down gracefully all round, so that there is little of the pan to be seen. The variety is not the best—still, it is not a bad one.—*Thomas Simcoe, Cheltenham.*

***Dendrobium rhodostoma*.**—This is one of Mr. Seden's hybrids, and a very beautiful one it is. It has just flowered here for the third time this year. One very small bulb—I think less than 6 ins. long—had a bunch of its purple and white flowers upon it; and at the same time two other bulbs, younger and much stronger, were in flower. This season it has made a growth 3 ft. 6 in. long, which is still growing, and from the base of this another new growth is coming away. The plant seems determined not to rest at present. I have been told that this variety would be considered by the Messrs. Veitch much finer than any they have at Chelsea.—*Thomas Simcoe.*

Orchids from Riversdale, Aigburth.—From that enthusiastic gentleman, E. Harvey, Esq., comes a box containing some of the finest things we have seen lately. Foremost may be placed *Lælia anceps* (Garston variety). Imagine a fine *L. autumnalis atropurpurea* with very broad petals, and you have some idea of its segments; then supply a well-shaped labellum—crimson, veined a bright yellow in the throat,

and on the front blade an indescribably lustrous hue of dark velvety crimson on violet, something like that of *L. Perrinii*. It is by far the finest *L. anceps* we have seen, and was imported by The Liverpool Horticultural Co., from whom also Reginald Young, Esq., got a plant of it, of which he, too, sends us a flower. Also from Mr. Harvey comes two very distinct forms, which may be called *L. anceps Percivaliana* vars. *Odontoglossum Cervantesii* (Riversdale var.) is a charming thing, quite new in colour. Its flowers, which are of the good typical form, are purplish rose, the centres being lighter and marked with even concentric lines of bright crimson. The little spray of three flowers sent is simply lovely; this also is one of The Liverpool Horticultural Co.'s importations. Also in the box we find three very fine and distinct forms of *O. Rossi majus*, that marked 7 being the largest in form, and best in colour and substance we have seen; a spray of *Lælia albida Marianæ*; a fine flower of the best form of *Lycaste Skinnerii alba*; and the very dark form of *Dendrobium bigibbum*. Would that some of our other correspondents would give us a chance of seeing their good things.

Orchids from Clovenfords.—From Messrs. William Thomson & Sons comes a spike of twelve flowers of the fragrant *Cymbidium giganteum*, one of the most useful of winter-flowering subjects, and rivaling in beauty even *C. Lowianum* itself. The yellowish green purple-striped flowers, with pale yellow lip spotted with warm crimson are very effective. Enclosed with the above were four flowers of a large form of *Odontoglossum Pescatorei*, well rounded and pure white, with the disc bright yellow streaked with crimson, and the lip pure white with one to two small crimson spots; a fine variety.

***Oncidium Jonesianum*.**—In a recent note on this beautiful and very distinct little *Oncidium*, it is stated that "cultivators are at great variance as to whether the leaves should stand or be suspended." We have yet much to learn about this lately-introduced plant. I have grown it successfully on branches in the stove with its leaves pointing downwards, and in the only instance where I have seen it placed with the leaves erect, I observed that the first growth it subsequently made grew downwards naturally—exactly opposite to the position of the former growths, showing it preferred that position. I have noticed that it is now being tried in different houses and temperatures, and shall watch for the results which may be made public of such varied treatment.—*J. T. Poë, Riverston.*

Syringing Orchids.—Your correspondent, "A. C.," seems to be delighted with his success since discontinuing the use of the syringe. I was not aware, however, that anyone advocated its general application to all Orchidaceous plants, but chiefly to the Dendrobium family, and also to some natives of the western hemisphere—*Sobralias*, for instance. Perhaps "A. C." will kindly furnish your readers with the dimensions of the bulbs, or this year's growth of the following kinds of *Dendrobiums* cultivated by him or his friend:—*D. bigibbum*, *D. superbiens*, *D. formosum*, *D. Falconeri*, *D. heterocarpum*, *D. albo sanguineum* and *D. Devonianum*. Of course, the list might be greatly lengthened; but these will be sufficient to show what can be done without the use of the syringe.—*Thos. Simcoe, The Gardens, Lake House, Cheltenham.*

As a constant reader of, and an occasional contributor to THE GARDENING WORLD, I count myself amongst the number to whom your correspondent "A. C." has promised to submit evidence in support of the "no syringing" policy. I confess I was rather staggered at such a sweeping expression, as that Orchids, of any kind, should not be syringed; and I should like to ask "A. C." how his moisture-loving *Bolles*, *Batemanias*, *Warscewiczellas* and *Pescatoreas* fared with no syringing or overhead watering, seeing that they come from a country where rain falls, with few exceptions, every day in the year. We tried them without the syringe, and did not succeed satisfactorily; but we are now giving them a good bath with the syringe once a day, and, as the days lengthen, they will get it morning and evening, and they show their gratitude for the change. I would suggest here, that those who have failed (as many have done with this beautiful class of Orchids), should try the overhead watering with either syringe or watering-can and rose until such time as "A. C.'s" evidence be forthcoming. Another class, which I am partial to using the syringe freely on at the proper

season and time, is the universally admired section, which includes *Odontoglossum crispum* and *O. Pescatorei*. Well do I remember being taken severely to task by those whom I have served under, for even letting a few drops from the spout of the watering-pot fall on their leaves. I don't know what would be said if they came into our *Odontoglossum*-house after one of these baths, but I know that the more we practice it the more we are encouraged to continue it; and we know there are many who follow the same system. I don't think the reference to *Dendrobium Wardianum* doing best in the *Cattleya*-house is conclusive evidence for the non-use of the syringe on that section, since they were grown in different houses, and, probably, under different conditions as to light, &c., which is of so great importance to the well-doing of *Dendrobies*; but we will look for the doubts being cleared away when "A. C.'s" evidence comes to light. — *R. C. Fraser, The Woodlands, Streatham, S.W.*

Obituary.

ADVICES from Honolulu inform us that a very notable horticulturist of half a century ago—namely, Mr. THOMAS BROWN, the senior partner in the firm of Thomas and Edward Brown, formerly of the Royal Nursery, Slough—died there on October the 22nd last, at the advanced age of 82 years. Thomas Brown was born at Slough on the 27th of July, 1804. He went to Honolulu in 1846, two or three years after he gave up the Royal Nurseries, and engaged in stock-raising in Kanai. In 1852 he went to the United States of America, but returned again in 1855. He soon afterwards entered the Office of Conveyances as clerk. Then he became Deputy Registrar, and was eventually appointed to the head of the department, which position he held up to the time of his death. From the time of his leaving England he appears to have quite relinquished horticultural pursuits, and he devoted himself with great assiduity to the new duties he had undertaken. He held the post of Registrar of Conveyances up to the day of his death, at his residence, Nuuanu Valley. He possessed sterling business qualities, and his agreeable deportment and unaffected affable manners won him hosts of friends. He was buried at the Nuuanu Valley Cemetery. Mr. Brown leaves a widow, four sons and a daughter, the eldest son being the Hon. Cecil Brown, a Member of the Legislative Assembly. He will be remembered by not a few living horticulturists, though he is scarcely known, even by repute, to any of the present generation.

In connection with the announcement of the death of the late Mr. Thomas Brown, we may fittingly tell the story, so far as we are able to do so, of the establishment of the Royal Nursery at Slough. The latter half of its eventful and interesting history was told in Vol. I. of *THE GARDENING WORLD*, p. 584, on the occasion of recording the death of the late Mr. Charles Turner. That the grandfather of the late Thomas Brown was the founder of the nursery there can be no doubt. He commenced a nursery on a small scale upwards of a century ago, probably at the west end of Slough, as well as at Upton, which is close to Slough; and also about the middle of Slough, most likely availing himself of such pieces of land as he could then obtain for his purpose. It is probably seventy-five years since the present Royal Nursery came into the possession of the Brown family. Mr. Edward Brown, who survives his brother, informed us, some time since, that the originator of the business—Thomas Brown, grandfather of the Thomas Brown just deceased—commenced business about 1774, and was joined in partnership by his son, the late Thomas Brown's father, in 1810. The former died in 1814, and his son in 1817, the business being then carried on by Elizabeth Brown, the widow of the latter, and Charles Brown, a cousin and trustee, continuing on till 1833. On the death of Elizabeth, the firm was changed to Thomas, Charles and Edward Brown; on the death of Charles, in the year 1836, Thomas and Edward became the sole partners; on the retirement of Edward, in 1837, Thomas became the proprietor, and remained so for four years; then the nursery passed into the hands of the late Mr. Charles Turner, who was foreman for some years to the Messrs. Brown, and eventually started into business for himself at Chalvey, a small village lying between Slough and Eton. Many of the records of the nursery were lost in a fire which, during the time of the tenancy

of Thomas and Edward Brown, destroyed the dwelling-house and adjacent offices, consuming many valuable papers also.

Charles Brown was one the earliest members of the London Horticultural Society—which then held its meetings at Chiswick—and was a member of the Council of the Society at the time of his death, at the age of 41 years. The firm for a number of years exhibited regularly and successfully at the meetings of the Horticultural Society, as well as in the large provincial towns. Among the new things bearing the name of the firm, and introduced by them, were *Lonicera Brownii*, *Lilium Brownii*, Brown's Superb Rose, and seedlings of Tulips, Dahlias and Pansies almost without end; also *Pelargoniums*, *Calceolarias*, *Phloxes*, &c. One of the latter was named *P. omniflora*—very remarkable in those days—dwarf habit, white, very free, and an excellent pot plant; also several other fine seedlings, to which prizes were awarded. It is believed that one of the first descriptive catalogues of flower seeds was sent out by the firm of Thomas and Edward Brown.

All that has since been done at this famed nursery has been of a character to greatly enhance its reputation and increase its importance. Comparing the extent now with what it was when we first saw it in 1853, the growth has been something prodigious, and yet more ground has to be obtained to provide for new developments in the business. That it may prosper is the hearty desire of every well-wisher to the progress of horticulture.

SAND AND PEAT: A CAUTION TO GARDENERS.

At the Warwick County Court on Dec. 14th, before Sir R. Harington, Bart., judge, the case of *Kesterton v. Greenfield* was tried, which is of considerable importance to gardeners. The plaintiff was Mr. John Kesterton, sand merchant, Devonshire Street, Cheltenham, and the defendant, Mr. Robert Greenfield, of the Priory Gardens, Warwick, and the matter in dispute a claim for 18s. for peat and silver sand supplied to defendant in August last. The defence was that the goods were inferior to sample, and that the sand was nearly two bushels short in measure. Plaintiff had had due notice of their rejection. Plaintiff said he had a truckload of sand and peat at the Leamington Station, and showed defendant samples. He sold him five bushels of each for 18s., and delivered them the same day. When he came for his money, defendant told him that as the goods delivered were inferior and the sand short in weight, he declined to accept them, and ordered him to remove them at once. Defendant wrote to him some days afterwards, stating that unless the sand and peat were sent for by a given time they would be forwarded to Cheltenham by rail, also a subsequent letter to inform plaintiff that the stuff was lying at the Priory Gardens at his own risk. The defendant said that the plaintiff called upon him on August 3rd with samples of peat and sand. Witness asked him if the bulk, which he offered to sell him, was equal to sample, and the plaintiff assured him that it was, remarking, that if otherwise he would give it him for nothing. The defendant offered to pay plaintiff at once; but the latter replied that the stuff he then had with him outside had to be taken elsewhere, but the other was at Leamington railway station, and should be brought to him in the course of the day. Plaintiff delivered it next day in witness's absence. Upon the sand being measured it was found to be nearly two bushels short, while the peat was simply worthless. Mr. Boddington informed the Judge that his client held a responsible position at the Priory, and to have paid the plaintiff the sum demanded for such stuff as he sent to him, would have been to subject his employer to gross imposition, therefore he defended the action purely on principle. Mr. Boddington quoted the case of "*Grimoldby v. Well*," tried in the Court of Common Pleas, in which it was decided that the buyer is under no obligation, either to return or offer to return goods to the seller, or to place them in neutral custody, when upon inspection the bulk proves to be inferior to sample. It was sufficient for the buyer to give clear notice to the seller that he rejected the goods, and that they were at the seller's risk, and it then rested with the seller to remove them. His Honour, without calling upon the defendant's witnesses, decided to go down to the Priory Gardens and inspect the sand and peat. Having done this he gave judgment for the defendant, believing that the peat was not according to sample, and that the defendant had a right to reject the whole. He could not conceive that a person occupying the defendant's position would come forward and deliberately perjure himself. Judgment for the defendant, costs to follow in the ordinary way.

NOTICES TO CORRESPONDENTS

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bona fides*. No notice whatever will be taken of anonymous letters.

QUESTIONS AND ANSWERS.

COMMUNICATIONS RECEIVED.—A. Henderson (next week).—L. C.—R. I.—J. C.—J. S. T.—J. McP.—G. B.—W. C.—R. G.—D. P. L.—B. L.—R. B.—M. I.—A. R.—H. J. J.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, King's Road, Chelsea, S.W.—Catalogue of Flower and Vegetable Seeds, &c. for 1887.

SUTTON & SONS, Reading.—Amateur's Guide in Horticulture for 1887.

JOHN LAING & CO., Forest Hill, London, S.E.—Catalogue of Seeds, Novelties, Begonias, and Plants of every description.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.—Specialities for 1887.

OTTO MANN, Leipzig, Saxony, Germany.—Trade Seed Catalogue.

THOMAS LAXTON, Bedford.—Seed Novelties and Specialities for 1887.

DICKSON, BROWN & TAIT, 43-45, Corporation Street, Manchester.—Vegetable and Flower Seeds, &c.

W. E. BOYCE, Victoria Cottages, Archway Road, Highgate, N.—Descriptive Catalogue of Chrysanthemums.

WEBB & SONS, Wordsley, Stourbridge.—Spring Catalogue for 1887.

LONDON SEED TRADE.

December 22nd, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance at to-day's Market, operations in seeds being postponed until after the Christmas holidays. English Red Clovers fine qualities are scarce, and prices firm. There has been a little more enquiry for English Whites. Alsike and Trefoils keep firm. Rye Grasses are very firm at last week's quotations. There is rather a better trade for Blue Peas. Linseed is firmer; other Bird Seeds unchanged.

COVENT GARDEN MARKET.

December 23rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6	3 6	Pine-apples, St.		
Grapes, per lb.	1 0	2 6	Michaels, each	1 6	6 0
Kent Cobbs, 100 lbs.	65 0	70 0	Pine-apples, Eng., lb.	1 0	1 6
Melons, each			Strawberries, per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6	0 8	Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per busbel	4 0	5 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 0	Sea Kale, per basket	1 6	2 6
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	1 6
			Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Liliums in variety, 12 blooms		
Arum Lilies, per doz.	18 0	24 0	Marguerites, 12 bun...	3 0	6 0
Azalea, 12 sprays	0 9	1 6	Mignonette, 12 bun...	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Parma Violets (French), per bunch	3 6	5 0
Camellias, 12 blooms	2 0	5 0	Pelargoniums, per 12 sprays	1 0	1 3
Carnations, 12 blooms	1 0	3 0	—scarlet, 12 sprays	0 4	0 9
Chrysanthemums, 12 blooms	0 6	2 0	Primula, double, bun.	0 9	1 6
Chrysanthemums, 12 bunches	4 0	12 0	—single, 12 bun.	4 0	6 0
Czar Violets (French), per bunch	1 6	2 0	Pyrethrum, 12 bnchs.	2 0	4 0
Dahlias, 12 bunches			Roses (coloured)	1 0	2 0
Daisies, common	0 6	1 0	Roses, Tea, per dozen	1 0	3 0
Epiphyllum, 12 blms.	0 6	1 0	Roses, red (French), per doz.	1 6	2 0
Eucharis, per dozen	4 0	8 0	—Saffron (French), per doz.	0 6	1 6
Gardenias, 12 blooms	6 0	12 0	Stephanotis, 12 sprays	4 0	12 0
Gladioli, 12 sprays			Sweet Sultan, 12 bun.		
Heliotropes, 12 sprays	0 6	1 0	Tropeolums	1 0	2 0
Lapageria, red, 12 blooms	1 0	1 6	Tuberose, per dozen	1 0	2 0
Lapageria, white, 12 blooms	2 0	4 0	Violets, 12 bunches	1 6	2 0
Lilium longiflorum			White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 6
Asters, per dozen			Foliage Plants, various, each	2 0	10 6
Begonias, per dozen	6 0	12 0	Fuchsia, per doz.		
Bouvardia, per doz.	9 0	12 0	Gladioli, 12 pots		
Chrysanthemums, doz.	4 0	18 0	Hydrangea, per doz.		
Cyperus, per dozen	4 0	12 0	Liliums		
Dracena term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
—viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	6 0
Epiphyllums, per doz.	18 0	30 0	Palms in variety, each	2 6	21 0
Erica gracilis, per doz.	9 0	12 0	Pelargoniums, doz.		
—hyemalis, per doz.	12 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
—Reginians, doz.	9 0	12 0	Petunias, per doz.		
—various, per doz.	8 0	24 0	Primulasinis, p.dz.	4 0	6 0
Evergreens, in var., per doz.	6 0	24 0	Solanums, per doz.	9 0	12 0
Ferns, in var., doz.	4 0	18 0			

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14 by 12 for 17s. 6d. for 24s. 0d.		
12 by 12 for 13s. 0d. for 20s. 0d.		
18 by 12 for 21s. 0d. for 31s. 0d.		
20 by 12 for 24s. 0d. for 35s. 0d.		

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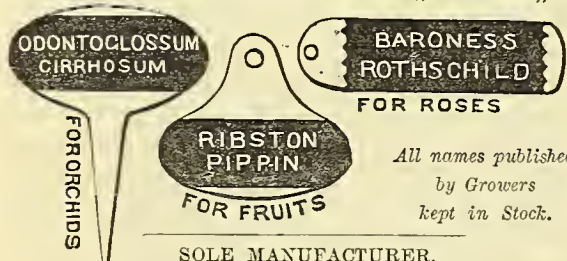
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DITTO TERMINALS, with Winders, 8s. per dozen.

DITTO Do. without Winders, 2s. 3d. per dozen.

COMPLETE CATALOGUE of all kinds of Iron and Wire Fencing free.

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And 139 and 141, CANNON STREET, LONDON, E.C.

SPECIAL OFFER of CHOICE-FLOWERING PLANTS.

ALL WARRANTED CLEAN AND HEALTHY, FREE PASSAGE ON RAIL.

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PALMS, in six varieties, strong, clean and healthy ... 4 0

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J. UPTON'S NEW GIANT PANSY—This is entirely a new and distinct class, bearing perfect-formed flowers of rich and vivid colours, 3 ins. and 4 ins. across; stock limited, strong plants, post free ... 3 6

ODIER BLOTCHED PANSIES—My strain of this beautiful class is unsurpassed by any ... 2 6

PANSIES, finest quality, mixed, strong plants ... 1 6

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The above liberal collection is sent post free on receipt of P.O. for 5s. 6d.; double the quantity for 10s.

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J. J. UPTON, Florist, &c., Irlam, near Manchester.

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TWO PRIZE MEDALS.

Quality, the BEST in the market.

(All Sacks included.)

PEAT, best black fibrous, 4s. 6d. per sack; 5 sacks for 20s.

PEAT, best brown fibrous, 5s. 5 " 22s. 6d.

PEAT, extra selected Orclid, 5s. 6d. " 5 " 25s.

LOAM, best yellow fibrous ... 1s. per bushel.

PREPARED COMPOST, best ... 3s. per sack

LEAF-MOULD, best only ... (sacks included).

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SILVER SAND (coarse) 1/6 per bushel, 14½ half ton, 24½ ton.

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MUSHROOM SPAWN (finest Milltrack), 5s. per bushel.

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CHUBB'S "PERFECT" FERTILISER (the best food for all kinds of Plants, Flowers, Fruits, Vegetables, &c.), tins 1s. 6d.

Bags, 7 lbs., 3s.; 14 lbs., 5s.; 28 lbs., 8s.; 56 lbs. 14s.; 1 cwt., 22s.

VIRGIN CORK (best quality only), 14 lbs., 3s.; 28 lbs., 5s. 6d.; 56 lbs., 10s. 6d.; 1 cwt., 17s.

HORTICULTURAL CHARCOAL (ditto), 2s. 6d. per bushel.

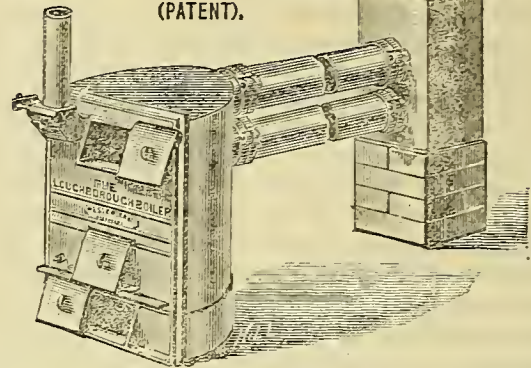
COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9s.; 15 sacks, 13s.; 20 sacks, 17s.; 30 sacks, 25s.; 40 sacks, 30s. Truck-load, loose, free on rail, 25s. Limited quantities of G special quality, granulated in sacks only, 2s. each.

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PRICES, CARRIAGE PAID.—No. 1, £2 12s., No. 2, £4, No. 3, £5 10s.; Also made in three larger sizes, heating from 50 to 1,000 feet of pipe. Discount allowed for cash with order. Perfect success guaranteed where our directions are followed. Illustrated Price Lists on application.

CAUTION.—Beware of imitations, which have had little or no practical test, professing to heat a larger amount of piping for about the same cost, and avoid disappointment and loss.

A Gold Medal (the highest award) has been awarded to us this year in open competition for general excellence in Horticultural Buildings by the Society of Architects.

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Black and Brown Peat	Russia and Archangel Mats
Silver Sand and Loam	Pot Washing Branses
Cocoa Nut Fibre Refuse	Virgin Cork and Raffia
Leaf and Peat Mould	Tanned Netting and Tarred Twine
Specially Prepared Mould	Trugg Garden Baskets
Sphagnum Moss	Flower Sticks, from 1 to 5 feet
Guano and Dissolved Bones	Wooden Labels, from 4 to 12 in.
Bones, ½ inch and ¼ inch	Thin Bamboo Canes
Bone Dust, guaranteed pure	Rose and Dahlia Stakes, about 5 feet
Blood and Bone Manure, highly recommended	Orchid Baskets and Teak Rods
Horticultural Charcoal	Patent Bass Brooms
Tobacco Cloth, far superior to Paper	Folding Postal Flower Boxes
Mushroom Spawn	"Mary Morris" Carnation plants

Write for Free Price List.

H. G. SMYTH, F.R.H.S.

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Established 1848.

This Advertisement appears alternate weeks.

HONOURABLE MENTION AND AWARD OF MERIT, Hull and East Riding Chrysanthemum Society, 1886. CERTIFICATE OF MERIT, Scarborough Floral Society, 1886. Especially adapted for the cultivation of **FLOWERS, FRUITS and VEGETABLES.** Is not a Chemical production, but a purely natural Guano. Useful everywhere alike, in Flower Garden, Conservatory and Greenhouse. PACKETS, 1 lb., 6d., 2 lbs., 1s.; postage extra. BAGS, 7 lbs., 2s. 6d., 14 lbs., 4s. 6d., 28 lbs., 7s. 6d., 56 lbs., 12s. 6d., 112 lbs., 20s., carriage paid. Of the principal Nurserymen, Seedsmen, Florists and Chemists, or direct from **WILLIAM COLCHESTER, IPSWICH.** The genuine bears the Trade Mark and Name in full.

COCOA-NUT FIBRE REFUSE AT REDUCED PRICES.

4-BUSHEL BAG, 1s.; 10 bags, 9s.; 15 bags, 13s.; 20 bags, 17s.; 30 bags, 25s. Bags included. Truck load, free to rail, 25s.—T. RICH, Cocoa Fibre Works, 12, Redman's Road, Mile End, London, E.

THE WEEKLY DISPATCH.

BEST PENNY PAPER.

Sent post free: 3 months, 1s. 8d.; 6 months, 3s. 5d.; 12 months, 6s. 6d.; single copy, post free, 1½d.

JOHN P. FULLER,

19 & 20, Wine Office Court, Fleet Street, London, E.C.

EPPS'S GRATEFUL-COMFORTING. COCOA

NEW CATALOGUE OF FLOWER SEEDS,

BEING one of the most complete Catalogues of FLOWER SEEDS ever published, consisting of 88 PAGES of close matter, and including almost everything that can be readily raised from seed and can claim any real and general usefulness. The descriptions are original, having been prepared principally from PERSONAL OBSERVATION. Many of the subjects are ILLUSTRATED with beautifully-executed ENGRAVINGS. Several of these, like the flowers they illustrate, are to be found IN THIS CATALOGUE ONLY.

Copies may be had gratuitously and post free upon application.

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Apples, Pears, Plums, Cherries, Peaches, Nectarines, Apricots, and other Fruit Trees, as Standards, Dwarfs, Pyramids, Bushes, Cordons, and Trained Trees in great variety.

VINES, excellent canes, 3s. 6d. to 10s. 6d. ORCHARD-HOUSE TREES in POTS, Peaches, Apricots, Nectarines, &c., from 5s. Figs from 3s. 6d.

DESCRIPTIVE LIST, containing a sketch of the various forms of Trees, with Directions for Cultivation, Soil, Drainage, Manure, Pruning, Lifting, Cropping, Treatment under Glass; also their Synonyms, Quality, Size, Form, Skin, Colour, Flesh, Flavour, Use, Growth, Duration, Season. Price, &c., free by post.

RICHARD SMITH & Co.,
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HER MAJESTY, W. F. BENNETT,
SUNSET, W. A. RICHARDSON,

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Other Choice and leading Varieties
AT MODERATE PRICES.

PRICE LIST FREE.

JOHN STANDISH & CO., ROYAL NURSERIES, ASCOT.

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The LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), LIMITED,

THE VINEYARD AND NURSERIES,

CARSTON, NEAR LIVERPOOL,

Have to state that a NEW EDITION
of their

ORCHID CATALOGUE

Is now ready, and will be sent POST
FREE on application.

DESCRIPTIVE CATALOGUE. — Roses,
Fruit Trees, Rhododendrons, Conifers, Deciduous and
Evergreen Trees and Shrubs, Climbing Plants for Walls, &c.,
Forest Trees, Azaleas, Camellias, &c., free on application.
H. LANE & SON, Nurseries, Berkhamstead, Herts.

The Gardeners' Royal Benevolent Institution.

NOTICE is hereby given that the Annual
General Meeting of the Subscribers of this Institution
will be held on Friday, the 14th January, 1887, at "SIMPSON'S,"
101, STRAND, W.C., for receiving the ACCOUNTS and the REPORT
of the COMMITTEE for the present year, and for electing officers
for the ensuing year. Also for the Election of FOUR PENSIONERS
on the Funds of the Institution.

The chair will be taken at THREE O'CLOCK PRECISELY.

The Ballot will close at Five o'clock precisely.

By Order, EDWARD W. CUTLER, Secretary, 50, Parliament
Street, London, S.W. 23rd December.

N.B.—The Voting Papers have all been issued; any subscriber
not having received one is requested to notify the same to the
secretary.

SEEDSMEN TO
BY HER MAJESTY
ROYAL WARRANT THE QUEEN.

CARTERS' GOOD THINGS FOR THE GARDEN



Registered Trade Mark.

NOW READY.

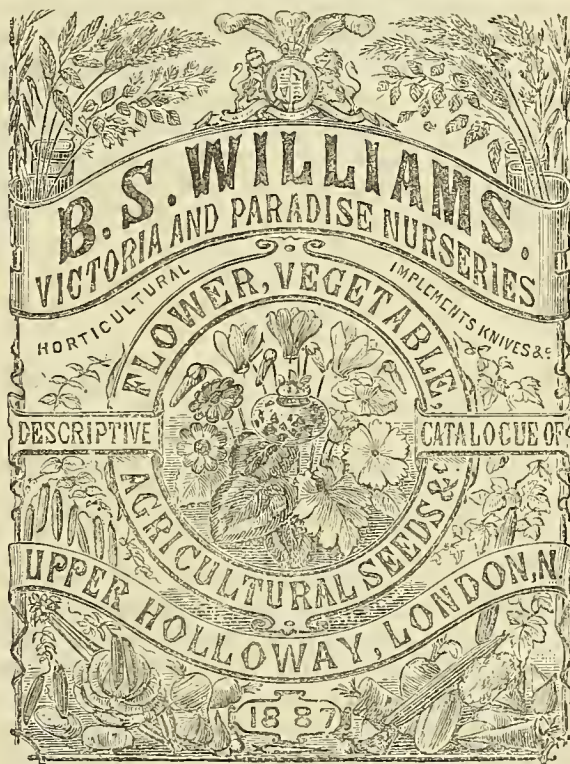
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VADE-MECUM
FOR 1887.
The Best Catalogue.

It contains several Coloured
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and Pretty Flowers, and also
gives concise instructions to
ensure successful cultivation.

Price 1/- Post Free, Gratis
to intending Customers.

237 & 238, High Holborn, London.

SEEDSMEN TO
BY H.R.H. THE
ROYAL WARRANT PRINCE OF WALES.



The above is now ready, and will be
forwarded Gratis and Post Free to all
applicants.

24 SPECIES of rare, large-rooted, hardy
Irish Ferns for 3s. 6d., free; 50 for 5s. 6d. 12 species
of large-rooted evergreen Alpine-flowering Plants for 2s. 6d.,
free. 12 single Trumpet Daffodil Bulbs for 1s. 6d., flowers 4 ins.
long, free. Catalogue of 660 species and varieties of Irish Ferns
and Perennial Plants for 2d.; many of the Ferns are newly dis-
covered.—O'KELLY, Botanist, Gleuarra House, Co. Clare.

Lilliums and Lilies a Speciality.

GRAND imported Lily of the Valley crowns
for forcing, 3s. 6d. and 4s. 6d. 100; choice Dutch clumps,
9s. to 15s. doz.; Spiraea japonica, fine clumps, 3s. 6d. to 6s. doz.,
according to size; Liliun auratum, good fair bulbs, 5s., large
size, 9s., extra large, 12s. doz.; fine Liliun rubrum or roseum,
5s., extra large, 6s. 6d.; Liliun album (true), pure white, 10s.;
album monstrosum, white, 5s. 6d.; longiflorum, 3s.; Harrisii, 10s.
to 16s., according to size; tigrinum, 2s. 6d.; umbellatum
erectum, 3s.; pomponium (like scarlet Turk's Cap), 6s. 6d. All
per dozen; smaller quantities a little extra, as per List. African
Tuberose, 1s. 6d., extra large, 2s. 6d. doz.; American Pearl
Tuberose, 2s. 6d., extra large, 3s. doz.; scarlet Gladioli, 2s. 6d.,
3s. 6d. and 5s. 6d. 100; choice Gandavensis hybrids, 2s. doz.,
12s. 100; Gladioli Colvilli alba (The Bride), 1s. 6d. doz., 10s. 100;
Colvilli rubra, pink, 8d. doz., 3s. 6d. 100; choice Ranunculus,
from 1s. 6d. 100; Anemones, single, 1s. 9d. 100. double, 3s. 100;
choice Spanish Iris, 1s. 6d. 100, 12s. 1,000. Special prices to large
buyers.—ROBERT SYDENHAM, Tenby Street, Birmingham.

Brazilian Orchids.

CARLOS TRAVASSOS will supply any of
the above at very cheap prices. Address: P. O. Box No.
91, Rio de Janeiro. Price lists on application to C. P. CLAYTON,
Esq., Langdown Firs, Hythe, Hants.

National Chrysanthemum Society, Royal
Aquarium, Westminster.

THE MID-WINTER EXHIBITION will
be held on Wednesday and Thursday, January 12th and
13th, 1887.

CHRYSTHEMUMS, CYCLAMENS, PRIMULAS, SOLA-
NUMS, &c., &c.

Schedules and all particulars (free) of Mr. WILLIAM
HOLMES, Hon. Sec., Frampton Park Nurseries, Hackney.
Miscellaneous Exhibits invited for Special Awards.

Shepperton & Thames Valley Horticultural
Society.

THE FOURTH ANNUAL SHOW will be
held at Sunbury Court, on Thursday, June 30th, 1887.
Open prizes for Roses and Orchids. Schedules and particulars
to be obtained of EDWARD RUTTER, Hon. Secretary and
Treasurer, Shepperton-on-Thames.

Next Week's Engagements.

MONDAY, Jan. 3rd.—Sale of Lily Bulbs and other roots at Stevens'
Rooms.

WEDNESDAY, Jan. 5th.—Sale of Lily Bulbs, Roses, &c., at
Protheroe & Morris's Rooms.—Sale of Hardy Plants and
Bulbs at Stevens' Rooms.

THURSDAY, Jan. 6th.—Sale of Orchids from the Roraima
Mountain at Stevens' Rooms.

FRIDAY, Jan. 7th.—Sale of Imported Orchids at Stevens' Rooms.

SATURDAY, Jan. 8th.—Sale of Plants, Roses, Bulbs, &c., at
Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 1, 1887.

THE NEW YEAR.—A wearied traveller along
some great highway, as he passes the stones
which, at regular intervals, mark the traversed
miles, though finding each succeeding mile very
much like the last, yet knows that each mile
which is covered brings him nearer to his desti-
nation. His material journey differs from the
journey of life appreciably, because he is in
haste to reach the end; whilst we rather linger
on the road, anxious, as it were, to put off the
end till the latest period. The end of one year
and the commencement of another find apt
illustrations in the mile-stones of the roadside,
for in each case, were not these created marks
furnished, nothing else tells us of a period
passed—of a distance journeyed; but there is
this peculiar identity in the simile also—that
just as one mile is very like another, so also are
the years that we pass in our life journey.

The year of grace, 1887, now opening will
probably, in its natural characteristics, differ in
the most trifling degree from hundreds of others
that have preceded it. If it be a pleasant one,
we have had many such; if a cold and cheerless
one, we have had many such too, alas! and

dread to see more ; but it is certain, come what will, that the year will be one of common-place character in all its natural features. One event will, perhaps, for a few days, excite British people, because the Sovereign of this empire will celebrate a period of government seldom the lot of kings or queens—the 50th anniversary of the ascent of Her Majesty to the throne of Great Britain. That this Jubilee celebration will, for a time, give some stimulus to trade is certain, and it is hoped that it may prove beneficial to horticulture. There can be little doubt but that it would be unwise to anticipate too much from that event, for bursts of excitement or of expenditure too often are followed by periods of dullness and depression, which often more than counterbalance any good resulting from the previous outburst of activity.

Those who remember the general rejoicing indulged in over the celebration of peace at the close of the Crimean war can hardly have other than painful remembrance of the depression or reaction which succeeded. So closely are our special interests, as embodied in gardening, identified with national vigour and prosperity, that we can hardly avoid glancing with anxiety to the disturbed condition of affairs on the continent of Europe. There the materials of a terrible conflagration seem to be in course of preparation, and but awaits the act of the political incendiary which shall set the whole ablaze. At home we find ourselves in the midst of an exciting and disturbing political crisis, and evidence is not wanting that the coming year will be one fraught, in our domestic affairs, with much that is angry and passionate as well as of absorbing interest. No doubt we have, nationally, a severe ordeal to pass through, out of which, it is hoped, we may come strengthened, purified and more prosperous ; but till that haven is reached we must make up our minds for troublous times, and the best thing to do is to face them wisely and boldly.

We have no desire to adopt the rôle of Jeremiah, and paint a dolorous picture. We simply refer to matters which seem so inevitable that even the blind may almost see them, and which to be forewarned upon is to the more easily faced. We have said that national prosperity is associated with the welfare of gardening. We might, indeed, say that both are indissolubly connected, and in the growth of one we see the expansion of the other. Indeed, from our point of view, there is not to be found any evidence of our progress as a people that is at once more patent and more satisfactory than is seen in the growth of gardening and the warm love for it so universally extant. In spite of all disturbances, political or otherwise, which may interpose between us and complete happiness, the spring, summer and autumn, with all their rich profusion of products of the earth, will inevitably come. Storms may sometimes rage ; but so also will the sun shine out in all its pristine beauty, causing the earth to rejoice, and the very fields and gardens to break forth into splendour. The statesman, exhausted and wearied with political cares ; the merchant, worried and tired with business ; the professional man, borne down with the weight of toil, all alike find in gardening a sweet recreative repose from trouble and labour. To the myriads of workers in gardens, who know little of these greater cares, life should be happier than to most other workers. We hope it is, and specially do we hope that the year now entered upon may prove prosperous to them, to us, to the kingdom, to all, in spite of gloomy forebodings.

MR. ALEXANDER MCLEAN, late foreman at Park Hall, Polmont, has been engaged as gardener to Colonel Hanbury Barclay, Crossoak, Great Berkhamstead.

MR. GEORGE WRIGHT, late foreman at Gallonhill, Paisley, has been engaged as gardener to W. D. Crewdson, Esq., Helme Lodge, Kendal.

THE fourth annual exhibition of the SHEPPERTON AND THAMES VALLEY Horticultural Society will be held at Sunbury Court on June 30th, 1887.

THE annual general meeting of the subscribers to the GARDENERS' ROYAL BENEVOLENT INSTITUTION will be held at "Simpson's," 101, Strand, on Jan. 14th, at 3 p.m.

WE understand that Messrs. HOOPER & Co., Covent Garden, are about to convert their business into a Limited Liability Company, into which it is proposed to absorb the Pine Apple Place Nursery of Messrs. E. G. Henderson & Son, and one of the City seed houses. We hear that Mr. Dick Radclyffe is also forming a Limited Company to take over his business.

MR. PATRICK BERMINGHAM, late of Potholm, Langholm, has been engaged as gardener to the Rev. A. Masson, The Manse, Kirkliston, N.B.

AT the last meeting of the Floral Committee of the Royal Society of Agriculture and Horticulture at Ghent, Certificates of Merit were awarded to M. Ad. D'Haene, for *Calanthe Veitchi rosea alba* ; to M. Louis Van Houtte, for *Cypripedium Leeannum* and *C. Leeannum superbum* ; to M. Jules Hye, for *Cypripedium caudatum roseum splendens*, *C. politum* and *C. Lawrenceanum* ; to M. M. Boelens frères, for *Odontoglossum Alexandræ* var. *alba* ; and to M. Louis Desmet-Duvivier, for *Dracæna fragrans aurea lineata*.

MR. ANDREW BOGIE, late of Adderley House, Monifeith, has been engaged as gardener to H. T. Stainton, Esq., Mountsfield, Lewisham, London, S.E.

THE Jubilee fever is setting in strong. Since our last issue went to press we have received from Messrs. John Laing & Co., Forest Hill, a handsome coloured plate of JUBILEE BEGONIAS, accompanied by a large lithographic portrait of H. M. The Queen, which will, doubtless, be appreciated by the many gardeners who will receive it, for gardeners are the most loyal of men. The coloured sheet of Begonias comprise characteristic representations of a dozen of the Messrs. Laing's best double varieties, admirably grouped.

MESSRS. WATKINS & SIMPSON, Exeter Street, Strand, also propose to commemorate the 50th year of the Queen's reign by presenting all their customers with a portrait of Her Majesty as a souvenir of the occasion. The portrait is a good one and neatly turned out by the lithographers, Messrs. Blake & Mackenzie.

"ROUND about the World of Horticulture" will form the subject of an address, which Mr. R. Dean will deliver at a meeting of the Chiswick Mutual Improvement Association, on Jan. 28th.

MR. WM. SCOTT, late of Park Hall, Polmont, has been engaged as gardener to the Hon. Henry Bourke, Hayes House, Beau Park, Co. Meath.

MR. ANDREW SMITH, late of the Glenburn Hydro-pathic Establishment, Rothesay, has been engaged as gardener to George Ure, Esq., Wheatlands House, Bonnybridge.

THE WINNERS OF THE CHAMPION PRIZES offered for competition during the past season by Messrs. James Carter and Co. were:—First, Mr. J. McKean, gardener to E. H. T. Crawford, Esq., Auchenames, West Kilbryde, Ayr, with a record of seventy-six prizes ; second, Mr. W. Chettleburgh, gardener to Col. Rous, Worstead House, Norwich, sixty-nine prizes ; third, Mr. J. Davis, gardener to the Rev. H. Arkwright, Bodenham Vicarage, Leominster, forty-five prizes ; fourth, Mr. T. Fogg, gardener to Mrs. Wilson, Tipton Hall, Sheffield, forty-prizes ; and fifth, Mr. H. Sell, Windsor Street, Luton, who won thirty-seven prizes in all. The Messrs. Carter offer seven prizes for a similar contest next year.

MR. J. CLEMENT, for upwards of twelve years gardener to the late E. G. Carew, Esq., has been appointed gardener to Mrs. Carew, Halsway Manor, Taunton, Somerset.

MR. J. G. BEDFORD, formerly gardener to Colonel Dyott, Freeford Hall, Lichfield, has been appointed gardener to R. Ratcliffe, Esq., Newton Park, Burton-on-Trent.

WE understand that Mr. E. Barker has disposed of his nursery and seed business at Castle Cary, Bath, to Mr. Walter Bergman.

THE snow storm which raged on Sunday night last over such a wide area, proved dreadfully destructive to property. In the Metropolis, greenhouse roofs and skylights have been wrecked by hundreds, and telegraph poles and wires have been broken in all direc-

tions. In consequence of the mildness of the temperature favouring the accumulation of snow on the branches, a vast amount of damage has been done to trees in the parks and gardens. Conifers and Yew trees especially have been irrecoverably damaged, the former in many instances being reduced to bare poles. When practicable, where the snow falls so heavily as in this instance, valuable specimens should be disburdened as quickly as possible by shaking the branches with long poles.

PERISTROPHE SPECIOSA.

WHEN allowed to attain its full size this useful winter-flowering plant will grow to the height of 4 ft., but by pursuing a certain method of cultivation, bushy serviceable plants may be obtained not exceeding 15 ins. in height. It is a native of India, and generally described as a stove plant ; but it may be kept for a considerable part of the year in a warm greenhouse temperature. For winter-flowering it is advisable to propagate a stock annually by cuttings, and by growing the plants uninterruptedly, with a little timely pinching, they make nice bushy plants by autumn. Previous to this, they should be grown in a warm pit close to the glass, which enables the plants to retain their leaves, and fosters a close and bushy habit.

When about to flower they may be transferred to the greenhouse, where a moderately high temperature should be maintained to encourage flowering. A group of them introduced at this season amongst other plants serves to give variety—a highly desirable feature, which should be aimed at by every cultivator. The bright and attractive purple flowers are borne in small axillary cymes ; and, owing to their comparatively large size and the freedom with which they are produced on healthy young plants, are well worth the cultivator's attention. It is allied to *Justicia*, under which name it is figured in the *Botanical Magazine*, t. 2722, and other contemporary publications of a similar kind. The cultural requirements are few, and not very special. Cuttings should be inserted in spring in sandy soil, and when rooted should be grown in frames till autumn in a compost consisting of fibrous loam, leaf-soil and a sprinkling of sand to maintain its porosity.

GRAND NATIONAL DAHLIA SHOW.

A MEETING of the promoters of this annual show took place at the Botanical Gardens, Chelsea, on the 22nd inst., Mr. Heury Glasscock in the chair. There was present also, Messrs. H. Turner, Williams (of Salisbury), Rawlings, Cheal, W. Holmes, G. Harris, J. T. West (Brentwood), R. Dean and Thomas Moore, hon. sec. The minutes of the last meeting having been read, Mr. Moore announced that the Crystal Palace Company would continue the same arrangements as last year, and the exhibition was fixed for September 2nd and 3rd, subject to any alteration by the Crystal Palace Company. The executive committee was reappointed and the judges were named ; any necessary alterations in the list to be made by Mr. Moore. Much regret was expressed that old supporters of the Society, like Mr. William Dodds and Mr. Heury Eckford, were precluded by distance from being present at the show to assist in the judging as heretofore. Mr. Moore was authorised to engage such assistance as he might require at the annual show. The consideration of the new schedule of prizes led to a discussion on the subject of attempting a new classification of Dahlias in the same. It was at first proposed that there should be classes for self and shaded Dahlias, and also for parti-coloured flowers, including Fancies ; eventually it was decided, as far as the nurserymen's classes are concerned, to abolish the distinction between show and fancy varieties, in order that they might be shown in the same stand at the option of the exhibitor, and these classes will now be for seventy-two blooms in not less than thirty-six varieties and not more than two blooms of a sort ; forty-eight blooms, twenty-four blooms and twelve blooms, all distinct ; no person to show in more than two of the foregoing classes. The representatives of the amateur exhibitors present not being much in favour of this new arrangement, it was resolved that the classes for these should remain the same as last year, retaining the distinction of show and fancy Dahlias. The classes for premier blooms of show and fancy Dahlias were struck out as serving no practical purpose.

The following new classes, open to all, were added:—Six dark Dahlias, distinct; six light, ditto; six tipped, ditto; six striped, ditto; and six decorative and Cactus varieties, distinct, to be shown in bunches of six blooms. In the classes for Single Dahlias the number of bunches have been increased to twenty-four and twelve; and a new class of six bunches has been provided for amateurs. Five new classes are also added for amateurs, the means being provided by a vote of the Veitch Memorial Fund Trustees; and in addition there will be the competition for the Turner Memorial Trophy. Thus there is every prospect of the Exhibition of 1887 being considerably extended, and also be made additionally interesting by reason of the re-casting of some of the old and the provision of new classes. The proceedings closed with a hearty vote of thanks to Mr. Moore for his services during the past year, and to the chairman for presiding.

DENDROBIUM MACFARLANEI.

WE have pleasure in being able to present to our readers the first illustration of this lovely Dendrobe, of which there are probably only three plants at present in the country—viz., those at Messrs. Jas. Veitch & Sons, of Chelsea. The habit of the plant is very like that of some of the shorter forms of *D. thyrsiflorum*, or it

Auriculas and *Gentiana acaulis*, these making a gay appearance in the spring months. Along a walk leading to the kitchen garden a water-course intersects, and this is crossed by a rustic hand-bridge. At each end of this bridge rockeries have been built, and are filled with *Saxifragas*, *Aubretias*, *Campanulas*, &c.; and the sides of the water-course are planted with *Scilla nutans*, *Daffodils*, *Primroses* and *Forget-me-nots*.

The kitchen garden is bordered with herbaceous plants, and contains a good collection of *Irises*, *Pæonies*, and bulbs of various sorts. The glasshouses are situated at the extreme end of the kitchen garden, and it is here Mr. Norman Veevers devotes a great part of his energies in bringing to perfection his choice lot of plants.

The first house we entered was a span conservatory. The centre stage has been well filled with *Chrysanthemums*, and the side stages were occupied with good examples of *Rhododendron jasminiflorum*, *Adenandra fragrans*, *Pimelias*, *Aphelexis*, *Tetrathecas*, *Boronias*, *Hedaromas*, *Statice*, &c.; good plants of *Erica ventricosa* and *E. Cavendishiana*; a very fine plant of *Erica Shannoni glabra*, a variety of which too much cannot be said in its favour, both for exhibition and cutting purposes. All these are exhibition plants, and have figured, on various occasions, at the annual show. A good collection of *Camellias*, containing such varieties as *Alba plena*, *Fimbriata*, *Countess of Ellesmere*,

fountain. Twining amongst the cork on the back wall were plants of *Tradescantia discolor*, *Ficus repens* and a collection of *Pteris* and ornamental *Begonias*. This house is a Fernery in the proper sense of the word, the smell on entrance putting one in mind of a large patch of Ferns after a shower of rain in some of our woods and dells in the month of July.

Early and late vineries run at right angles from the conservatory—the early one being ready for starting into growth as soon as the days begin to get a little longer. The late one is at present carrying good fruit of Mrs. Pearson, Gros Colmar, Trebbiano, Muscat of Alexandria and Madresfield Court. Here a little experiment has been tried with grafting Black Alicante and Lady Downes, Gros Colmar and Lady Downes, Trebbiano and Lady Downes together, all the varieties carrying fruit.

A large and roomy stove stands away from the other houses, and contains some very good exhibition plants, also a collection of small plants for table decoration, &c. The entrance was gay with *Poinsettias* and *Calanthes*, mixed with *Adiantums*, many of the spikes of *Calanthes* measuring 4 ft. in height. On the roof were good plants of *Passiflora princeps*, *P. Bonaparte* and *Stephanotis*, *Allamanda*, *Dipladenia Bolivensis*, always blooming, and suspended from the roof, in wire baskets, are good plants of *Nepenthes Rafflesiana*, carrying twenty pitchers, and baskets of *Davallias*, *Dendrobiums*, &c. Amongst specimen exhibition plants were grand examples of *Ixora Williamsii*, *Fraserii* and *Amboyensis* plants, 3 ft. to 4 ft. through; *Rondeletias*, *Dipladenias*, *Anthurium Andreanum*, *A. Scherzerianum*, *Euphorbia splendens*, *Tabernæmontanas* and great specimens of *Gardenia intermedia* make up the bulk of the flowering plants. Among specimen Palms were good examples of *Areca Verschaffeltii* and *crinita*, *Cocos Weddelliana* (several plants), *Geonoma gracilis*, *Cycas revoluta*, *Chamærops humilis* and *Stevensonia grandiflora*. Variegated leaves were well represented by grand examples of *Croton Queen Victoria*, 6 ft. high by 3 ft., finely coloured; *C. interruptus*, *Wiesmanii* and *undulatus*, *Alocasia* in variety, and *Asparagus plumosus nanus* and *Paullinia thalictrifolia* with their light and feathery foliage.

Good plants of *Adiantum Farleyense*, *Davallia Mooreana*, *D. Fijiensis plumosus*, *Selaginella amœna*, *S. erythropus*, and *S. africana*. Small plants for table work were staged on the side stages, consisting of *Aralia Kerchoveana*, and *Aralia elegantissima*; *Dracæna Goldieana*, *D. gracilis*, *D. splendens*, and *D. Fraserii*; *Croton Warrenii*, *C. Johannis*, &c. Two splendid pots of *Eucharis amazonica* will be just at their best for Christmas, one pot having seventeen, the other sixteen, spikes of flowers. Mr. Veevers is very successful in striking many of his stove plants without the aid of a propagating-case. I saw such plants as *Casuarinas*, *Dracænas*, *Aralias*, *Ficus elastica*, &c., all rooted and rooting amongst the brick rubble on the stages in this stove, and under the shade of his large plants. A small Melon and Cucumber house, with a few pits, complete the glass structures here; and at present in these places are good specimen *Pelargoniums* and other soft-wooded plants that have to be grown to make up the usual conservatory decorations during summer and autumn.—W. G.

THE VINES AT SPRINGHOUSE, HECKMONDWIKE.

SITUATED in what is now known as the Spen Valley Division of Yorkshire, stands the thriving manufacturing town of Heckmondwike, which is noted for the manufacture of blankets. Within three or four hundred yards of the town, on the northern slope of the hill opposite, can be discerned several ranges of glass, which are in the gardens of Springhouse, the residence of James Firth, Esq. Turning to the left from the station, a walk of a few minutes brought us to the gates, and passing through, we were soon introduced to the presence of Mr. Ives—Mr. Firth's courteous and obliging gardener. I found him busy at work in an early vinery; the last time I was here, the borders in this house were being turned over and renovated, preparatory to being planted with young Vines of later sorts. The house is 140 ft. long by 23 ft. wide and 15 ft. high, and is divided into three compartments. The splendid growths, hard and well ripened, testified to their being well treated.

Alnwick Seedling had made growths over 20 ft. long;



DENDROBIUM MACFARLANEI.

could well be mistaken for *D. chrysotoxum*, as that species sometimes appears. The flowers, which are borne a dozen or so on an ascending raceme, are pure white, the centre and side lobes of the labellum and the callus being purple. In fact, the individual flower, when seen in a living state, recalls to mind, at first sight, a variety of white *Lælia anceps*. It is a grand plant, and we hope soon to see it more plentiful. Our illustration was taken from flowers sent by Mr. C. Herrin, of Chalfont. It probably comes from one of the many islands of North Australia, and requires the same treatment as *D. bigibbum*, *D. Phalenopsis* and others of that group.

SPRING COTTAGE, NELSON.

THIS, the residence of W. F. Ecroyd, Esq., is situated on the confines of the new and growing town of Nelson, Lancashire. It has, for some years, been noted as the chief plant-growing place in this district, and the success that has attended the efforts of the gardener in competitions at the annual show at Nelson have been great. The entrance is from the main road, and beds of hardy Heaths are planted on the sides of the drive. Along under the trees, and running up to the house, are rockeries made of freestone, and planted with *Periwinkle*, *Saxifragas* and Ferns. A mass of *Saxifraga umbrosa* completely fills one bed under a lot of trees, and flowers freely during the summer season. Around the house are borders of Alpine plants, and the outside borders and beds are well filled with *Rhododendrons*, *Roses*, &c. One border is filled with Alpine

Bicolor, *De la Reine*, *Triomphe de Wondelghem*, *Teutonia*, *Mastia rosea*, *Elizabeth Herbert*, and *Imbricata*, were in good condition, and some of the plants were flowering freely. *Azaleas* were well grown and trained pyramid fashion. An old but much-esteemed plant was just coming into flower—viz., *Strelitzia Reginae*.

On the roof, and looking well, were good plants of *Lapageria alba*, *L. rubra*, *Habrothamnus elegans*, and *Solanum jasminoides*; and covering the wall at the end was a large plant of *Diplacus glutinosus*, *Hoya caruosa*, *Pelargonium John Gibbons*, full of flower, and a large scarlet Cactus. At the back of this house, but opening out of it, is a Fernery, but the ground level being lower, rough stone steps have been used to get to the floor of the house; a stage along the front contains some good plants in pots of *Gleichenia rupestris glaucescens*, *G. Mendellii*, *Adiantum Lindenii*, *A. capillus-veneris* and *gracillima*, *Microlepia hirta cristata* and *anthariscifolia*, a good pan of *Killarney Fern*, and a few plants of *Sarracenia purpurea*. The side walls are filled with *Selaginella deutciculata*, interspersed with good plants of *Selaginella caesia arborea* and ornamental-leaved *Begonias*. The back wall is covered with virgin cork, and large masses of rock-work are reared in the centre and at the back of the house. Especially noticeable on this rockery were grand plants of *Todea superba*, 5 ft. across, a large mass of *Trichomanes radicans*, 4 ft. by 2 ft. 6 ins. through, and patches of *Hymenophyllum demissum*. From the top were large clusters of *Nephrolepis exaltata* hanging over like a

they are worked on the Black Hamburgh, and Mr. Ives believes that this stock will bring out the merits of this Grape much better than its own roots. There are several span-roofed houses contiguous to this, which we passed by, and entered one 58 ft. long by 23 ft. wide, devoted to Madresfield Court. Conversing on the cracking propensities of this variety, Mr. Ives said, "we seldom see a cracked berry, but if we suspect anything wrong, we know what to do, withhold water from the roots and keep the atmosphere tolerably dry." The main essential, however, appeared to be to keep the roots as near the surface as possible, consistent with their being covered; this was verified, for a complete network of fibres were seen creeping just under the surface. Leaving the Madresfield house, we passed through the grounds, which are of moderate dimensions, but which contain, besides the vineries, a small isolated conservatory and two or three small span-roofed houses of ancient date, chiefly occupied with plants for cutting and for decoration. Crossing the public road by which we entered, we found ourselves in the top or kitchen garden; here are two ranges of glass, occupied with late Grapes, and to see these was the main object of our visit.

Little need be said as to the value of late Grapes at Christmas and New Year's festivals, and onwards into March. It is then when good English Grapes are appreciated and in good demand, and most of the other houses already mentioned are being worked round to come in late, Grapes being so plentiful towards the end of summer and autumn that their value is very low. It is surprising how well Alicantes are grown here, though comparatively in the very heart of the town, thus proving it to be a good town Grape, if properly treated, as well as a good late one. One may stand in this garden, which overlooks the town and valley beyond, and count on a clear day nearly 200 long chimney stacks belching forth volumes of smoke: yet such examples of Alicante are grown here as will vie with any in the kingdom.

The first of the two houses is a lean-to with a southern aspect, facing the hill. It is 270 ft. long, 18 ft. wide, 15 ft. high at the back, and divided into five compartments, with twenty Vines in each. These compartments were originally devoted to separate sorts, such as Mrs. Pince's Black Muscat, West's St. Peter's and others, which have been removed or used as stocks for the Alicante; even Lady Downes having had to share the same fate. The Alicante is here considered to be the best for late work, and taking all things into consideration, I do not think there is another to equal it for the purpose. Gros Colmar does not seem to appreciate the company of the Alicantes, as the temperature suitable to the latter is too cold for the former, but we were assured that "the Frenchman" in one of the warmer houses had been grand both in bunch and berry. There is a difference in earliness of three weeks in favour of the rods upon the West's St. Peter's stock, as against those upon Mrs. Pince's Black Muscat stock; and a beautiful and remarkable feature in the leaves of those grafted upon West's St. Peter's is the broad band betwixt each midrib, of the richest vermilion. Being Christmas week many of the divisions had been denuded of their crops, but there were many hundredweights still hanging.

The second range is in the middle of the kitchen garden, a span-roofed erection running east and west. This is the house figured in Thompson's *Gardeners' Assistant* (plate 25), and is 300 ft. long, 24 ft. wide, 15 ft. high at the ridge, and divided into four compartments with forty-three Vines in each, all Alicantes, with the exception of some three or four canes of Gros Colmar; these were noticed better in both bunch and berry than in the other house. As seen from either end, before any bunches are cut, this range presents a remarkable sight—over two tons weight of Grapes in view at once! The bunches run large and well shouldered, the berries large, with a rich bloom, and the flavour—well, it has a strong smack of the Hamburgh. Both these houses run with the natural surface of the ground, and the gradient being 6 ft. in 100 ft., the circulation in the hot-water pipes must, consequently, be quick, and the pressure somewhat heavy upon the boilers, of which each range has one. Both ranges are built on the most approved principles. The side sashes are low, 18 ins. deep, and opening outwards on hinges. Side and top ventilation alike runs the full length of each division, and worked by machinery. The walls are arched so that the roots have free space

both ways; the borders are 3 ft. 6 ins. deep, and a flow and return runs the full length of the houses—one flow and return runs each side of the walk, and, branching from these, a flow and return is carried around the border, crestwise, the flow being on the level. In the centre of each compartment are water-tanks alongside the central walk which are constantly kept full, and a 1 in. pipe from the main runs round inside the tanks, the water always being thus kept warm. Such are the Vines and houses at Springhouse, which have been under Mr. Ives' charge for many years, and right well he manages them.—B. L.

NEGLECTED PEACH TREES.

At the end of September, 1885, I had occasion to remove a number of Peach trees which had got into a very neglected state. The trees had been planted about fifteen years, on an east wall, and for several years had produced no fruit. When the leaves appeared in spring they were always badly blistered, and it took the trees a long time to get over its effects, thereby causing them to make late growth; the wood in consequence never being properly matured. The trees were not old, and I was loth to destroy them, so that I decided to transfer them to a south wall. Accordingly a border 4 ft. wide and 2½ ft. deep was taken out, and a 3-inch drain carried along the bottom. About 6 ins. of broken bricks and clinkers formed the drainage, on the top of which a layer of turf was placed, grassy side downwards. The border was then filled up with half of the old soil which had been taken out, the other half being roughly chopped turfy loam, to which was added a quantity of ballast, about one-sixth; the whole was then well mixed and lightly trodden.

The trees were then lifted and found to have made long, thick roots, almost destitute of fibre. These were shortened with a sharp knife, the trees replanted, and a mulching of long litter given, the length and width of the border. The trees were then pruned rather severely, leaving in the best of the current year's wood, and secured to the wall; nailing was deferred until the soil had sufficiently settled. The trees did not flower profusely, but what there was set well. As the leaves expanded they were again affected by blister, but in a lesser degree than before, and in disbudding, the blistered shoots were removed as much as possible. About this time a top-dressing of manure was given, and the trees well watered. Soon after, the trees began to assume a more healthy appearance; the garden engine was freely used, and two or three times during the summer a dressing of soot was given and well watered in.

One tree, a Royal George, ripened four dozen fruits, rather below average size, but excellent in point of colour and flavour; and I am quite within the mark in saying that not more than half a dozen fruits fell during the stoning period of the twenty trees thus treated. The trees have made good growth during the summer, and thus far the prospect is encouraging for the coming season.—T. C.

SPRING GARDENING.—VI.

HITHERTO my observations have been confined to plants either of biennial or perennial duration, with one or two annuals. In the present chapter I purpose drawing attention to some of the most showy and most easily cultivated of all plants, and yet which for purposes of spring gardening are more suitably adapted than any. That they merit such a high honour as this will be understood by those who are acquainted with them most readily, and to those who know them not, or, at least, whose experience among them is somewhat limited, it is not too much to say that in them we find not only the most gorgeous colours which are known in flowering plants, but also some of the purest and some of those soft-toned colours which almost everyone among us admires. In fact, it is these great strides of colour with their several distinct and pleasing shades that makes many groups of plants, and especially hardy plants, of such great value in the spring garden. The flowers to which I am now about to allude are

THE ANEMONES,

Which are for the most part herbaceous perennial Alpines, and at the same time tuberous-rooted. In these we have an assemblage of species and forms which, if viewed collectively, can well vie with any other group of plants in the spring garden. Few, if any, of your readers there are but what know something of our own

native Wood Anemone, *A. nemorosa*, and which, if not clothed in all that pomp and splendour which marks many of the garden hybrids of to-day, yet it is well to observe that even this commonplace plant is well suited to adorn many bare spots in gardens where its snowy flowers render goodly service among others whose company it is suited to keep. For semi-wild places in the woodland garden, or for naturalising among shrubs and undergrowth, it is all we can desire, and the same may be said of its several forms. But I have fallen away somewhat from the point, and will now take them as they come into flower, which may prove a guide to those who desire to embrace them. First then on the list is

ANEMONE BLANDA,

Which among spring flowers is a perfect gem, and has been styled the "Winter Wind Flower" owing to its earliness in flower; indeed, in warm sheltered localities it is not infrequently found endeavouring to burst into flower in the mid-winter season, and instances are not rare where it has been known to show flowers as early as Christmastide. Such a plant as this to be in flower in the dull December season should at once render it all the more valuable. The colour of the flowers is deep sky-blue, somewhat in the way of *A. apennina*, they, however, being nearly twice as large as that species. It generally commences flowering early in February, and continues for weeks to produce its lovely blossoms, which are about the size of a crown piece. It grows to about 8 ins. high or thereabouts, and may certainly be regarded as one of the brightest gems of early spring.

It is thus spoken of in *Alpine Flowers*:—"It combines every good quality of a hardy Alpine plant, should be grown on every rockwork, planted on bare banks that catch the early sun in the pleasure ground, should adorn the spring garden, and when sufficiently plentiful might be naturalised in half wild places along with free and hardy members of this charming family." Such, then, is one of the most delicious bits of colour with which we can adorn our gardens in the very dawn of spring, and when planted in any light sandy soil, at 4 ins. deep, it is most sure to succeed. It may be increased by division or seeds. The next kind to which I will draw your attention is *Anemone coronaria*, or

THE POPPY ANEMONE,

Which, with all its endless forms, has no equal among the many flowering plants of early spring. But before proceeding farther, and with a view of making myself clear to all, I must state that the time of flowering depends, to a very great extent, upon the time of planting; and those who desire to have flowers very early in the season, must always remember that early autumn planting is most essential to secure that end. Happily, however, with some tuberous-rooted plants, and the various species and varieties of that section of Anemones in particular, they may, by planting successions of them during the autumn and spring months, be had in flower for a considerable length of time, and we never hear of there being too great a supply of their varied-coloured flowers.

As I am at present, however, only advocating spring gardening, I will not longer dwell upon their merits as summer flowers. In this group we have, without doubt, one of the most valuable of all spring plants, and one which appears to have been among the most popular of old-fashioned plants for ages past. It is nearly 300 years since it found its way into English gardens from the Levant; and thus having stood the test of so many years, it is not likely now, in this great age for natural beauty in gardens, that it will with all its improvements and endless variety of colour meet with anything but encouragement. The many varieties which we now possess will all assist in the embellishment of the spring garden, and few plants better repay generous treatment than these; by saying this I do not wish to infer that they are fastidious, far from it, for we can meet them still in country cottage gardens, where they have been undisturbed for years, and have formed themselves into grand clumps, and when in flower form one of the most sumptuous arrays of floral beauty which it is possible to conceive.

Just such an array it was my lot and pleasure to behold some few years ago, when on a visit to that famous collection of Alpines, then grown by the late Mr. J. Atkins, of Painswick. In passing some cottages on the way I saw great masses that astonished me, and caused me to wonder why such grand ornaments

were really so very seldom seen. Happily they are regaining all their original popularity, for we see them exhibited at the early spring shows in abundance in company with the lovely Daffodils, so well and largely shown by such firms as Messrs. Barr & Son, Mr. Ware, Messrs. Collins Bros. & Gabriel, and others. To give the reader some idea of the magnitude of these Anemones, I give an extract from a notice of an exhibit by the last-named firm at one of the earliest spring shows of the Royal Horticultural Society:—"They were so large that they reminded one of Single Poppies, only that there were present on the large rounded petals tints unknown in the Poppy." The group consisted of over 500 flowers, and next to the size and brilliancy of the blossoms the visitor could not help being struck with their great variety.—*J.*

GARDENING NOTES FROM SCOTLAND.

Useful Winter Plants.—While visiting several nurseries in and around the northern capital lately, we thought it a striking illustration of the times in which we now live, to notice the immense quantities of plants cramming glass structures, and under careful cultural attention, to meet the requirements of a population whose taste for refinement is increasing more rapidly than the numerical statistics of the people. Palms in small pots, as well as large specimens, in great variety, suitable for cool or warm positions; *Dracæna* in quantity, many splendid seedlings offered at ordinary prices; *Crotons* are a speciality, and colour equal to anything we have seen; Ferns of most popular kinds; *Davallias* and *Adiantum* &c., in great numbers. We know the value of all *Davallias* for cutting purposes; they last better than most Ferns under the trying ordeal of gas and fire heat, and the peculiar shining green leaves are much valued for mixing with bright flowers. *Ficus elastica* and its variegated form are plants specially adapted for wear and tear, and are much sought after for room decoration, consequently they are grown in great numbers. *Sericographis Ghiesbreghtiana*, with its very fine foliage, still retains its popularity, and scarcely enough of it can be grown to meet the wants of buyers.

The foregoing, with many others, sell at remarkably low prices, and it must be the great quantity disposed of which can make it really worth while to raise such large stocks of such plants. The quantity of flowering plants at the present time, when seen in housefuls at this dull period, renders a visit to extensive glass nurseries very gratifying. But seldom do we see in such places old favourite flowering plants, such as we have treasured for a lifetime, as *Euphorbia jacquiniæ-flora*, *Plumbago rosea* and *coccinea* (with us these are a fine show of themselves at present, but do not suit well for cutting and transit); *Rondeletia speciosa*, a worthy old friend during winter; *Scutellaria Moeeniana*, a famous bright flowering plant for late autumn and early winter; *Thysanacanthus rutilans*; *Libonias*—*Penrhosiensis* is the best. These, which can be propagated and grown with so much ease from batches of young growths formed into cuttings are very acceptable, and make fine additions to the indispensable *Poinsettias*, *Bouvardias*, *Gardenias*, and *Begonias*, of which *B. Ingramii*, *B. nitida* and *B. manicata* are a host in themselves at present.

Among the classes which are very suitable for cool structures, and which we have found useful with *Chrysanthemums*, specially so at present, are *Eupatoriums*, *floribunda* particularly, it being almost hardy; *Habrothamnus* of sorts—*H. aurantiacus* grown as standards has a grand appearance at this season, and is capital for cutting; *Plumbago capensis* is almost a continuous flowering plant; *Sparmannia Africana*, grown in yearly batches, and of such easy culture, is well worthy of its room in winter. It is not necessary to supplement *Cyclamens*, *Epiphyllums*, winter-flowering *Ericas*, *Daphnes*, *Primulas* (especially *obconica*), *Coronillas* and others so abundantly in flower at this season, but rather to keep in mind a valuable class of plants which can be grown as easily as bedding stuff, at little expense, and flower at a season when such create admiration. Among the most useful items for cutting at present are leaves of the *Gros Guillaume* vine

grown on a back wall in a viuary, as they are small and very beautiful for mixing with cut flowers.—*M. T.*

Potato Judging by Agriculturists.—At a provincial agricultural show of cattle and roots, which I lately visited, quantities of excellent Potatoes were staged, and in the different classes "Regents" carried off the "firsts," and some cups too. One competitor has been the chief winner for a number of years—his Potatoes, Regents, have always been the cleanest, soundest and of the finest form, but a number of kinds others than Regents, were passed unnoticed, and though of fine form and all one would desire in appearance for exhibition purposes, they had no prize. I ventured to ask a losing exhibitor why this happened; he replied that they had not been proved in the district—the names were unknown and the quality had not been tested. It was remarked that no Potato equalled the Regent in this midland county of Scotland. I referred to splendid examples of Village Blacksmith in great abundance on the tables; their weak points are "the tops are not strong enough for field culture, and though of finer form than Regents, they were not such good croppers"; all and sundry seemed pleased with this manner of adjudicating. At the banquet some pithy speeches were made by intelligent farmers, and much which was adduced regarding deep tilth, &c., went far to endorse the remarks in your leading article, p. 243.—*Caledonian.*

Herbaceous Borders.—These are so much valued where cut flowers are in demand that one is prompted to do our best to keep the roots in a healthy condition. Many plants are lost because the land in which they have been growing is deficient in drainage. The luxuriance of the growth in summer, while there is warmth and sun, is sometimes deceptive, leading the inexperienced to think all is safe for winter when the very luxuriant growth indicates the evil to be dreaded. A good drain along the front of the border or plots in which the plants are growing may be all that is necessary. The ground may with advantage slope to the drain, a surfacing of sandy soil, mixed with old Mushroom manure or leaf-mould, and a quantity drawn round the collar of each plant which is visible above ground, will do much to keep the plants in health by throwing off excessive wet from the crowns. It is very objectionable to cut unripened stems down close to the ground before they are quite dead. If digging over the surface is necessary—this operation is best performed by a fork—care must be exercised not to mutilate the roots. If pieces are spread about the ground, the border is rendered very unsightly by the mixing of species and creating general disorder. If the plants have become too large, the remedy is to lift them entirely, reduce the roots, and re-plant them in fresh soil. Light, poor and sandy borders may be improved with a good coating of rotted manure forked into the surface. *Tritomas*, *Japan Anemones*, and some others still in flower with us, are well worthy of protection from winds. If spaces where patches of annual flowers have done service are to be filled with bulbs, the present time is suitable for planting them. A coating of light rich soil placed over the roots in process of planting will do much towards encouraging free growth and fine blooming when the season arrives. These notes are gathered from observations taken in damp cold parts.—*Caledonian.*

THE AMATEURS' GARDEN.

GARDENING OPERATIONS during the first week in January, especially out-of-doors, so much depends on the state of the weather, that it is difficult to state precisely what should be done owing to such changeable and unfavourable conditions. Pruning of fruit trees and bushes should be carried on when the frost is not too severe to cause cracking of the newly cut surfaces. The prunings having been cleared away, wheel manure on to the borders or plots occupied by such trees. This is best carried on during frost, or at least when the walks are sufficiently firm to bear such operations being carried on without getting cut up.

PRUNING AND NAILING of trees on walls should also be prosecuted with vigour, and this may be done if the soil is wet and in unworkable condition. Roses may be pruned with advantage, except those of a tender kind that are best left till all danger of spring frost is over, or if it is desirable to retard their flowering period.

PLANTING may be done when the weather is open, but if this had been neglected in autumn through pressure of work or other causes, it had better be deferred till the temperature rises in spring. Alterations of many kinds may be effected at this time, such as the making of walks, regravelling old ones, making lawns, levelling ground, constructing rockeries, and all such work that may be forwarded before spring planting and seed sowing commences.

IN THE KITCHEN GARDEN the principal operations will be the clearing of vacant ground, the wheeling of manure when conditions will permit, and the digging or trenching of the ground. If the latter is of a clayey nature, or heavy, it will be greatly benefited by turning it up to the frost, either by ridging or rough digging. The pulverising effects of frost are well-known and of great importance in rendering the natural fertility of the soil suitable for the requirements of plant life. If it has not already been done, a store of such roots as Carrots, Parsnips, Jerusalem Artichokes, &c., should be made before frost puts a stop to their collection. If stored in sand in a cool place they are accessible in any kind of weather. Where desirable, sowings of Lettuce, Mustard and Cress may be made under hand-lights in frames, or in boxes to be placed in a warm house.

IN THE GREENHOUSE or conservatory all summer-flowering plants, such as Fuchsias, Begonias, Pelargoniums and similar things should be kept in the cool end of the house, or, better still, in a separate structure. They require very little water at this season, and, of course, tuberous-rooted Begonias none. Where flowering plants are desired, a temperature of 40° to 45° Fahr., at least, must be maintained at night, with a rise during the day. This favours the expansion of Camellias. Chinese Primulas and *Cyclamens* should be kept at the warm end of such a house, and placed as near the glass as possible to keep them sturdy and bring out their flowers.

SNOW GUARDS.—I am much afraid that many of your town readers, like myself, were caught napping in the early hours of Monday morning, and have paid the penalty, in broken glass, for neglecting the precaution of fixing guards to prevent the snow from shooting off the slate roofs on to the glass below. In my case the damage is considerable, and I am resolved not to suffer such a loss again if I can avoid it. I am recommended to have a weather board fixed along the guttering, and another suggestion is to use small-meshed wire netting instead. Can any of your readers, from experience, say which plan is the best, or suggest a better than either?—*Surrey.*

HEATING GLASS STRUCTURES.

MUCH has been said and written with reference to the heating of glass structures, and the inferences to be drawn from stated opinions are that, at the present time, we are in rather a foggy condition about the whole business. In my time, and it has not been a very brief one, I have had to do with very many systems of heating, and have had, perhaps, about as much stoke-hole experience as most gardeners individually. Over forty years ago I had charge of one of the largest conservatories in the country at that time, and which was heated by steam, the apparatus being regulated both by a water and a steam gauge, the vineries and Peach houses being all heated by hot-water. Both systems, at that time, seemed to answer in the most satisfactory way possible; the steam and other boilers were fixed several feet below the surface, but the stoke-hole had been properly drained, hence there was no inconvenience either from spring or surface water, and those who construct glasshouses and fix boilers, should make ample provision for disposing of the surplus water. Should this be impracticable, and if these things are an indispensable luxury, why not devise means so as to elevate the whole structure—there being, as every one knows, plenty of space above—so as to obviate the difficulty; but, in most cases, surely excessive surplus moisture can be disposed of by complete drainage.

With regard to the principle of the circulation of rarified air or heated water, I am not convinced by any theory that has been advanced that there is very much to complain about with regard to our long-practised system. It may be all very well in some cases to heat the roofs of the building, and a very special idea indeed is to suppose that we can by so doing effect the same in principle, as is effected by the great orb of day. To be

personal and somewhat commonplace in my similes, I may observe that if a warming-pan was held on the top of my head it would not in the least degree increase the warmth of my feet; but I think common-sense and experience tells us if we can keep our lower extremities warm, we are more likely to ensure circulation throughout the entire system. It would be an extraordinary innovation to introduce the roof-system in warming our public buildings, knowing from long experience that in crowded halls, &c., where there are large gatherings, that the heat, without such additions, is, as a rule, oppressive; and to attempt to reverse our kitchen arrangements, would, I am sure, appear in most minds absurd.

Warmth judiciously applied is a very important agent in the maturation of almost every living thing, both animal and vegetable, and it is well to examine the laws that influence the successful working and the perfecting of nature's great work in whatever sphere it may appertain to.

In vegetable growth, we have from time to time according to the seasons, plenty of evidence as to what warmth and moisture will effect; in fact, we very materially depend upon a genial atmosphere and temperature combined to bring our fruit and vegetable crops to perfection, both as regards bulk and flavour. A cold sub-stratum either inside or outside never leads to satisfactory results; but let the earth receive warmth, either naturally or artificially, and vegetation responds in a very perceptible manner. Gardeners know well the value of bottom heat, as they term it, whether obtained by hot air, hot water, or by fermenting material. Ask the successful propagator if he could dispense with bottom heat, and rely entirely on that generated from the roof of any given structure. What is it that induces a healthy free root action in the earth, but the warming influence of the sun which is absorbed and stored during the summer months. That there is abundant scope for improving upon our various systems and appliances I readily admit, but at the same time I do not see that the roof system can be brought into general use, although a very novel way to keep out Jack Frost. As an old blue apron, I fail to recognise the merits of the system, and am disposed to seek for improvements in the science of artificial heating a little nearer to the earth's surface.—*G. Fry, Lewisham.*

YOUR able correspondent, "A. D.," in his interesting remarks, on p. 230, asks for the consideration of this subject. We have lately had the opinions of various correspondents on the subject of deep stoke-holes, and had "A. D." then contributed his article, it would have thrown a new light on the matter, as by the system advocated by him, stoke-holes may almost be dispensed with. I have some recollection of reading an article on the same subject some few years since in a contemporary, but the subject was not then discussed, and since that time I do not think very rapid strides have been made in the system of top-heating; at all events I have not seen any structure so heated.

"A. D." complains of the practice of placing the pipes on the floor, under stages—in fact, anywhere but in the coldest place, and this sounds well; but I have my doubts as to whether if a stove, for instance, were heated on the principle he advocates, the plants in the centre of the house would enjoy the same amount of warmth as they do on the present system. "A. D.'s" theory seems to be that the inside is hot enough, and that we need only keep the cold out; but such is not the case, we have to supply our plants with a temperature as near as possible to that of their native habitats; hence, by our pipes being placed underneath, the warm air ascends, and thereby causes the house to be of as even a temperature as possible.

Again, I fail to see how a vinery—in fact, any house with foliage near the roof—can be benefited by the system, for, as a rule, we all like our pipes as far away from the foliage as possible, as being so conducive to the breeding of thrips, red-spider, &c.; and pipes suspended from the roof must exclude a certain amount of light, and would also appear unsightly. I consider that a great amount of heat is lost by inferior glazing, and if our horticultural builders can only make houses a little more airtight, the tops of the houses need not be much colder than the bottoms. I trust "A. D." will tell us a little more about this new system of heating, and I should much like to have the experience of those who have tried it. We are continually discussing our present system of heating, and as this

seems to me to be a new departure, I think it may be discussed with advantage.—*Wales.*

MORTON HALL, MIDLOTHIAN.

MORTON HALL, the residence of Colonel Trotter, is most beautifully situated about two miles south of Edinburgh, and on the occasion of a recent visit I was indeed gratified to find that, from a horticultural point of view, great improvements had been carried out; a new range of glass having been erected last spring. The fruit houses, put up some years ago, stand at the top of the garden, and running down the west side are the new erections, on a slope of about 1 in 12. They consist of a corridor 125 ft. long by 9 ft. wide, with four substantial span-roofed houses projecting into the garden; a lean-to Fig house at the upper end forms the connection between new and old, and the space between the spans is neatly laid out with flower beds.

The corridor has a 4 ft. stage next the glass, the back border being intended for a selection of stove and greenhouse climbers, but at the time of my visit it was economically utilised, being filled from end to end with Tomatos. As it is in three divisions, the temperature can be regulated so as to suit the requirements of a great variety of plants. The first portion is almost exclusively devoted to *Adiantums* of sorts, a grand plant of *Farleyense* being noticeable, over 4 ft. in diameter, and only in a 10-in. pot; there are also some excellent specimens of *gracillimum*. The middle division contains exotic Ferns in great variety, *Eucharis*, *Pancratiums*, &c.; and the upper portion is filled with half-hardy Ferns, and the hardier sorts of foliage plants suitable for house decoration.

The first of the span-roofed houses is a stove 30 ft. by 16 ft., with a 3 ft. passage in the centre. I took exception to the extreme width of the side stages, and suggested instead, a centre bed with 2½ ft. stages at sides, but Mr. Bell, under whose supervision the whole work had been carried out, was equal to the occasion, and pointed out that for the requirements of the establishment his plan gave more available space; large specimen plants not being wanted, head room was of no moment. The house is well stocked with a good assortment of *Crotons*, *Dracenas* and *Palms*, all growing in pots, suitable for table and drawing-room purposes. The second span is a Cucumber house, 30 ft. by 14 ft., and a serviceable one I feel certain it will prove to be. The beds are of slate, and are only 6 ins. deep, this being considered by Mr. Bell quite sufficient for either Cucumbers or Melons, and he grows Cucumbers all the year round. The top heat is supplied by square pipes, which at the same time act as a coping for the walls. One side has six rows of 4 in. piping, and can be utilised as a propagating pit.

The Melon house comes next in order, 30 ft. by 13 ft., the internal arrangements being similar to the Cucumber house. The last span is a greenhouse, 30 ft. by 18 ft., and used principally as a feeder to the conservatory. Here we have the stage in the centre, with side tables all round; the staging is all substantial Welsh slate, and at the sensible height of 18 ins. from the floor level. The Fig house, which forms the connecting link between new and old, is 41 ft. by 14 ft., and is trellised back and front. The front trellis being drum-shaped, all the back wall becomes available. The house has just been planted with all the most approved sorts. Continuing our tour, we entered the late Peach house, 44 ft. by 14 ft.; this has been nine years planted, and contains fine healthy trees of Royal George, Stirling Castle, Lady Palmerston, and Pine Apple Nectarine. The early Peach house, 36 ft. by 14 ft., is two years younger. Among the varieties grown, I noticed a fine tree of Early Beatrice; this variety is highly esteemed here, and comes into use fully three weeks before Royal George.

Occupying the centre of this range is a handsome conservatory, octagon-shaped, 32 ft. by 21 ft., and well filled with the usual assortment of flowering plants; the *Carnation*, *Souvenir de la Malmaison*, is a great favourite here, judging from the quantity grown; hanging baskets are suspended from the roof, and climbers luxuriate in great variety. An extra fine variety of *Lapageria rosea* covered one half of the back wall.

We then entered the early vinery, 32 ft. by 16 ft., seven years planted, principally with Black Hamburgh. I understand that Gros Colmar does remarkably well in this house, and colours to perfection. Mr. Bell

believes in growing it with a slight shade in order to preserve its naturally tender foliage as long as possible.

The late vinery, 23 ft. by 16 ft., has been planted ten years, and at the time of my visit there were still to be seen good examples of Mrs. Pince and Black Alicante plump and fresh. On the west wall outside the kitchen garden there is a lean-to orchard house, and another devoted to Tea Roses. Roses are grown in immense numbers, one double border 109 yds. long, running down the centre of the kitchen garden, is stocked with over 800 plants in all the finest varieties of Hybrid Perpetuals.

It may be mentioned that the heating arrangements are carried out on the most improved principles; the boiler in the new range is a tubular saddle, and is connected with over 1,700 ft. of 4-in. piping; there are plenty of water-tight valves, and the heating being thoroughly under control, none goes to waste, every joint is exposed and clear of walls, so that in the event of leaking no heavy excavations are necessary.

On another occasion I may have something to say about the outside beauties of Morton Hall. Flower gardening is well done, and I am glad to state that whereas in many places in Scotland the herbaceous border had to make room for the ribbon border, accommodation has been found at Morton Hall for both. The collection of herbaceous and Alpine plants is a most noteworthy one, and has never been allowed to suffer from neglect.—*D. P. L.*

THE TANGIER XIPHIIUMS.

THERE are two distinct species of *Xiphium* growing in the neighbourhood of Tangier, and as I believe I was the first to introduce them to English gardens and to flower them, I wish to say a few words about their differences, especially as one of them was figured under a wrong name in the *Botanical Magazine*.

In 1869 I introduced *Xiphium filifolium* from Gibraltar, and this was figured in Vol. xcvi., plate 5928, of the *Botanical Magazine*. In 1871, when I visited Morocco with Sir J. D. Hooker and Mr. Ball, we found it in cultivation in Sir J. D. Hay's garden from bulbs obtained near the coast ten miles south-west of Tangier where I again collected it; and it was again figured in the *Botanical Magazine*, Vol. xcvi., plate 5981, under the name of *Xiphium tingitanum*. These two plates certainly refer to the same species—*Xiphium filifolium*, the dark purple flowers of which readily distinguish it from the pale sapphire-blue flowers of *Xiphium tingitanum*. I believe we also collected some bulbs of *X. tingitanum* during the expedition of 1871. It grows in extraordinary abundance in the fields south of, and close to, Tangier, and I again collected it in November, 1883, and flowered it in the spring of 1884. It was also flowered at Kew from bulbs of my collecting, and subsequently figured in the *Botanical Magazine*, tab. 6775, 1884.

Xiphium filifolium I have successfully cultivated and flowered in a cold frame. *X. tingitanum*, though more robust in habit, growing freely and multiplying rapidly, is an extremely difficult species to flower; and out of many hundred bulbs I have had in cultivation—both under glass and in the open border—I have only once flowered it.—*George Maw, F.L.S., Benthall, Kenley, Surrey, Dec. 25th, 1886.*

DECORATIVE PLANTS FOR ROOMS.

Now that we are in the depth of winter, attention is given by many householders to plants that are attractive for room decorations, to brighten up and enliven the dull and dreary winter that falls on all alike, and puts an end to the many pleasures that are to be derived from the invigorating influences of outdoor gardening. It is at this time of the year that the benefit of plants in rooms and halls are appreciated by a great number of our townspeople. Ladies are especially fond of the pleasures to be derived from the attention that has to be bestowed upon these beauties of nature, and the taste for plants in rooms should be encouraged by all who have it within their power to push the matter forward.

If the householder has the use of a warm greenhouse attached to his garden, so much the better, for by means of this useful structure he can continually change his plants, and so renovate those that he has

been using in the rooms. It is at all times better for the plants if they can be kept changed occasionally from greenhouse to room, and *vice versa*. With care and due attention to the management of the plants, very small cost need be incurred after the first outlay, for the kind of plants most needed for this work are those with a hard and substantial foliage. The extra cost really required would be in the purchase of a few bulbs, &c., to give a little variety to the groups during the spring months. My idea of room furnishing is to make groups of plants rather than to use them singly, and really to hide all pots from view with the foliage of other plants.

For this purpose I should recommend all who would wish for success in this work, to grow plenty of *Isolepis gracilis*, *Selaginella Kraussiana* and the variety *aurea*, and *Sibthorpea Europea* (the Cornish Moneywort). All these make capital plants for edging any groups in the winter season. At the back of these I would recommend such plants as *Ophiopogon Jaburan variegatum*, *Anthericum variegatum*, *Coprosma Baucriana variegata*, and for filling in the backgrounds, such plants in various sizes of the following: *Lomarias*, several varieties; *Grevillea robusta*, *Latania borbonica*, *Coryphas* and *Chamærops*, with a good spreading plant of *Seaforthia elegans* over the top, and interspersed amongst all might be worked *Ardisias*, *Solanums*, *Ficus elastica*, *Dracaena congesta* and *rubra*; and if a fancy for Ferns were to be added, use only such as will not be injured by the effects of gas and dust. A few useful sorts are *Lomaria Gibba*, *Polystichum setosum*, *Scolopendrium* in variety, *Cyrtomium falcatum* and *Lastrea aristata variegata*, with others of similar constitution.

For the work of corridors and halls, especially where they are not exposed to too much draught, plants of *Phormium tenax* and *P. tenax variegatum* make grand specimens, and being of a firm texture, they will last a long time in such a place without showing any evil effects. *Ficus elastica* may also be used with good effect. *Yucca aloifolia variegata* makes a good hall plant where there is plenty of space, but I should on no account recommend it or any of the other varieties of *Yucca* and *Agave* without there is ample room. Various-sized plants of *Araucaria excelsa* cannot be beat, for their splendid form and habit cannot be surpassed. Those that I have named, with a few good varieties of the hardier Palms, as *Seaforthia*, *Latania*, *Corypha australis*, &c., should be a sufficient selection for anyone bent on making good groups of decorative plants; and the majority of the plants named can be obtained at reasonable rates, and all depended upon for the purpose named.

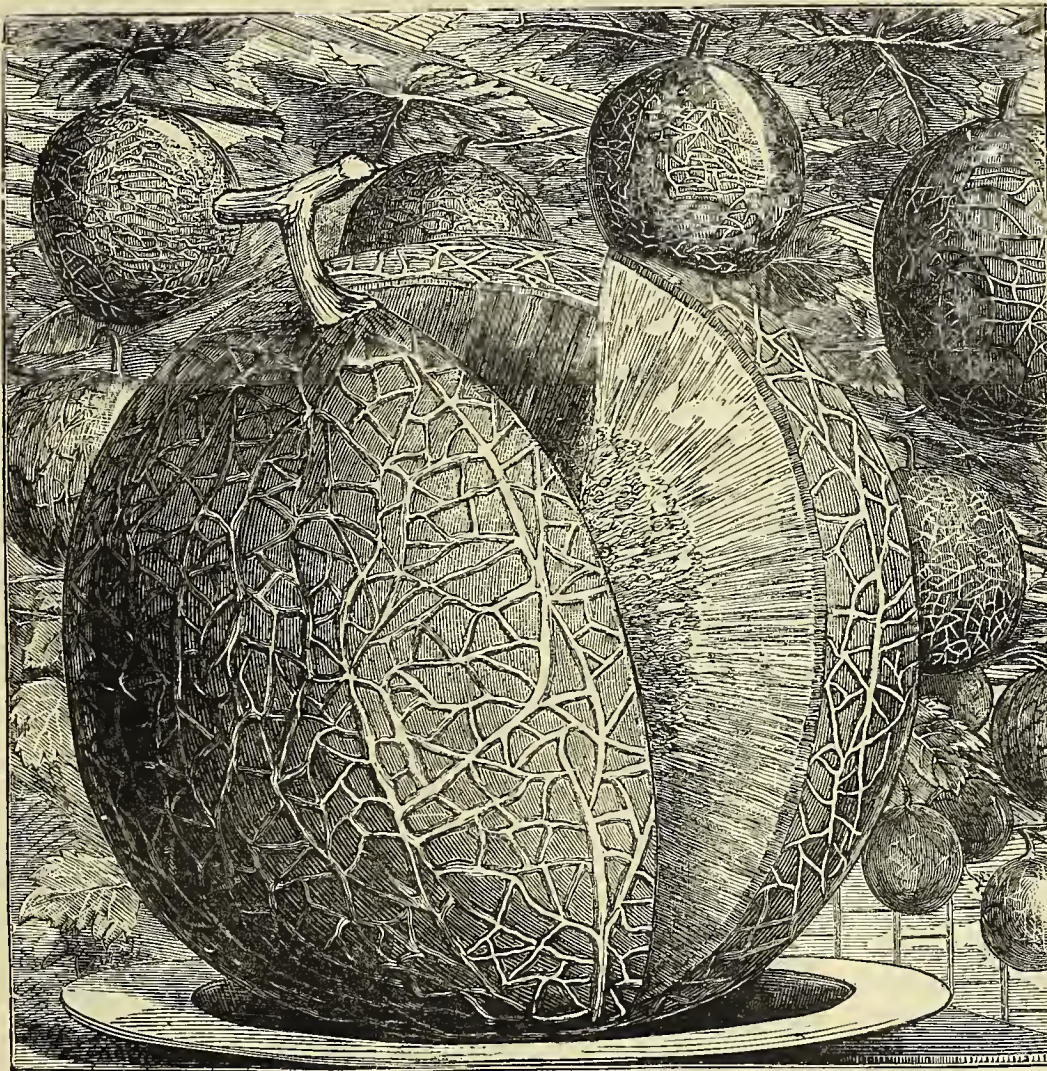
Plants in rooms should never be allowed to suffer for the want of water; the general fault is to give them too little—a mere dribbling that will not permeate the whole ball of soil. This should always be avoided, and care taken that sufficient is given at one time to soak the whole of the soil. When the plants are taken from the rooms to the greenhouse, they should always have a good wash with the syringe. This cleanses all dust and dirt that may have accumulated on the stems or axils of the leaves, and also gives the plant fresh vigour to strengthen itself from any loss of sap it may have sustained from being confined in the rooms.

Where the use of a greenhouse is not to be had, the cultivation of these decorative plants is not to be pushed on one side; for, by the timely application of

the syringe, the plants can be kept fresh for a whole season (the plants in this case should be stood out in a kitchen or yard to be washed), and will, I am sure, give pleasure to the attendants at many times when, perhaps, they might have nothing else to beguile their time with.—*W. G.*

THE BLENHEIM ORANGE MELON.

WE are reminded by a close reader of these pages that we have not given many illustrations of fruits, and have, generally speaking, "neglected the dessert." We can but plead guilty to the indictment, and hasten to supply the omission. But what shall be the subject? Really good new fruits are scarce, and those that are introduced require proving under various conditions before it is safe to give them a character. In the case of plants that can be easily propagated and grown, the merits of a "novelty" are soon proved, and if the result is unsatisfactory, why, there is no great amount of harm done, and the thing is soon forgotten; but



THE BLENHEIM ORANGE MELON.

when dealing with fruits the case assumes a very different aspect. The required proof of value cannot be so quickly obtained; we have to exercise the virtue of patience, and bestow time, attention and money on the object of our solicitation, and a failure surely means loss and disappointment. Thus it is, that all cautious men are careful not to recommend their fellows to grow new fruits until they have good and substantial grounds for so doing.

But there are fruits and fruits, and among them Melons, delightful and refreshing fruits to most people, and quite the reverse to others. Well, among Melons, there are good, bad and indifferent; every season brings a crop of new ones, and nine times out of ten, after about two seasons we hear no more of them. Now and again, however, something extra good makes its appearance, and if in addition to good looks and flavour, it has the merit of being a good setter, the new comer is installed as a favourite, and is kept in the lists for years. Such an one is Carter's Blenheim Orange, a variety which first made its appearance in the autumn of 1880. It was raised by Mr. William Crump, now of Madresfield Court, when at Blenheim Palace, near Oxford, and was one of three sorts only which, in 1880,

passed the critical test of the Fruit Committee. It is a round, handsomely-netted, scarlet-fleshed variety, of unexceptionable flavour; indeed it may truly be said to possess all the best qualities of a really good Melon. It is, moreover, a constant Melon, keeps fairly true to type, and nearly always cuts up well. This, to a great extent, is the secret of its popularity—it can be depended upon—and as an exhibition fruit it has few equals, for it not only catches the judge's eye, but nearly always pleases his palate better than any other, and so more often secures the first prize. Messrs. James Carter & Co. had the honour of sending out this sterling variety, and it has done them credit. Whether it will remain as long a favourite as the Blenheim Orange Apple has yet to be proved.

CULTIVATION OF CHRISTMAS ROSES.

SOME cultivators seem to be under the impression that Christmas Roses—even *Helleborus niger* and its varieties—are not sufficiently hardy to withstand our winters without protection. When labouring under such an idea, it is no matter for surprise to see them resort to various contrivances for protecting their plants during winter. Having cultivated and observed the cultivation of this species of Hellebore in various parts of the island—even in the cold northern parts—I am convinced that more Hellebores are destroyed by the drought of summer in the neighbourhood of London, where the rainfall, as a rule, does not exceed 21·24 ins. annually, than by the cold of winter.

In many a cottage garden in the northern part of the island, where the climate is cooler and moister, and the soil never suffers that baking to which it is subjected in the dry south-eastern part of England, large clumps of the Christmas Rose might be seen with masses of flowers nestling under the canopy of a healthy and luxuriant dark green foliage that would drive the specialist and Christmas Rose fancier into ecstasies. These never have any but natural protection afforded them, such as the shade and shelter of bushes, or even deciduous trees; while, in numerous instances, they elbow their way amongst ordinary her-

baceous plants in the open border. The whole of the evidence points primarily to the conditions that favour growth in summer than to protection in winter. If a strong and vigorous growth of foliage is induced during the growing season, there will be no deficiency of flowers in their proper time. The foliage alone would afford that protection necessary for the purity of the expanding flower-buds.

The climatal or atmospheric conditions I believe to be of great importance with respect to moisture, but in some parts of the country where the soil is of a heavy or retentive nature and the rainfall considerable, cultivators must see that the soil is well drained naturally, or render it so. Lime rubble has been found of great service in such cases to incorporate with the soil. This is not done with the intention of impoverishing the earth, as Hellebores delight in a rich, light, well-drained soil, with abundance of moisture during the period of growth; and if the cultivator sets about securing these conditions he will be able to surmount many difficulties. If the root system is confined to a saturated medium, the temperature in that case must always be unfavourable to the root action necessary for the proper development of flowers in the open air. I have observed

instances of this, and others are recorded where the flowers expand of a green colour, or become so prematurely. A similar thing happens where the plants are poorly furnished with leaves, and the flowers are fully exposed to the influence of light, wind and rain, with the resulting consequence that the sepals become tarnished, soiled, spotted, tinged with green, rose, or purple. Some might fancy the rose-tint, but popular taste generally regards anything that detracts from the snowy purity of this species of Hellebore a blemish or defect that should be avoided, or steps taken for its remedy. Hand-lights are often used for this purpose with good effect.

In the warm and dry south-eastern part of the island, and particularly in the neighbourhood of London, where the soil often becomes baked and hot in the early part of the summer, the difficulties of the cultivator, whether amateur or professional, are greatly augmented, and the more so if the area under cultivation is of any extent. In such a locality it is well to plant under a high wall with a northern aspect, or under the shade of deciduous trees, whose grateful umbrage will be enjoyed in summer, and whose leafless boughs will not obstruct the light in winter, when the plants should have all the light possible. Recourse has been taken to break the intensity of the illumination in summer by laying down branches or hurdles about the plants or between the lines; but a much more effective protection would be afforded by a mulching of some kind—say of half-rotted stable manure. If the ground is first forked up lightly, or otherwise loosened, then well mulched close up to the plants, but by no means over the crowns, and a liberal watering given, beneficial effects cannot fail to evince themselves in a more vigorous growth of the foliage.

The lifting and forcing of clumps in coarse wicker-work baskets is sometimes practised. The baskets are placed in a warm pit or house, and the flowers expand more quickly and are usually of greater purity. Excepting, however, the stock is extensive this treatment is not advisable, as the long, fleshy, slow-growing roots are impatient of disturbance, especially when the summer after their replanting proves to be a dry one. Fresh plantations of the forced clumps may be made in spring, after all danger of hard weather is over. Till then, the previously forced clumps ought to have the protection of a cool house or pit. The other species of Hellebores may be subjected to precisely the same treatment, out of doors, as the Christmas Rose itself. They serve to prolong the season till well into spring, and the decided beauty and distinct appearance of many should ensure a more extended cultivation of these hardy flowers.—J. F.

KENNEDYA MARYATTÆ.

Most of the Kennedyas and the allied species of Hardenbergia are extremely handsome greenhouse climbers, but if preference should be given to one more than another, *K. Maryattæ* certainly deserves first attention for several reasons. Most of the species flower in spring or summer, but the subject of this note almost deserves the name of perpetual-flowering, owing to the fact that flowers continue to be produced so long as there are young growing shoots on the plants. By training the primary or leading shoots up underneath a rafter of the greenhouse or cool conservatory, and allowing the lateral branches to hang down loosely, a continual supply of flowers may be reckoned upon from one year's end to the other. At the same time one may observe flowers and fruits in all stages of development and maturity on a healthy vigorous well-established specimen.

This vigorous condition is not difficult to obtain in a well-ventilated, well-lighted house, when the roots of the plant have ample scope to ramble in a border of prepared soil. Owing to its rapid-growing character, this species is better adapted for planting out than some of the slower-growing species, although all are amenable to both kinds of treatment. A mixture of loam, peat and sand has been used for this class of plants, but a good, fibrous, rich and light loam will answer perfectly. If a thorough drainage and porosity of the soil is maintained, it may be enriched with some kind of well-decayed manure, and a satisfactory amount of growth and flower is almost ensured. An abundance of scarlet flowers is very acceptable at this season. The plant is easily propagated by cuttings or by seeds,

which it produces freely, and seedlings soon attain a flowering condition. This species is figured in the *Botanical Register*, 21, t. 1790, and is closely allied to *K. prostrata*, a small-growing plant.—J. F.

THE AIGBURTH NURSERY, LIVERPOOL.

WHEN the wind is driving sleet in one's face, and the earth is hard bound by frost and covered with snow to the depth of from 3 ins. to 4 ins., is hardly the best time to call at a nursery; but such were the conditions under which I recently paid a visit to Grassendale. In the Messrs. Ker's nursery there is always something new to be seen, and a genial welcome to receive, so that the weather had not much effect on me. At the principal entrance on the Liverpool and Garston Road, some five miles from our great sea-port, the outlines of the flower-beds, now filled with an assortment of small conifers and evergreen shrubs, were only just visible, not tempting enough to linger over, so we turned to the right and were soon under glass.

The first house we entered was a lofty span-roofed structure, 120 ft. by 27 ft., divided in the centre. The first compartment contains Camellias, 12 ft. to 14 ft. in height, well laden with flower-buds; Sweet Bays and other large plants arranged down the middle, with greenhouse Rhododendrons of the most approved varieties, and some in flower, showing the value of this class, which is rising so rapidly into public favour; *Azalea indica*, *Cytisus*, *Pimelias*, &c. In the second division are some noble specimen Palms, tree Ferns and *Dracænas* on the centre bed; whilst on the stages, with a groundwork of *Adiantum cuneatum*, are a varied and attractive selection of flowering plants, including Roman Hyacinths, *Cinerarias*, *Poinsettias*, *Bouvardias*, *Abutilons*, *Begonias*, *Linum trigynum*, &c.

The next house is a span of smaller dimensions, with a pathway down the centre, containing quantities of *Heliotropes*, *Pelargoniums*, *Kalosanthes* and *Mignonette*. Then comes the octagon or Palm-house, which is furnished with a fine collection of plants of all sizes; *Kentia Fosteriana*, *K. Balmoreana* and *K. australis* are in robust health, and ranging from 2 ft. to 4 ft. in height—a most useful size for decorative purposes; and to prove the hardiness and usefulness of this species for such work, it may be mentioned that one of them had been at the Liverpool exhibition for over five months, and yet looks as well and healthy now as could possibly be desired. *Seaforthias*, *Lantanas*, &c., are also well represented. From this house radiate, in various directions, the potting and packing sheds; also six houses, including the one already referred to.

The propagating-house follows, and here are seen Vine eyes, *Chrysanthemums*, and other cuttings. The adjoining structure is filled with a varied and useful assortment of Ferns, in moderate-sized pots. In the two houses opposite are staged the *Primulas*, amongst which *Gipsy Queen*, with its Fern-like foliage, stands well to the fore. Here also may be seen one of the Aigburth specialties—viz., *Cyclamens* in colour, ranging from pure white to the deepest, yet brilliant, crimson, in pots, ranging from 4 ins. to 8 ins. in diameter, with magnificent foliage of great substance, and crowned with large numbers of massive, well-formed flowers on strong stems. All are young, having been grown on from seeds sown in the autumn of 1885, and always kept close to the glass, which is the prevailing arrangement in all the houses; for as Mr. H. Ranger, the courteous manager, tersely puts it, "day-light is so scarce in Lancashire during the short winter days that every ray possible must be utilised."

The stove facing nearly due south is a lean-to building of considerable size, filled to its utmost capacity with healthy well-grown plants, which include *Anthurium Ferrierense*, *A. Andreanum*, with a new hybrid *A. carneum*, somewhat deeper in colour than the first-named, *A. Veitchii flora rubra*, and for foliage, *A. Veitchii* and *A. crystallinum*; of *Dracænas*, *Linden* and *Danelliana*, an improvement on *D. rubra*, promise to be acquisitions; *Tillandsia tessellata*, a splendid specimen in a tub, with leaves over 20 ins. in length; *Coccoloba pubescens*, with foliage somewhat resembling the ear of an elephant, and 22 ins. in diameter; *Higginsia Roezlii*, *Echites rubro-venosa*, *Pellionia pulchra*, and *Aristolochia elegans*, all attractive subjects, either for their beauty, variety, or novelty. The miscellaneous plants include *Dracænas* and Palms in great variety, with numbers of the most

graceful and elegant *Cocos Weddelliana*, *Aralias* of sorts, *Pandanus Veitchii*, *Ficus elastica alba variegata*, *Eranthemums*, *Marantas*, *Dieffenbachias*, *Tradescantias*, and *Asparagus plumosus nanus*, represent the variegated and ornamental section. Specially noted amongst the flowering plants were *Bougainvilleas*, *Stephanotis*, *Clerodendrons*, *Rondeletias*, the new *Amasonia punicea*, bearing its brilliant and attractive bracts, which last in perfection fully two months; *Impatiens Hawkerii*, carrying large flowers of a rich carmine colour; the much-admired old favourite *Eucharis amazonica*, with the newer additions, *E. candida*, *E. Mastersii* and *E. Sanderiana*.

Leaving the stove by the north door, several low span-roofed houses, built expressly for smaller-growing stock, were next visited, and in these we noticed a collection of *Bromeliads*, including *Tillandsias*, *Encholirions*, *Nidulariums*, and *Vriesias*, with the peculiarly marked and appropriately named *V. hieroglyphica*. Ferns are numerous, and include many new and valuable acquisitions. *Gymnogramma gloriosum*, *Adiantum elegans*, which, like one of its parents—*A. gracillimum*—will stand well in a cut state; *Nephrolepis Bausei*, *Davallia tenuifolia Veitchiana*, described as the most graceful and finely cut Fern in cultivation; *Selaginella amœna*, and the well-known *Adiantum Farleyense* are all conspicuous.

The *Crotons* next commanded attention; but before describing the plants with which Messrs. R. P. Ker & Sons have gained so many honours—having been placed in the premier position in every competition in which they have taken part—a brief description of the house and of the system of culture adopted may not prove unacceptable. The structure is about 50 ft. in length, and nearly 9 ft. in height, running north and south, with side-lights nearly down to the ground level. The rafters are fluted to prevent drip, and the glazing is on a principle that admits all the light possible. The squares of glass are 20 ins. wide, with the edges cut in a semi-circular form to induce the water to run down the middle. Shading of the lightest texture is used only for two or three hours during the brightest summer days, and low stages run round the house and down the centre. Ventilation is provided both at the top and sides, and the minimum temperature maintained is 70°, rising to 90° and 100° by sun-heat.

The compost generally used, though we were informed that it was not considered important to adhere strictly to any particular mixture, consists of two-thirds loam and one-third leaf-soil, with sufficient sand to keep the whole open. A special style of growth at this establishment is what may be termed the columnar, that is to say, the plants are grown on one single stem to the height of from 4 ft. to 6 ft., with the cutting leaves still on, when they are admirably adapted for decoration where tall plants are in request.

It would take far too much space to attempt a description of the many forms, from the curious corkscrew twisted, the halberd, the broad flat-leaved or the brilliant coloured. In naming a few of the most prominent varieties, we have divided them into five sections:—1, the long narrow-leaved, in which are *Warrenii*, *Prince of Wales*, *Princess of Wales*, *Sinitzinianus*, and *Rodeckianus*; 2, the broad-leaved, including *Williamsii*, *Neumanii*, *Mortii*, *Bergmanii*, *variegata elegans*; 3, the halberd or fiddle-shaped, viz., *Mortefontaineensis*, *Evansianus* and *Thomsoni*; 4, the small narrow-leaved, such as *Aigburthiensis*, *Flambeau Chelsoni*, *Countess* and *Ruberrimus*; and 5, the medium narrow-leaved, i.e., *Queen Victoria* and *Hawkerii*.

A new house has recently been erected on a similar principle for the purpose of growing pot Vines and standing parallel to the *Croton* house with plenty of light to ensure short jointed and firm wood. It has four iron and slate stages, and ample path room. The house that has been used for that purpose heretofore is to be devoted to *Roses*, for which it appears well adapted.

The heating power is supplied by four large boilers, two of Messrs. F. & J. Mee's patent powerful saddles, with their patent waterway backs and bars, such as gained the premier award at the Royal Horticultural Society's provincial show held in Wavertree Park last summer, having recently been placed in position. The outside ground covers some ten acres, and in the various quarters may be seen a general assortment of fruit trees of the most approved kinds, conifers and evergreens in excellent condition for transplanting; *Hollies*, including a grand lot of *Hodginsii*, which thrives so well in this neighbourhood; an extensive

herbaceous border in a good position, and a long ribbon border by the road, composed of choice evergreens. This is a specially pleasing feature, and here we may well conclude the notes of our visit.—*W.*

GARDENING MISCELLANY.

Cratægus pyracantha.—Calling upon a friend at Christmas, I found that, in the absence of Holly berries, he had used in the decoration of his living-rooms sprays of berries of what is termed the Red Pyracantha, which were numerous produced during the past season; and what a charming object it is in winter, when laden with its pale coral berries! It will grow in almost any situation, but prefers a sunny one. The flowers of this evergreen Thorn have a sweet smell resembling new hay, and with its shining evergreen leaves and bunches of bright berries, together with the docility with which it can be trained—although properly a shrub—it is well adapted for any vacant space of wall, looking particularly well against that of a dwelling-house, and unquestionably ranks among the highest ornaments of the winter garden; indeed, it is attractive the whole year round, as the berries of the preceding season have scarcely disappeared before it is showing its white fragrant blossoms.—*R. D.*

Christmas Roses.—What is the reason of the Christmas Roses being so backward in flowering this season? The complaint, I find, is pretty general. Plants in pots under glass, though in a cold house, are not nearly so forward as they were last season, and I am informed this is the case with those plants forced into bloom in heat. Can anyone account for it?—*Quo.*

Climbing Rose, Félicité Perpetue.—Allow me to put in a word or two in favour of this fine old Rose. It is one of the Multiflora section, the original type of which was introduced from China in 1804, and from it some twenty or thirty varieties at least have sprung, among them that named above, known also as Alba. The best time for planting is in autumn; but it is so hardy and vigorous a Rose that when planted as late as March it does well. It is a remarkably rapid grower, with charming foliage, and bearing myriads of little globular creamy white blossoms. It is one of the most serviceable of the climbing Roses.—*R. D.*

Achimenes coccinea.—For many years I have made a practice of growing this small-flowered but brilliant Achimenes as a winter-flowering plant, and find it easy to manage, and most useful in the stove or for decoration indoors at this season. By delaying to plant the rhizomes until after midsummer, then placing the pots in a vinery or greenhouse, the growth is so retarded, that when they are subsequently put into the stove as the autumn advances, they are only in full growth, and about to flower early in December. By growing them in two batches, with some weeks between each planting, I get them to bloom all through December and January—a time they are more valuable for cutting than in summer when so many flowers are in blossom. Those to whom I have recommended this simple method, and who have tried it, speak of it as a great success, and a most useful help towards the supply of winter flowers. It is well to delay as long as possible their going to rest in the spring, so that they may provide good plump rhizomes for the subsequent planting.—*J. T. Poë, Riverston.*

Celery and Seakale.—Celery is now being largely used as a substitute for Seakale, thus dispensing with the necessity of forcing the latter. At this time of year cottagers have a supply from their one ridge, without any heat, and the white varieties are preferred to the reds for stewing, as not being tinted with colour, while, at the same time, milder in flavour.—*B. L.*

Soot and Celery.—What a wonderful stimulus to growth, what healthy dark green foliage soot gives to any vegetable product when judiciously applied! Soot is largely used as a top-dressing by Messrs. Bleachers, of Huddersfield, at their vegetable farm on the borders of Yorkshire and Lincolnshire. The good and clean marketable samples that this firm imports into this town, shows the marked results of soot, as well as proper selection of soils and sorts. In many places it is often a difficulty to get a good stick of Celery without first having to pull the outer half of the leaves away, on account of their being riddled with slugs and snails; but a top-dressing of soot, once or

twice during the summer, amongst the plants, will prevent all this. One firm of chimney-sweepers informs me that last year their supply alone to the above firm was over 30 tons of soot, and that the area of Celery under cultivation was some hundreds of acres.—*B. L.*

Begonia Frœbelii.—Though it may seem premature to comment on an article “to be continued,” still what has been written on “The Tuberous Begonia” seems complete, so far as it has gone. I would say I have remarked that the distinctive feature of this brilliantly coloured Begonia, namely, its flowering in mid-winter, has been omitted from the description, which is an omission the plant does not deserve. The improved form of it, *B. Frœbelii incomparabilis*, also sent out by Mons. Frœbel, of Zurich, is a much handsomer flower than the type. A plant of it, which I had from Mons. Frœbel when first sent out, has been in bloom here for more than a month past, and has been the brightest spot in an intermediate house, where its brilliant scarlet-crimson flowers are welcome at this season, and contrast so well with the Roman Hyacinths and other flowers.—*J. T. Poë, Riverston.*

The Carnation Maggot.—I read with much interest the note by “R. D.,” on p. 267 of December 25th, on this subject. The Carnation maggot is no new thing amongst Carnations and Picotees, as it has been known for a long time, and I have myself been acquainted with it ever since I began to grow the flowers. It generally starts at the top or centre of the plant and progresses downwards into the very pith of the plant; but I never knew it to reach the collar, as stated by “R. D.,” except in very small plants before the grub appears to be fully matured. The maggot is about 3-16 of an inch in length, and it takes about one month from its first appearance to its being fully developed, when it is of a reddish brown colour. After it gets to this state it does not seem to do any more harm to the plants. I never knew it to make such serious inroads on a collection as “R. D.” describes, especially at this time of the year. Its ravages have generally been worst in August and September, after the plants have been layered. After reading “R. D.’s” note, I looked over my stock with great care, but could not see more than four or five plants which had been injured by the maggot. I find it the best way to look over the plants once a week, and to destroy such things as maggots and slugs, as it is easy to see at once where they are or have been. How the maggot originates I cannot say, but I think it comes with the manure, as I noticed more of it one year than I had done before. I had the soil and manure examined, and we found in the manure some of the same form of maggot but of a larger size.—*Frank Law, Rochdale.*

Cotoneaster frigida and C. affinis.—Now that we are in the midst of the planting season, special notice may be directed to the above, as being two very excellent subjects, well adapted for planting in shrubberies and pleasure grounds, where something both pleasing and effective is desired. At the present time and for some weeks past both species have presented quite a charming and captivating appearance; the former by its long pendulous branches, weighed down by its clusters of brightly coloured scarlet berries, and the latter with berries of a dark brown or deep chocolate hue. The first-named is infinitely the better of the two, and, in my opinion, second only to the Holly, amongst our hardy trees and shrubs for effectiveness at this time of the year. Both species if left unpruned will grow to a height of something like 20 ft., and will stand the test of our severest winters; at the same time, we may remark, they do not fruit so freely every year as they are doing this year.—*J. H.*

Gros Colmar Grape.—In the late vinery at Clarendon Park are some high-class bunches of Gros Colmar, *i.e.*, as regards colour, size of berry and flavour. Most truly this variety may be termed an invalid’s Grape when grown in its best form, *i.e.*, when the berries are black and something like 4 ins. in circumference, as were those we had the pleasure of tasting.—*Visitor.*

Mistleto.—I will, with your permission, supplement Mr. R. Dean’s remarks on Mistleto at p. 248, and for the interest of some of your readers, add a record of trees upon which this parasite grows, in some cases many feet in diameter. In Herefordshire it may be seen thriving in great abundance on the Apple trees. This county being celebrated for its Apple orchards, as well as for the cultivation of Hops, it may be readily

conceded that there is a great quantity of this parasite, and tons of it are cut annually and disposed of. I may inform your readers who are not acquainted with the fact, that Messrs. R. Smith & Co., St. John’s nurseries, Worcester, are able to supply Apple trees with Mistleto growing thereon, and anyone desirous of introducing this parasite into other counties, will find it a much easier way than the more risky one of rubbing the berries on the bark. I read lately that great quantities had been cut and exported to New York, from Monmouthshire; this is noteworthy from the fact that large quantities are sent to the London markets from Brittany. Appended is a list of the trees which I have been enabled to collect together, upon which the Mistleto grows:—Acacia at Alderley, Gloucestershire; Acacia at Faversham, Kent; Acacia at Westwood Park, Worcestershire; Aspen Poplar, Birch, Chestnut, Hawthorn, Lime, Magnolia glauca, Maple, Mountain Ash, Oak, Rose, Service Tree, Sycamore and White Beam. It may also be seen growing at the under-mentioned places on the Oak:—Burningham Farm, Dunsfold; Badham’s Court, Chepstow, Monmouthshire; Bredwardine, Herefordshire; Cheltenham, Gloucestershire; Eastnor Park, Herefordshire; Forest of Deerfold, Herefordshire; Frampton Severn, Gloucestershire; Hackwood Park, Basingstoke; Hendre, Monmouthshire; Knightwick Church, Worcestershire; Lee’s Court, Faversham, Kent; Lindridge, Worcestershire; Plas Newydd, Anglesey; Plymouth (near); Saltmarsh Castle, Bromyard; and Tedstone Delamere, Herefordshire.—*J. S. T.*

Wintry Weather in Ireland.—We are having just now what might justly be called real Christmas weather. Commencing with a slight frost on Wednesday night, we had 12° on Thursday and Friday nights. Saturday morning came in with a heavy fall of snow, which continued up till evening, when it was 20 ins. deep. Some old men employed in these gardens tell me that they do not recollect such a heavy fall in this part. Saturday night cleared up for frost, and towards morning we registered 14°; and on this Monday morning, December 20th, we had 27° of frost; and now at the time of writing, 6.15 p.m., the glass is standing at 10°, making 22° of frost. I do not anticipate much injury to shrubs or Alpines or any delicate plants, on account of the covering of snow. There is a generally prevalent opinion that the West of Ireland is very mild, but from the plants we have lost here it could be abundantly proved that such is not the case; certainly not at all to be compared with the West of Scotland, as your account of the vegetation in the favoured Island of Arran and notes from other western places show. I had the pleasure in 1883 of taking a hurried run through the beautiful and well-kept gardens of Poltalloch, in company with Mr. Russell, and of noticing various plants in vigorous health then, that were killed outright during the winters of 1879 and 1881. Some of the plants referred to are Desfontainea spinosa, of which there are fine shrubs at Poltalloch standing in the open; we had but one plant of this in 1879 which was killed, but last year we planted two out against a wall, and they both perished. Garra elliptica, Arbutus Unedo, Buddlea globosa, the Pampas Grass, and others, which I have seen doing well in the West of Scotland have all been killed here. I attribute a good deal of our losses to the wet climate.—*J. McP., Markree Castle, Co. Sligo.*

Classification of Pears as to Quality.—At p. 202 your esteemed correspondent, Mr. Murphy, suggests that those having a classified list of Pears as to quality, should place it before your readers. This is a capital suggestion, in my opinion, and I fully anticipated seeing several communications on the subject. However, no one having yet replied, I will give the names of a few as selected from a goodly number grown here, and which, for quality and usefulness together, I believe to be the best in the season from August to the middle of January. Marie Louise, in its season, I would without the least hesitation give the premier place; and next to it I am inclined to place that not over handsome variety, Thompson’s. It is really a first-rate quality Pear, and its appearance is its only fault. Doyenné du Comice is remarkably good with us, the fruits growing to a nice dessert size, and for quality is all that could possibly be desired. The following are a few that I consider to be the best here. I name them somewhat in the order of ripening:—Jargonelle, Williams’ Bon Chretien, Madame Treyve, Fondante de Automne, Louise Bonne of Jersey, Thomp-

son's, Vineuse, Marie Louise, Beurré superfin, Emile de Heyst, Doyenné du Comice, Glou Morceau, Passe Colmar and Winter Nelis.—*H. Markham, Mereworth Castle, Maidstone.*

Should Chrysanthemum Cuttings be Watered?—Mr. W. E. Boyce sends me this morning a very carefully compiled descriptive catalogue, with unusually full cultural directions for the successful propagation, treatment and growth of the Chrysanthemum, with the customary list of varieties, including the new introductions. He concludes his article on propagation and watering by saying "from the time the cuttings are put in until February, they will require no further attention than careful watering and protecting from frost." I am inclined to question the judiciousness of "watering," except where the cuttings are in a dry atmosphere, which they should not be in, if possible. I have a large pit-full, and instead of watering, I give plenty of air on all suitable occasions to prevent damping.—*W. J. Murphy, Clonmel.*

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES.

FLORAL COMMITTEE, 1887. *Chairman*, Geo. F. Wilson, F.R.S., Heatherbank, Weybridge Heath. *Vice-Chairmen*, J. Shirley Hibberd, 1, Priory Road, The Green, Kew; Rev. W. Wilks, Shirley Vicarage, Croydon; Major Lendy, F.G.S., F.L.S., Sunbury House, Sunbury-on-Thames. *Secretary*, Archibald F. Barron, Royal Horticultural Society, Chiswick, W. Baines, Thomas, Fern Cottage, Palmers Green, N. Ballantine, H., The Dell Gardens, Egham Bennett, H., Shepperton, Walton-on-Thames Bradshaw, A., Waddesdon Manor Gardens, Aylesbury Dean, R., Ranelagh Road, Ealing Dominy, John, 11, Tadema Road, Chelsea, S.W. Douglas, J., The Gardens, Great Gearies, Ilford, E. Duffield, G., The Gardens, Bramford Lodge, Winchmore Hill, N. Fraser, John, Lea Bridge Road, Leytonstone Goldring, Wm., 52, Gloucester Road, Kew Herbst, H., Kew Road, Richmond, Surrey Hill, E., The Gardens, Tring Park, Tring Holmes, W., Frampton Park Nurseries, Hackney Hudson, James, The Gardens, Gunnersbury House, Acton Lowe, Dr. W. H., Woodcote, Inner Park Road, Wimbledon Masters, Maxwell T., M.D., F.R.S., Mount Avenue, Ealing Maw, George, F.L.S., Benthall, Kenley, Surrey Noble, C., Suoningdale Nursery, Bagshot O'Brien, James, West Street, Harrow-on-the-Hill Paul, George, "Old" Nurseries, Cheshunt, N. Perry, Amos Isaac, Stamford Road, Page Green, Tottenham Pilcher Charles, 84, Ringford Road, West Hill, Wandsworth Pollett, H. M., Fernside, Bickley, Kent Turner, Harry, Royal Nursery, Slough Walker, J., Whitton, Middlesex Wynne, B., 17, Catherine Street, Strand, W.C.

FRUIT COMMITTEE, 1887.—*Chairman*, Robert Hogg, LL.D., F.L.S., 99, St. George's Road, S.W. *Vice-Chairmen*, John E. Lane, Berkhamstead; T. F. Rivers, Sawbridgeworth; Arthur W. Sutton, Reading. *Secretary*, Archibald F. Barron, Royal Horticultural Society, Chiswick, W. Barr, Peter, 12, King Street, Covent Garden Blackmore, R. D., Teddington Bunyard, George, The Old Nurseries, Maidstone Burnett, J., The Gardens, Deepdene, Dorking Crowley, Philip, Waddon House, Croydon Denning, W., The Gardens, Londesborough Lodge, Norbiton, Surrey Fitt, Joseph, Cashiobury Park Gardens, Watford Ford, Sidney, The Gardens, Leonardslee, Horsham Goldsmith, G., The Gardens, Floore House, Weedon Haywood, T. B., Woodhatch Lodge, Reigate Lee, John, 78, Warwick Gardens, W. Miles, George T., The Gardens, Wycombe Abbey, High Wycombe Myers, Jonathan, The Grove, Watford Norman, G., Hatfield House Gardens, Hatfield Paul, William, Waltham Cross, N. Pearson, Alfred H., The Nurseries, Chilwell, Notts Roberts, J., The Gardens, Gunnersbury Park, Acton Ross, Chas., The Gardens, Welford Park, Newbury Rutland, F., The Gardens, Goodwood, Chichester Saltmarsh, T. J., The Nurseries, Chelmsford Smith, James, The Gardens, Mentmore, Leighton Buzzard Veitch, H. J., F.L.S., Royal Exotic Nursery, Chelsea, S.W. Warren, W., Worton Gardens, Isleworth Weir, Harrison, Hinwick, Lansdowne Road, Tunbridge Wells Willard, Jesse, Holly Lodge Gardens, Highgate, N. Woodbridge, John, The Gardens, Syon House, Brentford.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

THE STOVE.—The time has now arrived when it will be necessary to make preparations for a thorough overhauling of the occupants of the stoves. It will be advisable that the bins of loam, leaf-soil, peat, and so on, are filled before potting commences, so that as the plants are brought to the bench each may receive the soil best suited to its successful culture; the mixing of a large heap of soil on the potting bench, and the indiscriminate potting of all alike in the mixture, very frequently leads to serious results. For instance, *Dracænas* will thrive in the same soil as many other stove plants require, but if well-grown, highly-coloured *Crotons* are aimed at, there must be a marked difference in the compost; the latter requiring a free open soil, with the addition of charcoal and broken sandstone to ensure the compost being kept sweet and open. Once the soil becomes soured, good plants cannot be grown, so that its preparation is a matter of the first importance in plant growing.

Let the leaf-soil receive careful attention in the way of removing all sticks and other refuse which are productive of the fungus so injurious to all plant roots. I do not advise it being sifted, very much preferring it should be of a flaky nature, as it remains as food so much longer than if thoroughly decomposed.

Such plants as *Allamandas*, *Clerodendrons* and other climbers, if in pots, should, before being disturbed, receive a thorough soaking of water, so that the soil may be more readily removed. It will be found that *Clerodendrons* make quite as good specimens without the usual annual shift given to kindred subjects; in fact, they are rather impatient of potting, every third season being quite sufficient, and then the growth should have commenced before the operation is attempted, or there is much danger of losing the plants.

We prefer to remove as much as possible of the old surface soil without unduly damaging the roots, replacing it with some of the richest we can get, for these plants delight in liberal treatment, even to frequent doses of liquid manure water: after growth has fairly commenced it will be found to greatly benefit both the foliage and flowers. The same remarks apply to both the shrubby and climbing varieties. *Allamandas* should be pruned well back, allowing them to start into new growth before potting takes place. If they are planted out they will readily start if frequently syringed, without deluging the soil in which they may be planted.

Stephanotis should receive a thorough cleansing before new growth is made, otherwise endless trouble will be caused later on. If the plants are trained on trellises, they should be quite removed and cleansed also; and, as new growth is made, twine should be tied from the trellis to the roof, to which the growths should be trained to ensure thorough ripening of the wood.

THE FORCING HOUSES.

SOWING MELONS.—With the commencement of the New Year it will be advisable to make a sowing of some good reliable kind of Melon; thus early it will be found best to sow the seed singly in small 60 pots, so as to prevent potting off. Let the pots be plunged in a good bottom-heat, so that the seed may germinate quickly, and do not water until they appear above the surface. Use seed, if possible, three or four years old, it being more fruitful than new seed.

THE FRUITING CUCUMBERS will again need the bottom-heat renewing; they are fruiting more freely, and altogether look healthy, and will well repay every attention. The second house is rapidly covering the trellis, and must now be more closely stopped to produce fruit. Sutton's Royal Windsor appears well adapted for winter work, and is of much better colour than Telegraph.

THE FORCING HOUSE.—We have placed a second batch of *Azaleas* in the forcing house, and also more *Lilacs*, *Deutzias* and *Spiræas*; and we have also plunged in bottom-heat a good batch of *Lily-of-the-Valley*. It is advisable to cover the crowns with moss, as it greatly assists in bringing the flower-spikes above the foliage. In the Mushroom house we have abundance of *Rhubarb*, *Sea-Kale*, *Chicory* and *Mushrooms*; we maintain a temperature of about 58°, and the house is frequently

syringed and damped down. We must endeavour to put in a couple more lights of *Asparagus* this week, as, from the frequent cuttings, it soon becomes exhausted.

SEED SOWING.—Be careful to make frequent sowings of small salad, and have the hot-bed ready for the first sowing of Horn Carrots and Radishes. Be very careful during this unsettled weather that the setting of the fruit in the early Peach-house is not neglected, and maintain a rather higher day temperature when wet, so as to ensure the blooms being quite dry at mid-day.

EARLY VINERY.—The temperature of the early vinery as growth proceeds may be raised a few degrees both by day and night. The second house should also be closed forthwith, placing a covering of dry leaves on the outer border, over which a layer of litter to keep them in place. On bright days the rods may be syringed about mid-day.

THE KITCHEN GARDEN.

PRUNING AND NAILING.—There are signs of the snow disappearing, and as there is but slight frost we are going on with the pruning and nailing, which we have nearly completed with the exception of the Peach wall, the trees on which we intend to unnailed and bunch, so that the wall may be dressed. We are also going over the standard Apple trees, removing all small wood from the centres of the trees and so admit of the fruit being highly coloured—a decided advantage. The prunings are carried to the rubbish-heap and assist in burning up refuse.—*Walter Child, Croome Court.*

SYRINGING ORCHIDS.

THE character of my evidence on this subject has been misunderstood by your correspondent at p. 268. They must forgive me for not having stated before that I am only a small grower, and also not over proud of my achievements. My plants are chiefly old ones which have been in my hands for several years, and as I experienced the greatest benefit by discontinuing the use of the syringe on the plants, I thought a word on the subject might be of use to many of your readers who have Orchids; but I should never think of pitting my plants against Mr. Simcoe's, of which I have often seen notes in *THE GARDENING WORLD*. Nevertheless, comparing my plants as they now are with what they were when I used to syringe them, gives to me the most incontestable proof that formerly I used to take much trouble to injure them.

It may be said that I did not properly use the syringe. That may be so, for not being a professional grower I cannot say; neither could I, among all the growers I consulted, find one who could give me anything like lucid instructions about how, when and on what plants to use the syringe, and, moreover, I found that no two of the growers agreed on the subject. It was a knowledge of these facts, and the very unsatisfactory condition of many of the plants which induced me to grasp with avidity Mr. J. O'Brien's advice to discontinue the use of the syringe, unless for special plants or uses other than on the plants.

The beneficial results have been marvellous. Formerly I used to lose many young growths and flower sheaths, but now it is a rare occurrence to lose one. My *Aërides*, *Saccolabiums* and *Vandas*, which used to make weak and spotted growth, now make stout leaves, and the newly made ones are clean and healthy. But the improved state of things is the most evident with the *Cattleyas* and *Lælias*, which now make shorter and thicker growths, sure to flower well; whereas they used to be weak and produced poor flowers, if any. With these, my most marked success has been with *C. gigas* varieties and *L. Perrinii*. Formerly the first-named were of no use to me, as they never flowered, and *L. Perrinii* was not much better; but since discontinuing the syringe, they have now assumed a showy appearance, and the fine show of *L. Perrinii* just over, is, in itself, a great reward.

I find the sheaths on the bulbs now clean and bright, instead of ragged and dingy, as they used to be when I syringed; and I also find that all unsyringed Orchids which I have—provided they are properly watered in the pots, and the houses kept moist—root much more freely with me than they did when syringed. Indeed, for amateur growers, I should say, judging from my own experience, whatever may be the benefit of syringing on a few species, such as those which Mr. R. C. Fraser names—*Bolleas*, *Pescatoreas*, &c.—not one of which I have, that it is better to run the little risk for the great

gain, and simplify their culture by doing away with the syringe on plants overhead altogether. I fear I have not conveyed much in this note; but it may serve to point out my firm belief in the subject in question, and may cause others to try the experiment.

It was, perhaps, bold in me to address you at all; but I did so as I am convinced that if small growers would state their failures and successes, and ask and convey information to each other, not necessarily to professional growers, much good would result, and at the same time the growers might help us by either backing or condemning our opinions in a kindly spirit.—A. C.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—The potting should now be commenced in the cool house, beginning with the Masdevallias, continuing with the Odontoglossums, and proceeding with the cool house Oncidiums and other plants, good sweet living sphagnum moss, fibry peat, clean pots and crocks being used for all. A lengthy article on this subject will be found in THE GARDENING WORLD, Jan. 10th, 1885. If a sufficient stock of these materials is not ready, no time should be lost in preparing it, and let the work of repotting such plants as require it be commenced as soon as all the requisites are at hand. During the changes of weather we are sure to experience, care must be taken during the coldest part of the time, and when the heating apparatus is kept going briskly, to keep the brickwork of the house and the staging moist, and this should be effected without raising a steam from the pipes, which would be likely to prove injurious; and during the milder weather every opportunity should be taken to give free ventilation evenly balanced, a little top and bottom. Nothing tends to tide Orchids well over our winter than thus taking advantage of mild periods, such as we get in our worst seasons. Even in the worst weather, rather than let the temperature get too much above that prescribed, air should be admitted freely whenever it can be done without coming into direct contact with the plants.

THE TEMPERATURES FOR THE MONTH of January should be:—Warm or East Indian house, 65° to 70° by day, 60° at night; Cattleya or intermediate house, 60° to 65° by day, 55° at night; Cool or Odontoglossum house, 50° to 55° by day, 45° at night.—James O'Brien.

Orchids from Garston.—Mr. John Cowan sends us a box of blooms from Garston, among which we find ten examples of a fine strain of Odontoglossum Rossii majus and O. Rossii majus albens; one of the ordinary forms of Lælia anceps, two of the Garston varieties alluded to last week, and one bloom of the original L. anceps Percivalliana delicata; a very bright form of Oncidium unguiculatum from a plant stated to have a branching spike of seventy flowers; a bloom of the fragrant white Epidendrum ciliatum; a curious species of Spathoglottis, marked Eulophia species, which we will refer to again in a future number; and a beautiful series of Lælia albida, including the original form—L. albida Marianæ, L. albida bella and L. albida sulphurea. A very interesting lot.

FLORICULTURE.

SELECTIONS OF DAHLIAS.—What are the best Dahlias to grow for exhibition purposes? is a question that is frequently being put, and especially so in the early part of the year, when growers of florists' flowers are speculating upon what is best worthy their attention in the coming season. Already florists' societies—the Auricula, Carnation and Picotee, Dahlia, Rose, &c.—are making their arrangements for the coming year, and their announcements inspire the exhibitor to consider what he shall cultivate for exhibition.

I venture to name the following thirty-six show Dahlias, as comprising the very finest flowers:—Burgundy, Clara, Constancy, Flag of Truce, George Rawlings, Georgiana, Goldfinder, Hope, Henry Walton, Herbert Turner, Imperial, Hon. Mrs. P. Wyndham, James Cocker, James Stephen, James Vick, John Bennett, John N. Keynes, John Standish, Joseph Ashby, J. B. Service, Lady G. Herbert, Miss Cannell, Mr. G. Harris, Mrs. Gladstone, Mrs. Langtry, Mrs. Harris, Mrs. S. Hibberd, Harry Keith, Mrs. G. Rawlings, Prince Bismarck, Prince of Denmark, Ruby

Gem, Sunbeam, Seraph, T. J. Saltmarsh and William Rawlings.

A thoroughly good twelve, selected from the foregoing, will be found in Clara, Constancy, George Rawlings, Hon. Mrs. P. Wyndham, Mrs. Langtry, Mrs. Gladstone, Miss Cannell, Mr. G. Harris, Sunbeam, Prince of Denmark, Mrs. S. Hibberd and Prince Bismarck.

As to the Fancy Dahlias, a very fine selection of twenty-four varieties is as follows:—Charles Wyatt, Duchess of Albany, Edward Peck, Fanny Sturt, Frederick Smith, Gaiety, George Barnes, Grand Sultan, Henry Eckford, Henry Glasscock, Hugh Austin, James O'Brien, John Forbes, Laura Haslam, Mandarin, Miss Browning, Mrs. N. Halls, Mrs. Saunders, Peacock, Professor Fawcett, Rebecca, Pelican, Rev. J. B. M. Camm and Mr. G. Head. The best twelve will be found in Charles Wyatt, Duchess of Albany, Gaiety, George Barnes, Henry Glasscock, Hugh Austin, John Forbes, Miss Browning, Mrs. N. Halls, Professor Fawcett, Rebecca and Rev. J. B. M. Camm.

The promoters of the National Dahlia Show, which is held at the Crystal Palace, having decided to create new classes of dark, light, tipped and striped flowers, I cannot do better than give lists of sub-varieties as may be admissible in these classes. Shaded and self-flowers:—Clara, George Rawlings, James Cocker, Imperial, John N. Keynes, Mr. G. Harris, Joseph Ashby, Mrs. Gladstone, Prince Bismarck, Seraph, Prince of Denmark and Sunbeam. Twelve tipped varieties will be found in the following:—Constancy, Goldfinder, Hon. Mrs. P. Wyndham, John Bennett, Miss Cannell, Mrs. Langtry, Mrs. Harris, Mrs. S. Hibberd, Ruby Gem, T. J. Saltmarsh, Henry Walton, and Mrs. G. Rawlings. It should be stated that the foregoing are all classed among the show varieties; and the same can be said of what may be regarded as a dozen good light flowers—viz., Buttercup, Condor, Emily Edwards, Ethel Britton, Flag of Truce, Georgiana, Herbert Turner, J. N. Keynes, Mrs. Gladstone, Muriel, Seraph, and Sunbeam.

And now for a dozen good-tipped fancy Dahlias:—Fanny Sturt, Laura Haslam, Miss Browning, Mrs. N. Halls, Mrs. Saunders, Peacock, Jessie McIntosh, Lady Antrobus, Mrs. Carter, Maid of Athens, Mrs. Frisleton, and Miss Rodwell. The following make a fine selection of twelve striped fancies:—Charles Wyatt, Duchess of Albany, Gaiety, George Barnes, Henry Eckford, Hugh Austin, Henry Glasscock, John Forbes, Rebecca, Rev. J. B. M. Camm, Professor Fawcett and W. G. Head.—R. D.

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.

—Dec. 15th.—At this meeting, which was presided over by Mr. Robert Tait, Mr. Abraham Stansfield read a paper in which he gave some valuable suggestions as to the best town trees, with special reference to the Manchester climate. Mr. Stansfield said if he had not for fully twenty years very closely observed with his own eyes the action upon vegetation of the Manchester climate, he certainly should not venture to speak in any tone of authority upon this matter. The real question before them was, what trees and shrubs can be expected to live if planted within two or three miles, as the crow flies, of the Manchester Exchange, and in those directions where the smoky or sulphurous emanations from innumerable chimneys hang about, making a dense cloud which not only prevents vegetation from receiving that direct light and heat of the sun so essential to its well-being, but which sheds and showers down a thousand matters and substances all in the highest degree prejudicial to plant life. The summer of the town is not the summer of the country; it was unfortunately much shorter, and the question, therefore, was how to prolong a summer aspect in smoky towns. If this can be done, even to the extent of a few weeks, how enormous the boon, how immense the service done to our crowded populations! He submitted that by a judicious selection of the objects to be planted, the summer aspect of our towns, even the smokiest, can be to a greater or less extent prolonged.

With regard to evergreens, certain varieties, which he named, of the Rhododendron, Holly and Laurel were to be preferred to all others for resisting at once the damp, smoke and other hardships of our Manchester air. This was chiefly because their leaves were smooth and glossy, enabling each plant to wash itself in every

shower of rain and to cleanse away the impurities that otherwise would choke or poison it. With regard to the beautiful and important class of evergreens known as conifers, they were wholly unsuited for planting within the limits defined. The choice of deciduous subjects for town planting was very considerable, but first let him indicate the kinds to be placed, with deep regret, in the town planter's index expurgatorius. They were the oriental and occidental Planes, the Lime, Horse Chestnut, Birch, Mountain Ash, the Service Tree, Acacia and Beech. After taking from the planter so many of his favourites, he had still left him a very considerable choice of subjects for town planting. As regards tall-growing trees, there was the beautiful Ash family in great variety; a number of Maples, including the Sycamore and its variegated forms; Elms and their varieties; many Poplars and some Willows. He had even seen the Turkey Oak, scarlet Oak and the mossy-capped Oak pulling along wonderfully well within the smoky boundary.

Then there was a very great resource in the Thorn family. Of Thorns for the very heart of Manchester, the vigorous-growing North American species would be found to supply the largest number of eligible subjects, and several of them had already been extensively planted on the recommendation of one or two gentlemen. With reference to the Laburnum, he thought all would agree that there is no more charming feature of suburban Manchester in the spring and early summer than the abundance of this beautiful town subject, which flings its wealth of golden tassels with an incomparable grace over almost every wall and paling; but we seldom see certain kinds, most of which he had proved to be eligible subjects for smoky districts. The fact was, there are about our hundreds of small suburban residences too many forest trees, and too few deciduous flowering shrubs; but upon this matter he purposed to speak at some length on a future occasion. In the short discussion which followed, the golden Elder tree was very favourably mentioned as suitable for town planting, an opinion which was endorsed by Mr. Stansfield.

Obituary.

THE LATE CANON BUSHBY. By the death of this gentleman at The Parsonage, Dalkeith, on Sunday, December 26th, the community has sustained a severe loss, and horticulture has been deprived of one of its most enthusiastic supporters, and most ardent admirers. Canon Bushby's success as a Grape grower has been at times recorded in the gardening papers, and for horticultural subjects in general he always displayed a lively interest and a very intelligent appreciation. The house of Muscats, which for many years in succession Mr. Bushby was fortunate enough to be able to show to anyone calling on him, was indeed a fine one. Span-roofed, and, if memory fails me not, about 40 ft. long, this house was invariably heavily cropped with fine bunches of Muscats, which were always models of cultivation in every respect.

Canon Bushby will be sorely missed by the poor, the sick and sorrowing. Wherever there was affliction—and more especially amongst the poor—Mr. Bushby was to be found, with sympathy of the most practical kind. The writer has often seen him, laden with a large basket of vegetables and flowers, gathered from his garden, making his way to the railway station, en route to Edinburgh Royal Infirmary, where he would distribute the various flowers with a kind and sympathetic word to each poor sufferer, and also see that the vegetables were handed over to the parties who would serve them to the patients. Canon Bushby was resident at Dalkeith thirty-eight years, as chaplain to His Grace The Duke of Buccleuch, and it was the good fortune of the writer to live near him and to enjoy his friendship for sixteen years, from early boyhood, and for fourteen years more to have still enjoyed his friendship, though separated by circumstances some thirty miles. These thirty years, with their mingled joys and sorrows, their clouds and sunshine, have left no brighter spots on memory's mirror than the thoughts which rise when I think of the loving heart and the cheering voice of one who now has passed away from this earthly scene. His memory will be long enshrined in the hearts of many who have experienced his practical sympathy, or who have heard his hearty kindly voice, giving either counsel or reproof, though, it may be added, reproofs from Mr. Bushby were almost like commendations from most people, so kind and sympathetic was his nature.

After a long and painful illness, borne with true Christian resignation, Canon Bushby has passed away, but "he being dead yet speaketh" to many who knew him, and his memory will be cherished as that of one who showed in a practical manner his sympathy for those in distress, and his love of nature in all her varied forms.—John Thomson, Clovenfords.

QUESTIONS AND ANSWERS.

DENROBIUM DEARET.—J. T. P.: We fully recognise the justice of your remarks, and endeavour to be as accurate as possible, but—slips will happen!

BOOTS.—Young Gardener: For general use there is no better dressing than Gishurstine, but to effectually keep out snow Castor Oil is the most certain. It has, however, to be put on some time before you can use the boots.

HEATING.—J. C. B.: There are so many cheap contrivances now for heating small houses, and all so good, if only carefully and regularly attended to, that we hesitate to recommend one more than another. Consult our advertising columns.

MILDEW.—J. Craig: The house has been too damp and cold. Give a little more heat and air to expel the damp, and dust the plants affected with flour of sulphur. The best way is to put a little in a small muslin bag, and shake it over the mildewed parts.

NAMES OF FRUITS.—A. Henderson: 1, Gloria Mundi; 2, Dutch Mignonette.

NAMES OF PLANTS.—H. G. S.: Odontoglossum constrictum.

COMMUNICATIONS RECEIVED: J. T. (many thanks).—J. C.—W. G.—Caledonian.—W. C.—G. F. (we heartily reciprocate your good wishes).—B. L.—J. C.—J. D.

LONDON SEED TRADE.

December 29th, 1886.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that owing to it being holiday week there is an entire absence of trade. Values all round remain unchanged.

COVENT GARDEN MARKET.

December 30th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6	3 6	Pine-apples, St.		
Grapes	1 0	2 6	Michaels, each	1 6	6 0
Kent Cobbs. 100 lbs. 65	0	70	Pine-apples, Eng., lb.	1 0	1 6
Melons	each		Strawberries	per lb.	

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6	0 8	Lettuces	per dozen	1 6
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, per lb.	0 3		Onions, per bushel ..	4 0	5 0
Cabbages	per doz.	2 6	Parsley, per bunch ..	0 6	
Carrots, per bunch ..	0 6		Radishes, per dozen ..	1 6	
Cauliflowers, English,			Sea Kale	per basket	1 6
per dozen	3 0	5 0	Small salading, punnet	0 4	
Celery, per bundle ..	2 0	2 6	Spinach, per strike ..	2 0	
Cucumbers, each	0 6	0 9	Tomatos, per lb.	1 0	1 6
Endive, French, doz.	2 6	3 6	Turnips	per bun.	0 6
Herbs, per bunch	0 2	0 4			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	8 0	Mignonette, 12 bun...		
Azalea, 12 sprays	0 9	1 6	Parma Violets (French),		
Bouvardias, per bun.	1 0	1 6	per bunch	3 6	5 0
Camellias, 12 blooms	2 0	4 0	Pelargoniums, per 12		
Carnations, 12 blooms	1 0	3 0	sprays	1 0	1 6
Chrysanthemums,			—scarlet, 12 sprays...	0 6	1 0
12 blooms	0 6	2 0	Primula, double, bun.	0 9	1 6
Chrysanthemums,			—single	12 bun.	4 0
12 bunches	4 0	12 0	Pyrethrum, 12 bunches.		
Cut Tulips, 12 blooms	1 0	2 0	Roses (coloured)	1 0	2 0
Czar Violets (French),			Roses, Tea	1 0	3 0
per bunch	1 6	2 0	Roses, red (French),		
Epiphyllum, 12 blms.	0 6	1 0	per doz.	1 6	2 0
Eucharis, per dozen ..	4 0	8 0	—Saffrano (French),		
Gardenias, 12 blooms	6 0	12 0	per doz.	1 0	2 0
Heliotropes, 12 sprays	0 6	1 0	Stephanotis, 12 sprays		
Lapageria, red,			Tropeoliums	1 0	2 0
12 blooms	1 0	1 6	Tuberose, per dozen ..	1 0	2 0
Lapageria, white,			Violets	12 bunches	1 6
12 blooms	2 0	4 0	White Jasmine, bun.	0 6	0 9
Marguerites, 12 bun...	3 0	6 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ferns, in var., doz.	4 0	18 0
Arum Lilies, per doz.	18 0	24 0	Ficus elastica, each...	1 6	7 6
Begonias, per dozen ..	6 0	12 0	Foliage Plants, vari-		
Bouvardia, per doz. ...	9 0	12 0	ous, each	2 0	10 6
Chrysanthemums, doz.			Hyacinths, per doz. pts.	9 0	12 0
Cyperus, per dozen ..	4 0	12 0	Marguerites, per doz.	6 0	9 0
Dracæna term., doz. ...	30 0	60 0	Mignonette, per doz.		
—viridis, per dozen ..	1 0	24 0	Palm in variety, each	2 6	21 0
Epiphyllums, per doz.	18 0	30 0	Pelargoniums, doz. ...		
Erica gracilis, per doz.	9 0	12 0	Pelargoniums, scarlet,		
—hyemalis, per doz.	12 0	24 0	per dozen	3 0	6 0
—Regenerians	9 0	12 0	Primula sinensis, p. dz.	4 0	6 0
—various	8 0	24 0	Solanums	per doz.	9 0
Evergreens, in var.,			Tulips	per doz. pots	6 0
per dozen	6 0	24 0			

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FERNS, six varieties, very choice and strong ... 4 0

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ODIER BLOTTED PANSIES—My strain of this beautiful class is unsurpassed by any ... 2 6

PANSIES, finest quality, mixed, strong plants ... 1 6

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PEAT, best brown fibrous, 5s. 22s. 6d.
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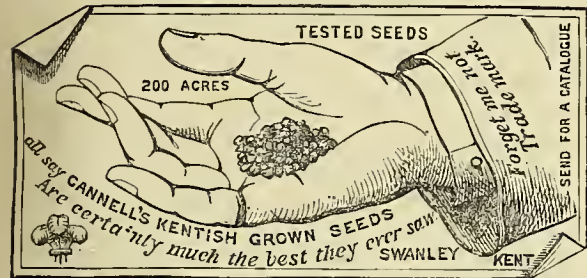
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NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m., in the Lindley Library; Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, JANUARY 11th.

N.B.—Entrance, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

TUESDAY, Jan. 11th.—Meeting of Fruit and Floral Committees of the Royal Horticultural Society at 11 a.m.

WEDNESDAY, Jan. 12th.—Midwinter Show of Chrysanthemums at the Royal Aquarium, Westminster (two days).—Sale of Hardy Plants and Bulbs at Stevens' Rooms.—Sale of Lilies, Roses, Plants, &c. at Protheroe & Morris's Rooms.

THURSDAY, Jan. 13th.—Sale of Orchids in Flower, Lily Bulbs, &c. at Stevens' Rooms.

FRIDAY, Jan. 14th.—Annual Meeting of The Gardeners' Royal Benevolent Institution at "Simpson's," Strand, at 3 p.m.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, Jan. 15th.—Sale of Plants and Bulbs at Protheroe & Morris's and at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 8, 1887.

THE LATE STORM.—If the old year ended badly—and certainly its dying agony was fierce and terrible in its force and destructiveness—the new one began hardly less so; and if its birth struggles were apparently quiet, they were, indeed, powerful for evil. Those whose memories retain the impression formed on them of the weather of Christmas, 1860, will not have forgotten the intensely cold rimy frost which ushered in the festal morning of that year, and will have readily found its duplicate in the very bitter and piercing frost of Sunday morning last, with its accompaniments of fog and rimy whiteness, which clustered in such fantastic and fairy-like forms over all vegetation.

The fierce frost of 1860 left behind traces of its power which endured for many years, for the destruction wrought amongst shrubs and plants was truly of the most potent kind, and long to be remembered. We may well hope that no such harm to our favoured shrubs will follow from the recent low temperature, especially as the summer of 1860 was wet and cold, and growth of all kinds was poorly fitted to endure the Arctic weather which followed. During the past year there has been a special tendency to produce hard solid growth on all shrubs and trees, and it may well be hoped that little mischief has been done by the frost; but whilst buoyed up, so far, by hope, we have to lament terrible destruction by the Christmas storm of wind and snow, such as, happily, rarely is seen, and if never again reduplicated, all the better.

From all directions correspondents write, in terms of painful descriptiveness, of grand old trees thrown down, or half denuded of branches and beauty; of handsome conifers and shrubs, the pride and delight of owners and gardeners alike, broken, wounded, or utterly smashed beyond repair. All that we know; but still, perhaps, until the snow has entirely disappeared we shall not learn the worst. It is not possible to withhold hearty and generous sympathy from those who have seen, as it were, the labours and products of a life broken, blasted and destroyed in a single night, and by a visitation which none could forecast or provide against. How deeply must that correspondent have felt the force of the mischief wrought, who wrote of breaking branches in all directions under the weight of snow and pressure of the storm, as resembling cries of human beings in pain and deep agony? To whose heart—howsoever hard otherwise, but loving trees—would not these sounds have a painful aspect, and seem full of deep sadness?

A full account of all the mischief wrought by the storm fiend of that eventful December Sunday night will never be written; but gardeners in their youth now will remember it, and talk of it to their children's children half a century hence as a fierce visitation. We heard of an entire orchard in one place being laid low; probably, one of old trees full of top growth, which held the snow in large masses until the wind pressure overbore them. All these, doubtless, carry their proper lessons; but it is difficult to show how they may be applied. Indeed, we cannot at present see how human agency could have done anything to avert the disasters which have resulted. Happily, such destruction is not wrought every year, and, as a rule, only after long intervals of comparative peace and growth. There will presently be much effort shown in repairing damage as far as possible, even to the planting of other trees and shrubs to replace those so much injured; and if anything has shown that some trees, even though ever so beautiful, are more readily injured than others, those are the trees to avoid in making good, as far as possible, the mischief wrought by 1886 in its death agony.

That the new year's intense frost will have made its mark on many things none can doubt; and whilst, for reasons previously given, we are hopeful that the mischief may not be great, yet mischief has been done certainly. Perhaps the snow covering, in some cases, did good service; but in others, by bearing down the outer leafage, and leaving bare the hearts or crowns, harm has been accomplished. It was during just such weather as we have recently experienced that, some few years since, fruit trees—but especially Apple trees—suffered severely. That disaster, too, followed upon a wet summer, and wood was full of sap, which congealed in various parts of the stems, froze, and bursting the woody fibre, left wounds which resembled canker in its worst form. We may well hope that no such

harm has been recently done, and that our fruit trees are safe. We may be sure that weak spots in gardening have been found in all directions; but these mischances will prove useful lessons.

At one of the spring meetings of the Society of Arts, Mr. E. J. BEALE, of the firm of Messrs. James Carter & Co., will read a paper on "THE CULTIVATION OF TOBACCO IN ENGLAND."

A GREAT ROSE SHOW will be held this summer in the gardens of the Birmingham Botanical Society, at Edgbaston, and liberal prizes will be offered by the council of the society. Schedules will be ready shortly, and can be obtained from Mr. W. B. Latham, curator, Botanical Gardens, Birmingham.

FROM Messrs. William Thomson & Sons, Tweed Vineyard, Clovenfords, we have received an admirable GARDENERS' MEMORANDUM BOOK, which, besides containing ruled pages for writing upon, includes within its cover much useful information of the "ready reference" order.

MR. ROBERT LESLIE, from the nursery of Mr. John Downie, has been engaged as gardener to Hugo Haig, Esq., Ramonnie, Ladybank.

"G. B." writes:—To the list of late-flowering Chrysanthemums, which I gave last year, I should like to add the following, viz., Madame Lacroix, which keeps its place as a white; Souvenir de Haarlem, which is producing fine flowers for the season, and Mons. Vivian Morel. Cœur Fidèle, Mons. Paul Favre, Cullingfordii, Etoile Fleuri and Etoile du Midi also stand out well. La Favourite makes a good late-bloomer with a bushy habit, and stands heat well. I have it in a temperature of 60° Fahr., to get it into bloom for next week's show at The Aquarium.

MALAGASY ARTS.—Many of the Malagasy domestic implements are directly derived from the vegetable kingdom. The Tanalas content themselves with folded leaves of the Cardamon plant for spoons and drinking cups. Another section of the community employ the leaves (*fasy*) of the Pandanus (*fandran*), doubled over at one end, as dishes to contain rice or liquid, and folded leaves of the traveller's tree (*Urania speciosa*) for spoons. Many of the Tanalas carry shields made of a circular piece of tough wood, about 18 ins. in diameter, covered with undressed bullock's hide, and with a handle cut out of the solid wood at the back. The women sometimes carry a broad knife or chopper, called *isitra* or *anakantsy*, for cutting up Manioc and other roots. The tough bark of *Pavonia platanifolia* would make good string or rope.—*Society of Arts Journal*,

LILY CULTURE AT THE CAPE.

WE have not many varieties of Lilies in the colony. The old *Lilium candidum* is the commonest, and in some old-fashioned Dutch gardens this species is grown in thousands. *L. longiflorum* we have had in the park for twelve years, and three years ago *L. Wilsoni* was introduced. This proved a grand form, and double the number of flowers are produced on a stem as on that of *L. grandiflorum*; or, say, seven on the latter and fourteen on the former. They produced this number the first year the bulbs were planted, but the number of flowers produced this year has increased to twenty, and they seem to increase in vigour annually, and in the number of flowers developed. They seed very freely, and availing myself of such ready means of propagation, I have raised a great number. They flower from seed the second year, and some of the bulbs have developed masses of flowers in the third year, and nearly equalling those of old plants for size and number. Another advantage in raising plants from seed is the fact that such bloom later than their parents. We had by such means a succession of flowers from October to February, whereas old bulbs cease flowering early in December. We put in some 2000 seeds during February and March last, and having given them more attention—as regards watering—we expect them to flower within eighteen months from the time of sowing.

The white form of *L. speciosum* has never been seen here, and small bulbs of *L. s. punctatum* and *L. s. roseum*, put in the soil, disappeared and were never seen any more. Imported bulbs of *L. auratum* have failed the second year, so you can imagine how anxious we are to try them from seed. This applies

more especially to the lovely form known as Melpomene. We have *L. Thunbergianum bicolor*, but do not care about erect Lilies. We should like *L. T. candidum* better if the flowers were more horizontal and less vertical. We have also the same dislike to erect Gloxinias, as compared with drooping-flowered ones. *Lilium tigrinum* also does well in this part of the world, but is not a great favourite with us. I was much amused in looking over the volume of *The Garden* for 1878, where "Dunedin" and some other controversialists discuss the question as to the merits of large, as compared with small, Lily bulbs. We are testing the above-mentioned writer's idea of moving the bulbs before the flower-stems get yellow or decay; this we have not hitherto tried in this place. It may not be injurious to next season's bloom; but we dare not be too rash in moving many of them at the first trial, so make the experiment tentatively. He may be right in his notion; but certainly fine bulbs always produce finer ones.

This last week we went over to the Northend Park, where the soil is both deeper and stiffer than on the Hill Park, and seeing some grand specimens of *Lilium longiflorum*, we thought they must be some from Mr. Wilson of his improved variety, *L. l. Wilsoni*. None of them have ever grown over there but what had thirty-two flowers on a stem. We can detect no difference between the two forms now; and it would seem that better soil, and a more liberal water supply, have developed the ordinary *L. longiflorum* into *L. l. Wilsoni*. In *The Garden*, August, 4th, "Hathaway," Ormskirk, reports that *L. auratum* is more to be depended upon when raised from seed than from imported bulbs. This is hopeful.

It is better not to move them, so long as they are doing well, than move them at the wrong time. We moved some in March last year, and lost them; but we accounted for that by the heavy rains that rotted the bulbs before they got over the effects of removal. Those experimental ones, moved immediately after the flowers had dropped, bore nice bulbils along the stem quite independently of the old bulbs. Surely, those bulbs were nourished by the stems so long as the latter continued green; and we should have been more satisfied to await the natural decay of such stems and foliage.—*R. Hallack, Port Elizabeth, Nov. 22nd, 1886.*

LYE'S NEW FUCHSIAS.

SOME time since, Mr. James Lye, of Clyffe Hall, Market Lavington, Wilts, the well-known Fuchsia grower and raiser, sent me flowers of his seedlings of 1885, which he bloomed again in 1886. As a matter of course, having only the flowers before me, I had no opportunity of obtaining information of the habit of growth of the varieties; but, I think, having knowledge of Mr. Lye's previous seedlings, it may be assumed, as a matter of course, that in this respect his new varieties are all that can be desired, because he invariably makes habit a first consideration, distinctness, form and freedom of bloom being also to the fore in every case. Mr. Lye raises annually 300 or 400 seedlings from his best varieties, and they are all so good, that he experiences considerable difficulty in making a selection; and he never names one until it has stood the test of a second season's blooming.

Of the new varieties he is announcing for this season, three are dark varieties—viz., Abundance, bright red tube and sepals, rich dark purple corolla, shaded with maroon; very free, bright and effective. Benjamin Pearson, bright scarlet tube and sepals, carmine and purple corolla, the latter brilliant in colour, and of the finest form; very free, and extra fine. Eureka, a very distinct and pleasing variety, pale bright rosy red tube and sepals, deep purple corolla, flushed with magenta, excellent habit, and very free; a capital market and decorative variety.

The light varieties are six in number—viz., Alice Mary Pearson, creamy white tube and sepals, the latter slightly tipped with green; corolla carmine-crimson, stout and finely formed; excellent habit, good grower and very free. Annie Earle, white tube and sepals, corolla deep bright carmine; very free and pleasing. Cecil Glass, white tube and sepals; pale magenta-pink corolla, with distinct beading of carmine at the edges; stout, excellent form and extra fine. Lovely, pure white tube and sepals, slightly tinged with magenta; very free and pleasing. Surprise, waxy white tube and sepals, the latter having slight points of green; pale

bright magenta corolla, with a deeper edge of carmine-red; very stout, free and fine. Winnifred Glass, blush tube and sepals; rich carmine corolla, shaded with magenta; small, but very free, pleasing and effective.

It is often said that a successful cultivator of any particular flower is one of the best judges of the value of seedlings. After making due allowance for Mr. Lye's partiality to his own seedlings, there is quite sufficient margin for the public to place a general confidence in his mature judgment. I am certain that if some of the many gardeners about the country, who grow Fuchsias for summer decoration, were to exchange some of their old sorts for the newer ones Mr. Lye has raised from time to time, they would be large gainers thereby.—R. D.

TREES AND SHRUBS: PRUNING.

IN former papers we have dealt with the subjects, when, how and what to plant, and we laid down under these headings such directions as we thought likely to prove acceptable to the readers of THE GARDENING WORLD. There is one more aspect of the subject to which some reference should be made, and it is that of pruning. This is a matter of great importance, and one in reference to which a great deal might be written, but we will content ourselves with throwing out a few suggestions likely to prove useful.

One modern authority has said, "If you want bushes, not trees, do not prune; if you want trees, not bushes, let them be trained to a single stem." This is expressing a good deal in a small compass, but this remark must be taken as applying more to deciduous trees than to conifers; most of the latter only push out lateral branches from the lowest part of the stem, and are thus feathered to the ground, without throwing up more than one main trunk. But deciduous trees, especially where they have sufficient room, frequently throw up two or three stems which rival each other, or strong shoots from the lower part of the stems, which become large branches in time. If the rival stems are not all excised but one, and if the branches springing low from that stem are not lopped off, no tree will then be formed, but only a large bush.

The following remarks are intended to apply to the pruning of ornamental trees. The pruning of fruit trees is based on quite different principles, and is directed towards securing the largest quantity and best quality of fruit, quite irrespective of appearance. The main objects sought to be secured by pruning are:—first, to develop a handsome and healthy main trunk, which is only to diverge into branches at a given height from the ground. When trees are grown in close proximity to each other, as in woods, nature performs the office of denuding the stems of their lower branches. When in such close contact, want of air and deficiency of light, combined with the mechanical effect of friction and the natural tendency of the sap upwards, cause the destruction of all but the upper limbs of the trees. But, whilst in a spacious forest a multitude of tall branchless trunks, canopied over by foliage high over our heads, possess a beauty and majesty quite their own, such a feature in isolated specimens or in small clumps would lose its charm. Second, the object in pruning is to obtain a symmetrical shape by lopping off straggling boughs or branches, clearing part of the shoots that grow inside the head when they are too numerous, cutting away all dead wood and unhealthy growths, &c., &c.

In pruning a tree, the operator should cut away the branch that is doomed close to the trunk, and the bark will soon "callus" over and cover the scar. In the case of forest-pruning, it is held that a branch should be amputated at a foot or more from the trunk, or else the excision will cause knots in the timber. However this may be as applied to forestry, it cannot apply to the pruning of ornamental trees; for nothing can be uglier than these "snags," as such projecting old stumps are called.

Then, in training young trees to a stem it should be done by degrees, year after year, till the stem has been denuded as high as is desired. Some at once cut away all the lateral branches of a young tree, except a few at the extreme top of the sapling. Others do still worse. With a view of forcing an upward growth, they cut away the side branches to within a few inches of the stem, leaving the ugly snags on to push a few weak twigs the next year. The result of this treatment is that the desired upward growth is obtained with a

vengeance. The stem hardly grows in thickness, the sap rises to the few uncut boughs at the top, and there is obtained a tall, thin, weakly object that will never form a satisfactory tree at all. It is the development of the side branches which promotes expansion in the diameter of the main stem, and the lower ones must only be removed by degrees, when those higher up appear sufficiently numerous for the young tree to bear the loss of the lower ones with impunity. If a young bough shows a propensity to grow out of place, or to an undue length, so as to require repression, this may be effected whilst in a young stage of growth, by simply pinching off its extremity, thus arresting its further extension.

The proper time to prune trees is between the cessation of their growth in autumn, and the movement of their sap in spring. The amputation during summer of the woody parts is injurious to them in many ways, and in many cases produces a copious discharge of sap (termed "bleeding"), which considerably weakens them. But the process of trimming hedges or (where



SANDERSONIA AURANTIACA.

there is a fancy for such things) clipping evergreens into fantastic shapes, is performed in summer, as this promotes a second growth from the parts that are left untouched, which makes the foliage and spray denser.

SANDERSONIA AURANTIACA.

THE habit of this plant resembles that of the well-known *Gloriosa superba*, and both are, of course, members of the extensive Lily family. The persistent root-stock of the plant is a tuber, while the long slender nature of the leafy stems necessitates the plant being grown as a climber. The pendulous orange-yellow flowers are freely produced in the axils of the upper leaves, and bear little or no resemblance to those of *Gloriosa*, which have spreading and wavy or crisped segments. The flower is, perhaps, most readily comparable to that of *Urceolina pendula* as to position and colour, but has no affinity with that genus. It may also be compared to a single yellow Tulip inverted, with six short spur-like processes at the base. Being a native of South Africa, in the vicinity of Natal, the plant will succeed in a much lower temperature than that required

by *Gloriosa*. We have seen it grown in a greenhouse devoted to the cultivation of Heaths and Cape bulbs, and trained to the rafters as it grows. Being tuberous and deciduous, it requires a season of rest, when it may be kept almost perfectly dry. A mixture of two-thirds of fibrous lumpy loam, one-third of fibrous peat, and a quantity of sharp sand forms a suitable compost in which to grow the tubers.

HEATING AND VENTILATING.

MR. R. STEVENS asks, what would be the result to the plants in a house heated and ventilated on the principle advocated in No. 118, p. 213, during bright sunny weather? Now, I think, that your correspondent, when reading the article, did not pay sufficient attention to the details of the proposed plan, or he would not have spoken of a house enclosed in a case of hot air. If he looks at the sketch and explanation again, he will find that by closing the ventilator B and in opening the one at D the external air will be admitted into the enclosed space, and provision having been made for its exit at the apex of the roof, a current of cool air will be produced, which, I think, will give a house on the suggested plan an immense advantage over those of ordinary construction.

I must confess to a very limited acquaintance with the plan of double glazing. The one instance which I saw most of was put up by an enthusiastic amateur, who always spoke highly of the plan, and found his Orchids did much better under the double glazing than in his other houses; less forcing being required, and a suitable atmosphere more easily maintained. His verdict was, that during hot weather he had less trouble to keep this house cool than the others. The utility of the proposed plan will, I think, be apparent to many having the charge of ranges of houses where, for a considerable part of the winter, the chief object of firing is to keep the frost out, and which, under existing arrangements, often proves an expensive operation. The bulk of water to be heated necessitates a consumption of fuel out of all proportion to what would be used under the plan proposed, which would, moreover, often enable the attendant to defer the lighting of the fires till a later time, because the small quantity of water in the 1½-in. piping would take little time to heat; and its manifest advantages in case of sudden, unexpected frost, will commend it to the judgment of many.

I am of an opinion that in many instances vineries would be more easily and economically managed on this plan; for oftentimes during bright weather, with a low night temperature, the fires have to be driven hard to keep up the requisite degree of heat. When the sun shines out on the glass, the thermometer will indicate a temperature above what is really requisite or desirable, and that arid condition of the internal air is generated, which is conducive to the production of red-spider, making the admission of cold air from the outside by the opening of the top lights a disagreeable necessity. This, under careless management, is a very frequent cause of mildew by the production of a cold draught. Now, we will suppose a lean-to house—say, 28 ft. in length by 16 ft. in width, the roof measuring 20 ft. from front to top, at present heated by 180 ft. of 4-in. piping, to which the foregoing remarks will apply—heated and glazed on the plan proposed at p. 213, with 7 rows of 1½ barrel piping, shut up at the usual time with the sun on it. This would, in consequence of being doubly glazed, retain the sun-heat much longer, while the small quantity of water in the pipes could be readily raised to a great heat, and the temperature of the house maintained to the desired point with little or no assistance from any internal apparatus. As soon as the sun shone on the glass with sufficient power to render ventilation necessary, the lower outside ventilator and the upper inside one being opened, a current of air would pass between the two layers of glass, and entering the house warmed, a circulation of air would be produced without the creation of a cold draught.

In very warm weather the admission of air in the usual way would sometimes be necessary. In houses heated on this plan, drip would be almost unknown, and less damping, syringing and watering would be required. There is an objection which occurred to my own mind, and I feel rather surprised that it has not been urged by your correspondent, namely, how far would it do to depend entirely on this plan against all

sorts of weather? For instance, in severe hailstorms, which sometimes do great damage, the outside glass would, in all probability, be smashed, but the hail, I think, would seldom break through the under glass, its force being spent in breaking the outer glazing. Then again, if entirely dependent on the small piping suggested, should we be better or worse off than under the prevalent system?

Since writing the foregoing, I have read our old friend's, Mr. G. Fry's communication, and while rather relishing the idea of seeing him experimenting with a warming-pan above his head, would remind him that if instead of one over his head he had a series of them on three sides of him he might possibly find his position rather too warm to be comfortable. "Wales" would like to hear a little more about the new top-heating system, and I would remind him that it has only been tried with single glazed houses, and was first practised by Mr. Cannell, a few words from whom on the subject would be of service to many of your readers. So far as I know, top-heating combined with double glazing, as suggested by me, has never been tried.—*W. B. G.*

TOP-HEATING GLASS HOUSES.

THE recent intense frost has put to a severe test all forms of house-heating, and no better time for subjecting all kinds of methods to real practice could have been found. It is at such times and under such conditions, that boilers and systems of heating need testing, and not under such illusive conditions as exist out-doors in the summer. How often has it proved the case, that systems assured to be perfect under ordinary conditions, have broken down under the test applied by 20° of frost some time continued! It is, therefore, obvious, that any novelty in method of heating, which can be applied with the prospect of good results, needs the fullest and fairest consideration. Now I have not said that any system of top-heating, as suggested by me in a previous number, is anywhere in operation; I have only said that great modifications of the principle was, and that where so introduced answers admirably. What I wished to urge was, that not only would such a plan, if adopted, probably serve to maintain heat in houses more effectually, but by so materially elevating the flow-pipes, would enable boilers to be elevated materially also, and thus appreciably solve the difficulties incidental to submerged boilers and furnaces.

Now let us look at the matter philosophically. The object of heating houses is, first, to maintain a certain high temperature and, secondly, to exclude frost. This latter object applies chiefly to those thousand and one houses known as cool greenhouses. In each case the object aimed at is to accomplish this speedily, cheaply and effectively. Now from whence comes the enemy to be combatted, viz., cold. Not from the floor of the house, for the temperature of that is usually equable; it comes from the glass roof and sides, and my proposition is that it shall be combatted at its points of entry, and not at the remotest parts of the house. Practically, it amounts to this, heating the air which enters the house from the glass, instead of permitting it to enter first and materially cooling the temperature ere it comes into contact with the heating power, viz., the pipes.

Let us take an illustration—the old-established and religiously adhered-to plan of heating a room with an open grate and chimney, whilst the door and window through which cold enters is on the farther side. The fire and open chimney attracts the cold air, and it is literally sucked in from the outside in the form of cruel draughts. If we could heat that air first, the need for the open fire would not exist. Still it is our method of dealing with that fierce enemy—cold in our dwelling houses. Just the same thing occurs in glass houses, except when sheltered by outside clothing, and even then more or less, for the cold outer air is sucked in at every point, and, of course, rushes to the warmest point, because there the air being warmest is lighter. But if we place our heating power just where the cold air enters we warm it at once, and the suffusion of cold air all over the house is checked. The return pipes placed along the sides of the house, and on a level with the plants within it, not only furnish ample bottom warmth, but serve also to check cold intrusion just there also. Then look at the immense gain resulting from dry glass and wood-work.

During the recent hoar-frost, roofs and sides have been terribly encrusted with ice, alternating to moisture perhaps in the day and freezing terribly hard at night. Now heat placed near the glass would keep the glass both dry and warm, and would prevent all this congestion of moisture and encrustation of ice, whilst the gain in the greater dryness and freer admission of light would be considerable. As to danger resulting from too much heat amongst the foliage promoting thrip, that I regard as chimerical. It is just one of the goblins which have alarmed plant cultivators.

Take vineries for instance. Where do we find better sets, or more thoroughly ripened bunches than those close to the pipes, if such be near. Why, I have often seen pipes within 6 ins. of the leaves, and bunches almost lying on the pipes, and yet some of the very best in the vinery.

Depend upon it, drought at roots is far more dangerous in promoting thrip and spider, than is ample heat. Only the other day I was in a large house, where a 2-in. pipe ran literally through the thousands of *Pelargoniums* in it. "Don't you find the leaves burn?" said I. "Oh dear no," replied my conductor, "not a bit, we want a dry air for our flowers, and get it." My advice to some tremulous gardeners is, to try the top-heating plan for themselves.—*A. D.*

AMASONIA PUNICEA.

NOTWITHSTANDING that there are some half a dozen species of this genus of plants, all offering characters of more or less desirability for stove decoration, few of them have ever been introduced, and still fewer seem to be in cultivation. It is difficult to understand why such a showy stove plant as that under consideration should make its way so very slowly in gardens, while others scarcely more meritorious subjects take the public fancy in a few seasons, and get disseminated in all parts of the country. These, however, are generally soft-wooded plants, offering amongst other qualities great facilities for rapid propagation and growth.

The *Amasonias* are closely allied to *Clerodendron* and some other members of the *Verbena* family, but differ in their dwarf upright instead of climbing habit. *A. punicea* forms a leafy shrub about 2 ft. in height, but will flower freely and finely while not exceeding 1 ft. To the scarlet calyx and pale yellow tubular corolla must be added the showy crimson bracts. The flowers themselves are all directed to one side of the stem and assume a drooping position. They are not particularly long-lived, but the ornamental character of the plant is maintained for a considerable time by the large and conspicuous scarlet leafy bracts accompanying the flowers; but, unlike the latter, directed to the upper side of the semi-drooping or curved flowering branches. Owing to its dwarf habit there is little difficulty in keeping it within reasonable limits, and those who give it a trial will find it an attractive subject for stove decoration in the dull winter season.

The same treatment suitable for *Clerodendrons* will answer for *A. punicea*, while the latter is even more amenable to pot culture, and requires much less room for its accommodation. It is a native of Brazil, and is figured in Vahl's *Ecloyæ Americanæ*, t. 20.—*J. F.* [A good illustration of the plant was given at p. 185.—*ED.*]

GARDEN PLANTS ILLUSTRATED.

CATTLEYA TRIANÆ HOOLEANA.

THIS lovely *Cattleya* was first flowered by Arthur Potts, Esq., Hoole Hall, Chester, and is, judging from the illustration, a valuable addition to the list of varieties belonging to the *C. labiata* group. The sepals are pale rose, the petals a deeper rose tint; but the greatest attraction centres in the labellum, which may be described as a deep magenta-purple, with two very conspicuous, well-defined orange blotches in the throat. The flowers are described as attaining a diameter of 6 ins. The habit of the plant and its cultural requirements do not differ from that of the type. The texture of the flowers is good under proper treatment, and the blooms last a long time in presentable condition.—*Orchid Album*, t. 265.

CATTLEYA SPECIOSISSIMA BUCHANANIANA.

The coloured plate of this *Orchid* represents a very fine form of the old and well-known *C. speciosissima*. It belongs to the numerously-represented *C. labiata*

group, and was flowered in the collection of J. Buchanan, Esq., Oswald Road, Morningside, Edinburgh. The strap-shaped leaves are leathery and of great substance. The species is generally considered a shy bloomer, and flowers are produced in pairs, in this instance measuring about 8 ins. in diameter when fully expanded. The sepals are lance-shaped and of a delicate rosy hue, while the petals are much darker, beautifully streaked with a darker tint, and measure about 3½ ins. long by 3 ins. broad. The lamina of the deeply-bilobed lip is rich magenta, with a broad white band shaded with pale yellow around the orifice, and forms a conspicuous feature of the whole flower. The tubular base of the lip is a warm rose. The plant may be grown equally well either in pots or baskets, with the same potting material and temperature required by *C. Mossiæ*.—*Orchid Album*, t. 261.

CYCNOCHES CHLOROCHILON.

In habit, mode of growth, and outline of the pseudo-bulbs, this *Orchid* resembles that of *Mormodes luxatum* considerably. Leaves are produced all over the upper part of the pseudo-bulb, are longest towards the apex of the latter, and described as deciduous. The flowers are exceedingly curious—even more so than ornamental, and the genus to which this belongs derives the name of *Swan Orchid* from the long curved column resembling the neck of that bird. The flowers are produced in few-flowered racemes in the axils of the upper leaves, and are resupinate—that is, lying on their back with the lip upside down. The latter organ is creamy white, with a blackish green hollow blotch at the base. The sepals and petals are yellowish green, singularly curious, but not particularly attractive. The column is also green, and the whole flower is fleshy in texture. The species was introduced some fifty years ago, and flowered recently in the Victoria and Paradise Nurseries—a circumstance of not very common occurrence.—*Orchid Album*, t. 263.

LYCASTE DEPPEI PUNCTATISSIMA.

The form here described is an extremely fine variety of a well-known species, and its rarity is to be regretted, as the plant from which the original description was drawn up was imported amongst a consignment of the typical species, and is, in all probability, the sole representative in the country. It was imported by Mr. B. S. Williams, and is now in the fine collection of Sir Trevor Lawrence, Bart., M.P. Brown and green constitute the most conspicuous colours of the sepals in the type, but in the variety under notice those organs are densely covered with small rosy purple spots on a greenish white ground. The petals are much smaller, erect, creamy white, spotted with rosy purple. The small three-lobed lip is yellow, closely spotted with purple all over the exposed part. Several one-flowered scapes are developed from the base of the preceding year's pseudo-bulbs, which are, of course, generally leafless during the flowering period. This defect is remedied by the young growths being well developed by the time the plant is in flower. The plant requires good, rough, fibrous peat, and a liberal supply of moisture when making its growth in summer.—*Orchid Album*, t. 262.

GALEANDRA BAUERI.

The subject of this note is not new, but has recently been imported in considerable quantity, and, let us hope, will become more common in collections. The pseudo-bulbs are short, ovate, and very unlike those of the better-known *G. Devoniana*, which may be compared to those of some of the stronger-growing *Dendrobiums*. The flowers are produced in short pendent racemes terminating the current growth of the season, so that they have the additional recommendation of being attended by a healthy set of numerous, arching, light green leaves. The sepals and petals are linear oblong, reflexed, and of a pale yellowish olive colour varying to brownish green. The lamina of the labellum is large, purple-crimson and veiny, while the tubular lower portion is orange-yellow, shaded rose. The plant, although epiphytal, is best adapted for pot culture in a compost of peat and sphagnum, and should be placed in a sunny position of the East Indian house.—*Orchid Album*, t. 267.

PHALENOPSIS ROSEA.

This elegant and attractive *Moth Orchid* is by no means new to our collections, being originally introduced in 1848 from Manila, but does not receive that attention which it deserves from cultivators. The sepals are oblong, spreading and white, flushed

with rose. The petals are much broader, but similar in colour. The lateral lobes of the lip are small and rosy purple, but the middle lobe is deep rose-purple, and gives character to the whole flower.—*Orchid Album*, t. 268.

CESTRUM AURANTIAECUM.

Few of the species of *Cestrum* are worthy of the attention of cultivators, and those few apparently all belong to the section *Habrothamnus*, under which name they are generally best known in gardens. The species under notice belongs to that section, and is one of the most useful winter-flowering shrubs that could be introduced to the greenhouse or conservatory. Owing to its naturally attaining a considerable size before it will flower freely, the best method of treating it is to train it up a rafter or against a pillar of the house. If allowed to run up for 6 ft. or 10 ft., the quantity of flowers it will produce in the dull, sunless winter months is truly astonishing.

The flowers are a deep Apricot colour, scarcely orange, as the specific name would lead us to imagine, and produced with great freedom in terminal panicles. So long as fresh growth continues to be made, every shoot terminates in clusters of flowers, proportionate in numbers to the size of the branch producing them. These flowers serve not only for the adornment of greenhouses, but are equally serviceable for cut flower purposes. The flowers are succeeded in their native country by snow-white pear-shaped berries, but they do not seem to set fruit in this country, owing probably to the unfavourable season at which they expand, when light, temperature and insect life are all at a discount.

The cultural requirements of the plant are few, especially when planted out where the soil is moderately rich and well drained, and when it has a full and perfect exposure to light. Young plants can be obtained by cuttings in the usual way, and when planted out and well established are long-lived, only requiring to be well pruned back when growth and flowering have exhausted themselves. The species is figured in the *Botanical Register*, 31, t. 22.—*J. F.*

GARDENING NOTES FROM SCOTLAND.

Fruit Bushes.—Various systems are strictly adhered to as being the best for pruning fruit bushes; but though the fear of depredations from birds often causes delay, we believe early pruning to be most satisfactory. To make one's practice of growing small fruits intelligible to the numerous cultivators of these—and most northern gardens of every size are generally well stocked—it is necessary to enter into very minute particulars. Many are afraid of the knife being applied with undue severity to fruit bushes, and while they are often seen going to ruin, the fruit crops are abundant and good; but ultimately the wild growth (unlimited often) defeats the object in view. While we do not advise such manipulation as too often causes a mass of growth minus fruit, severe cutting always has its attendant evils by the increase of much useless young wood. The bushes should have a fair amount of room, such as 6 ft. or 7 ft. for black Currants, and 5 ft. to 6 ft. for red and white Currants and Gooseberries. Rich strong soils may cause such growth as will require wider dimensions than what we now adduce, though lifting, re-planting and a little root-pruning is always a cure for extra grossness. Liberal mulching is a good renovator of all fruit bushes, and, other conditions being equal, is also a substantial aid in securing large berries. Black Currants are especially improved by upward rooting into rich surfacing.

Pruning the bushes is generally performed between the time of the falling of the leaves and the starting of growth in spring, but the sooner in autumn and early winter the better. While pruning, it is well to keep up a succession of young healthy growth, and make way for the same by the removal of the oldest wood in proportionate quantity. Black Currants should be thinned regularly, cutting out crooked and crossing shoots, leaving strong upright growers, and removing those which have been weighed to the ground by heavy crops of fruit; natural spurs—short, stiff, fruitful shoots—may be left, but it is not advisable to form artificial spurs. An uniform height of 4 ft. or 5 ft. may be maintained for black Currants, and to reduce

the bushes to this, it is better to cut out long loose shoots, leaving the short young ones.

Red and white Currants do well on the spurring system, keeping an open centre for admission of sun and air; portions of old wood may be removed more or less every year, which keeps the bush vigorous, and is more productive of large fruit than old strong stems, which get into a mass of snags and long spurs. It is not necessary to cut the young tops down to a few buds if taller bushes are desired; on young bushes—when an increase of leading shoots are wanted—pieces of 15 ins. long or more may be left for fruiting and forming the permanent shoots, which are afterwards to produce side shoots, and these can be cut in to an eye or two, forming fruit-bearing spurs.

Crowding is not productive of abundance of fruit, and what appears is small and badly ripened. The fine berries and large bunches of Currants which are seen on young undeveloped bushes is a proof of this. Red and white Currants are very serviceable when grown on walls with north aspects; they are netted to defy birds, and give supplies for weeks after the ordinary crops are gathered. Plantations of young bushes with three shoots placed against a wall, two of them taken horizontally and the centre one perpendicularly, will soon cover a large space, with upright shoots a foot apart, and closely spurred plants with two shoots; the one taken to the right and the other to the left will soon produce plenty of upright growths. Cordons on high buildings are also very easily got up. Gooseberries, we think, are generally over pruned in Scotland. They are often seen done similar to red or white Currants, with old stems of great thickness; we prefer a medium course of spurs and young roots. To keep up a supply of young Currants and Gooseberries, it is well to put in a few cuttings occasionally; strong short ones may be selected now.—*M. T.*

Vegetables.—It is necessary to take into consideration what one's latitude and altitude are when the time of sowing seeds is determined. Peas, for example, are seldom gathered in the north before the 20th to the end of June; and those sown now in boxes, on turves or in pots for planting out, are invariably the more satisfactory for general early crops. They should be sown thickly, and kept cool and airy after the green leaves are developed; there is nothing gained by forcing on growth. If land can be prepared for the reception of the seed, a sowing for a succession crop may be made on a warm border, and sow more thickly than for later crops; a quantity of fine ashes, sand, light soil or tan may be placed over the rows which are coming through the surface. These early sowings, to which we previously referred, are preferred by many, and growers with no means of protection will use every effort to raise early Peas when they have got a liking for them. Pinches of Cauliflower and Brussels Sprout seeds may be raised in boxes and kept near the glass, but free from frost or rain. No coddling or hard pushing by heat is necessary, merely protection with plenty of air whenever it can be admitted. Brussels Sprouts raised in this manner last year have given excellent supplies since the middle of September till now, and though there are good crops from the ordinary spring sowings, the plants raised under protection have been vastly superior to them. The general forcing of vegetables is well advised, and suitable at this season for north and south alike.—*M. T.*

THE AMATEURS' GARDEN.

AFTER THE SNOW.—Owing to the continuance of the snow-storm that commenced on the afternoon or evening of the 26th of December, little or nothing can be done out of doors except wheeling of manure to vacant ground, or dressings of leaf soil, where such is needed. This, of course, can only be done when the nature of the weather will permit, because the alternate freezing and thawing cause interruptions in work of this kind; the soft nature of gravel walks, and the plastic nature of the soil when the frost is thawing, renders all such work undesirable. Rather than cut up the walks and destroy them with soil that is carried off the borders in the process of wheeling, work of another kind would be more profitable in the end.

THE DESTRUCTION CAUSED BY THE STORM to trees and shrubs, especially those of an evergreen kind, cannot be fully rectified while the storm lasts; and, of course,

those that have been much broken down will never regain their former symmetrical appearance. The snow came so unexpectedly that no preparation had been made for it, but it would be well to anticipate destructive snow storms of the kind, and have a few long poles ready, with which to shake off the snow from such valuable subjects as Conifers, Magnolias and evergreen Oaks, that are likely to be damaged by the weight of snow. Raising of specimens that have been prostrated cannot be executed while the ground about their roots is in either a frozen or sodden condition. If they are secured from further damage, no more can be expected until the state of the weather and soil is favourable.

WORK INDOORS.—Now is the time to prepare all sorts of stakes for summer use; it saves an immense amount of valuable time, and almost wasted labour, when the season arrives for planting and staking. Strong stakes may be got ready for securing the evergreen shrubs, especially conifers that have recently been prostrated by the weight of snow. Dahlia stakes, if neatly done, always repay a little extra labour, by their more presentable appearance in the border in summer. Owing to their naked appearance during the early part of the season, it improves their neatness considerably, and adds greatly to their durability to have them painted; a pale dull green colour is the most unobjectionable paint that could be used. More attention was paid to matters of this kind formerly than by the present generation of gardeners; but there is no reason why this should be, although more stress of work may be urged now than in the old gardening days.

STAKES FOR HERBACEOUS PLANTS can profitably be got ready. It is not so necessary to dress and paint stakes in this case as for Dahlias, because they are more hidden by the plants themselves from the commencement, but neatness in everything is most desirable in gardens. Pea stakes may be collected, assorted or cut into lengths suitable for different kinds of Peas, pointed and stored away in their respective places in the wood yard. During the occurrence of frosty weather, due attention must be given to the maintenance of proper

TEMPERATURES IN THE HOUSES.—It cannot be too strongly urged that the lowest temperature compatible with safety is that which should be kept up in the different houses. So much firing is necessary in severe weather as to cause excessive evaporation of moisture. Plants that in mild or wet weather required little attention in the matter of watering will now have to be carefully gone over and watered, to prevent their being killed through excessive dryness. This had best be done in the morning, so that superfluous moisture may dry up before night. This is most essential, in houses where the lowest possible temperature is maintained at this season, for those plants where growth is undesirable at present.

If difficulty is experienced in keeping out frost from places near the glass in which Cinerarias are housed, the latter may be temporarily removed to the middle of the house, where frost will be longer in reaching them. Where the collection is not extensive, the plants may be removed from their positions during severe nights only, and replaced during the day. The leaves of Cinerarias are more readily and permanently damaged than those of *Primula sinensis* and similar subjects in hand at this season, and hence greater precaution is necessary to prevent injury; nor should such subjects be transferred from house to house in frosty weather, unless the houses are connected, and there is no necessity for taking the plants out of doors.

CHRYSANTHEMUM CUTTINGS.—If these are not all put in by this time, no delay should be made to secure that end. Cuttings can, of course, be inserted a couple of months hence; but large specimens or blooms can hardly be expected from plants if their propagation is delayed much longer. Some bottom-heat is essential to the proper production of roots at this season.—*F.*

SNOW GUARDS.—Like your correspondent, "Surrey," (p. 279), I was caught napping some years ago, and had the whole roof of my greenhouse broken in by the falling snow. I tried a weather board along the guttering, but the wind meeting with great resistance therefrom, at length tore it from its fastenings and sent it through the roof of my greenhouse. I was then advised to try Braby's snow guards, which a friend in the trade obtained from them for me, I believe, in the Euston Road; and they have been a great success, for I have not had a pane of glass smashed, while my friends on all sides have had their roofs damaged.—*W. E. B.*

VINE BORDERS.

At p. 266, "A. B. C." gives a passage from a paper written, in 1865, by Mr. David Mitchell, which to amateurs will be very misleading, and if followed out to the letter would cause great disappointment and almost certain failure. Two years is by far too short a time to judge of the merits of any compost for a permanent Vine border, no matter how well the Vines may do for that time. I have known them do splendidly for three or four years, or as long as the fibre is not decomposed, and begin to shrink more and more every year. Lime-rubbish, which is the only opening material mentioned in Mr. Mitchell's letter, is given at one part in thirteen for clayey loam. Of course, much depends on the composition of the loam itself; but, taking the term clayey loam as it is generally understood, we find one in four little enough, with sand and charcoal over and above; we proved one in six to be quite insufficient to keep the border in a friable condition after the fibre was gone.

Vines will not thrive in a stiff retentive border, and will both shank and colour badly, and it is impossible to keep such a border in good condition. When wet it resembles paste, when dry it is like a brick; this is what a clayey border will certainly come to immediately the fibre is decomposed, and the compost settled down. It would be interesting to have a report of Mr. Mitchell's Vines after six or eight years, by anyone who knew them.

Coming to underground ventilation, Mr. Mitchell says, "that eyes or little chimneys ought to be carried up to the surface of the borders at the ends of the north and south drains, to allow the warm air to descend and circulate." This is a quite unnatural, if not an impossible course for air to take. Cold air may come up the chimneys from the drains, fed from the main one, into the house; but warm air will not descend to the drains unless by some artificial means, such as trapping the main drain, and connecting the others to a pipe with its outlet in a furnace. Most people will consider this trouble and expense unnecessary for all practical purposes.—R. Bell, Morton Hall, Midlothian.

FERTILITY OF ADIANTUM FARLEYENSE.

THE MYSTERY SOLVED.

HAVING been for some considerable time anxious to procure spores for increasing the stock of what I call the queen of Ferns, I paid very frequent visits to the different plants in various positions, and searched the fronds anxiously; but the result was always alike—fruitless. There are only four very healthy plants now under my care, having parted with two lately; and the largest being in a tub, and in grand form, I had good hopes that I should find some there if anywhere. Therefore, as the suggestive articles appeared in your paper, the plants were again and again inspected; and this morning, hope still holding on, a pinnule was discovered with three segments, at one corner curved back only, and those of a brownish cast.

Providing a sheet of white paper, microscope, and the noted segments, I put them through the closest scrutiny, and could detect with ease the presence of sori, and even detached a case; but could find no spores. However, my foreman being within call, I asked him to come and examine the little case. After looking a short while, he pulled his knife out and split up the little pocket, when, to our great surprise and intense pleasure, three spores were exposed to the naked eye, and looked at through the glass, corresponded in size to the seed of a Chinese Primula, only more transparent. They are quite double the size of *Adiantum amabile* spores.

Believing the discovery to be of intrinsic value, and also worth proving, I called in my neighbour, Mr. William Goldby, of Edgend Nurseries, who is quite an expert at the raising of *Adiantums*, and who has secured some of very considerable merit that will yet grace the exhibition tables as first-class varieties when stock is acquired. After a full inspection of all, he expressed the fullest satisfaction as to the genuine fact, and went off with the spores—six in all—highly pleased. I may further add that only one frond can be found with fertile pinnules, which are very leathery in texture, of large size, and also of perfect form, from which we will gather the spores, in the course of a week or two, for further experiment, and the result will reach you in due course.—James C. Durno, Edgend Hall, near Burnley, Lancashire.

DEATH OF MR. THOMAS MOORE.

WE deeply regret to have to announce to our readers the death, at the Botanic Gardens, Chelsea, in the early hours of New Year's Day, of Mr. Thomas Moore, aged sixty-five years. The state of Mr. Moore's health had been the cause of much concern among his private friends for some time, for it was seen only too plainly that his physical powers were on the wane; yet his end came quite unexpectedly. He had been confined to his room for only three days, and passed peacefully away at a quarter-past six, on the morning of the 1st of January, leaving a widow and one son to mourn his loss, and creating a void in the horticultural world that cannot easily be filled.

For a period of about forty years Mr. Moore has held a leading position among the horticulturists of this country, and in his death there are few of the older readers of gardening literature who will not recognise the loss of an esteemed friend. Personally, having had the pleasure and gratification of serving under him in journalistic work for some years, we can scarcely trust ourselves to speak of him as we would like to do; but this much must be said, of the troops of friends which he had, none more enjoyed his kindly regard, more thoroughly appreciated his valuable teaching, counsel and advice, or more deeply regretted the fact that while few men in their day and generation did more than he in promoting the best interests of gardeners and gardening, there are few—very few—whose claim to honour and distinction have been less generously recognised. No doubt, to a great extent, this was due to his retiring disposition. All his life, it may be said, he was a silent worker; but up to within the last few years he was an active man, and ever engaged in the pursuit of some object, by which horticulture or horticulturists were benefited. His knowledge of all matters appertaining to scientific and practical gardening was immense, and his vast store of useful information has been drawn upon by great numbers, and, we venture to say, to their lasting benefit. It was, however, only those who were intimately acquainted with Mr. Moore and his work, who could appreciate his remarkable talents, his extraordinary industry, his willingness, at all times, to communicate knowledge to others, or to assist in any useful way in promoting what he regarded as a good cause. His immediate friends recognised his great ability, and his inherent modesty and love of quiet repose only the more endeared him to them; but none the less must it be said, that these were characteristics which kept the man and his work from the public gaze, and prevented him from attaining the position in the horticultural world which his undoubted ability entitled him to.

In one of our earlier numbers (May 2nd, 1885) we gave a portrait of our friend, which to-day we reproduce. Mr. Moore was born on the 29th of May, 1821, at Stoke-next-Guildford, Surrey, and commenced his gardening career in a private establishment in the same county. After serving as a journeyman in one or two other gardens in Surrey, Mr. Moore went to the Royal Botanic Society's Garden, Regent's Park. In 1844 he brought out his first work on gardening, *The Cultivation of the Cucumber and Melon*; and four years later, May, 1848, on the late Mr. Robert Fortune leaving the Botanic Garden of the Society of Apothecaries at Chelsea, to go to China for the old East India Company, Mr. Moore, on the recommendation of Dr. Lindley, became curator of that establishment, an office which he held to the day of his death. From his youth Mr. Moore had a strong penchant for the study of Ferns, of which he subsequently became the recognised historian. In 1848 he published his *Handbook of British Ferns*, which became a popular work when the Fern-collecting craze was at its height about thirty years ago. *Ferns and Allied Plants* followed in 1851, and five years later was published *The Ferns of Great Britain and Ireland—Nature Printed*. In the following year, 1857, his *Index Filicum* and *Illustrations of Orchidaceous Plants* made their appearance; and in 1859-60, *Octavo Nature-printed Ferns*, in two volumes, was issued from the press. From Ferns, Mr. Moore about this time turned his attention to other subjects, and *The Field Botanist's Companion: British Isles*, was published in 1862, and *Elements of Botany* in 1865.

But while Mr. Moore had been busy at his books, his pen had also been busy in other directions; thus during 1850-2 he was joint editor of *The Gardeners' Magazine of Botany*, and for several years from 1861 he edited *The Floral Magazine*, now defunct. He next

became editor and proprietor of *The Florist and Pomologist*, which ceased to exist at the end of 1884. In 1866, he edited, and Messrs. Longmans published, *The Treasury of Botany*, of which in 1873 a new edition was called for and issued in a revised form, with the addition of a supplement. In 1878 came out a new edition, revised and extended by Mr. Moore, of that most popular of all gardening books—Thomson's *Gardeners' Assistant*—and we next find him contributing the article "Horticulture" to the *Encyclopædia Britannica*, which was subsequently recast, extended and illustrated, and, with an introductory chapter on the principles of horticulture by Dr. Masters, was issued in a separate form as *The Epitome of Gardening*. For a year or two previous to the death of Dr. Lindley, Mr. Moore assisted him in editing *The Gardeners' Chronicle*, and on the demise of "the Doctor" in 1865 he became co-editor of that journal with Dr. Masters, a position which he occupied until the end of 1881, when the severance of his connection with *The Chronicle* was taken advantage of by his personal friends to present him with a piece of plate and a substantial pecuniary gift. His latest literary work, we believe, was done in association with Mr. B. S. Williams in the production of the *Orchid Album*.

Mr. Moore carried out in the most successful manner the duties of Exhibition Secretary of the Great International Horticultural Exhibition held in 1866, and on the purchase of the Lindley Library with a portion of the surplus derived from that very successful venture, he was appointed one of the trustees. He was also one of the trustees, as well as secretary, of the Memorial Fund, which was raised a few years later to perpetuate the memory of the late Mr. James Veitch. He was also, at various times, secretary or treasurer or member of the committee of many other movements; and as honorary secretary and treasurer of the National Dahlia Show presided over a meeting but a few days before his death, as was recorded in our columns last week. He was, too, a member of the committee, for many years, of the Gardeners' Royal Benevolent Institution, a member for many years of the Floral Committee, of which he was secretary from 1859 to 1865, and for several years Floral Director of the Chiswick Gardens, besides having been, some years ago, Examiner in Floriculture to the Royal Horticultural Society, as well as to the Society of Arts.

Mr. Moore possessed a knowledge of garden plants that was truly remarkable, and his sympathies leaning rather to practical horticulture and floriculture than to the scientific branch, his services as a judge, both at ordinary flower shows and the special exhibitions of the floricultural fraternity, were in great demand, while he was able to get about; and among no class will he be more missed than by our friends the florists.

The funeral took place at mid-day on Wednesday, at Brompton Cemetery, in the presence of several members of the family, and a few of his more immediate horticultural friends.

PEARS.*

I HAVE been asked to give some account of what I know about Pears. There is, of course, much to be said about a fruit which more than any other attracts the attention of the cultivated pomologist from the extraordinary development it has attained in our own time, the ancients having been contented with fruit certainly unequal in flavour to that which we enjoy. M. André Leroy, in his *Dictionary of Pomology*, has taken the trouble to make very learned researches into antique Pears, and enumerates four Greek and thirty-five sorts of ancient Rome; but he does not fix the time when these ceased to be catalogued, and gives only twelve sorts of Italian Pears between the fifteenth and sixteenth centuries, the varieties cultivated in France from Charlemagne to Louis XIII. numbering 260 kinds.

The Latin author, Pliny, names twenty kinds. Varro, Palladius, Cato, Columella and Virgil are also pomologists and amateurs of Pears. The latter is very urgent in the matter of grafting Pears, but seems to have been aware of the modern axiom that "he who plants Pears, plants for his heirs"; his version being "*Inserere, Daphni, piro, carpent tua poma repotes.*"

Palladius recommends grafting the Apple on the Pear.

*A lecture by T. Francis Rivers, Sawbridgeworth, delivered at a recent meeting of the Horticultural Club.

The results were probably disastrous to the orchardist, and the practice was, no doubt, soon discontinued.

Pear trees are supposed to be indicated in the twenty-third verse of the fifth chapter of the second Book of Samuel, but the word is more generally held to apply to the Mulberry. Dr. Karl Koch, writing to M. André Leroy in 1865, says, "I am certain, now that I have passed several years in the thinly populated countries of the Caucasus, Asia Minor, Armenia and Persia, that all the European Pears are species become wild in our forests, and that in no case are they indigenous."

THE PEARS OF THE 17TH CENTURY.

In 1665 John Rea, gent., published the *Flora, Ceres and Pomona* in which he gives a list of twenty-one Pears described as being very good, one of them rejoicing in the extraordinary name of the "Dead Man's Pear." He describes the Winter Bon Chrétien as one of the most excellent, but requiring to be grafted on the Quince stock and trained to a wall. He also says, "that there are several good sorts of Wardens and baking Pears." In 1693 John Evelyn published a translation of the works of Monsieur de la Quintinye, a very voluminous, exact and twaddling French author. In advising the setting out of a plantation of dwarf Pear trees, he begins with the choice of a dwarf tree to be planted alone—i.e., the Winter Bon Chrétien, giving several reasons for this preference. "1, Because of its antiquity, and that by its singular excellence it gained the admiration and courtship of the world, the great monarchies, and principally that of old Rome having known and cultivated it under the name of Crustumium. 2, It was baptised at the very birth of Christianity itself, and, consequently, it should have the veneration of all Christian gardeners. 3, It should be considered of itself and with respect only to its own proper merit, which can alone entitle it to a preference." This is, at all events, a very proper decision to arrive at, but the Winter Bon Chrétien has not kept the high rank assigned to it. De la Quintinye indulges in the most extravagant expressions of esteem: "That it grows to the weight of 2 lbs., that it is considered a handsome present to persons of quality, and that it is a Pear the beauty of which has caused the ablest gardeners to labour for it with the greatest passion." I have had a good experience of Pears, but I have never known this precious Pear except by name, but it may have degenerated, or we of the present time are more particular in our tastes. Of the other varieties named by Mons. de la Quintinye, the Autumn Bergamot, the St. Germain, the Colmar and Crassane have survived to our own time, but without holding rank as a first class fruit; he, however, highly commends the Beurré Rouge, classing this as a synonym of the B. d'Ambroise and Isambert, which he says, "possesses the first degree of goodness—viz., a smooth delicious softness with a fine delicate pulp," wasting many good epithets on the Winter Bon Chrétien, which would have been more properly applied to the Beurré Rouge. The Autumn Bergamot is not highly commended, although our friend says, "that it has a numerous and formidable party, and, indeed, that a thousand people assert that for its tender and melting pulp, its sweet and sugary juice, and the little smack of perfume which accompanies it, that it is more valuable than all other Pears in general"—remarks which a great many ignorant people make at the present day. De la Quintinye names some ninety or hundred sorts of which some of

the names are expressive, as "Greedy Guts," "Chew Good," "Daughter of God," or "Fille Dieu." Some few of the sorts remain, among them the Rousselets, Chaumontel and St. Lezin. De la Quintinye's reasons for the enjoyment of Pears are curious. He states that "the rigorous cold which lasts from November to March enjoins our placing ourselves near the fire, and that to counteract the external foreign heat then taken in, nature has provided us with Pears to prevent the great infirmities which might happen to us from the enjoyment of so much heat. So precisely at this time she has given us an admirable quantity of tender fruit, such as Bergamots, Louise Bonnes, Les Chasseries, Amberts, Virgoulées, Epines and St. Augustines." This garrulous author provides for the plantation of a thousand trees, but states that "the planter of so many would be a curious gentleman, for how could he dispose of 12,000 Pears unless he gave them away or made perry of them?" This difficulty would not be felt now. He concludes his remarks on Pears by a list of fifty good, forty-four indifferent, and sixty-six bad sorts.



THOMAS MOORE, F.L.S.

Born May 29th, 1821. Died January 1st, 1887.

EIGHTEENTH CENTURY VARIETIES.

In 1729, Batty Langley, in the *Pomona*, gives the names of fifty-seven Pears. Those which are named by him, and still cultivated, are the Brown Beurré, Autumn Bergamot, Hampden's ditto, Crassane, Epine d'Hiver, Jargonelle, Swan's Egg and Windsor; and among baking Pears, the Black Pear of Woreester and Catillac. Mr. Langley is not enthusiastic about Pears.

Switzer enumerates eighty Pears, advising the planting of the English Bergamot, "because of its goodness and antiquity, it being not impossible that it has been an inhabitant of this island ever since Julius Cæsar conquered it, and that possibly it was the Assyrian Pear of Virgil, and was, as may be deduced from this, a part of the celebrated Gardens of Alcinoüs." A tree of this sort in the Sawbridgeworth Nurseries is said to be 300 years old. The Pears selected by Switzer appear certainly to have been the best of that time, and he testifies to the extreme goodness of the Winter Bon Chrétien.

Philip Miller, in his *Gardeners' Dictionary*, 1759, begins his list with Petit Muscat, and passes on to the Chio, Citron des Carmes, La Bellissime, bearing two crops in July and September, Jargonelle and Cuisse Madame. The Cuisse Madame of the French is classed as a good Pear, and the Jargonelle as third-rate; but

Mons. Leroy describes the Cuisse Madame as a small inferior Pear, ripening about the end of August, considering it as one of the few historical Greek Pears which have come down to us. The Poire d'Epargne, or Jargonelle of André Leroy, does not correspond with the outline of our Jargonelle, and he does not praise the fruit, calling it good only for the season. Our true English Jargonelle, when ripened on a wall, is exceeding good, juicy and refreshing. Probably, the spurious Jargonelle, which undoubtedly exists, has been introduced by those who have imported this sort from France, having been misled by the name, not being aware that the Jargonelle of the French nurseries is not the kind which passes under that name with us. Leroy says that Miller has muddled the Jargonelle, and that the confusion caused by him has lasted to our own time, the mischief arising from the Jargonelle and Cuisse Madame being classed by Mills as synonymous.

Miller names eighty sorts, and states that he has included in his list many sorts that are not worth planting to please those who are fond of a great variety.

He is aware of the eccentricity of the ripening period of Pears, for he says, "I have known the fruit of a Pear tree in one year all ripe and gone by the middle of October, and the very next year the fruit has not been fit to eat until the very middle of December." All of us can endorse Miller's remarks. I have found it a very difficult matter to fix the date of ripening, and the variations noticed in 1759 find their equivalent in 1886. In reference to this matter, Miller says that "if we look back to the best French authors of fifty years ago, they put down the times of ripening of Pears a month or six weeks later than now, and that in London it is much about the same, the time of ripening in London being quite as forward as Paris." This remark does not seem to indicate that the climate is becoming colder, as many are inclined to think. There are many writers on pomology after Philip Miller; but as far as the names of Pears are concerned, we may stop.

FROM 1759 TO 1831,
When a book was published by George Lindley, and edited by Dr. Lindley, entitled *A Guide to the Orchard*

and *Kitchen Garden*. The list of Pears is here brought down to nearly our own time, 150 dessert Pears being enumerated, among them many of our old friends of 1665, 1693, 1729, 1731, and 1789, and adding to the list a number of new sorts raised from seed by Van Mons, Nelis, and others. According to Lindley, many of these are not worth much, the Duchess d'Angoulême and Beurré Diel being credited with special praise, the Marie Louise, however, not being very highly commended. In 1842, the Royal Horticultural Society published a list of 442 sorts, and Dr. Hogg, in the fifth edition of the *Fruit Manual*, 1884, describes 732 sorts. André Leroy, in the *Dictionary of Pomology*, has 915 sorts, and the cry is "Still they come." The new sorts that have been constantly introduced show that the highest standard of excellence has not yet been reached, and that no fruit is so susceptible of high development as the Pear, as it advances step by step with the higher cultivation of man; this advance being by no means rapid, as it has taken many centuries to produce a Pear of the quality of the Doyenné du Comice, a fruit that is far superior to any of those noticed by Lindley in 1831.

It is curious that Shakespeare, country bred, should never have mentioned Pears by name, save once in "Romeo and Juliet," when he alludes to the Popperin

Pear, now known in Worcestershire as the Poplar Pear, still one of the common perry Pears of the county. It is evident, from this meagre notice of Pears, that Shakespeare's tastes were not gratified by good fruit. In "The Merry Wives of Windsor" he uses the phrase, "crestfallen like a dried Pear." The plump and juicy Pears of our century, when fallen, rot before they wither, but the tough perry Pears wither before they rot. Worcestershire abounds with Pear orchards, and Shakespeare, had he seen these orchards in full bloom, would surely have expressed his admiration. There is no allusion in any of his plays, poems or sonnets to the beautiful spectacle of a Pear tree sheeted with its snow-white blossoms. Another country poet, Robert Herrick, although enthusiastic in his praise of Strawberries and Cherries, never alludes to Pears. Herrick spent the best years of his life in Devonshire, which must have been almost destitute of Pear trees. Sir John Suckling celebrates the charms of a young lady in his lines—

"Her cheeks are like the Katherine Pear,
The side that's next the sun."

Batty Langley notices two Katherine Pears, the Royal and the Queen.

STANDARD PEARS.

Standard Pears are utterly unsuited for small gardens, and should be grown in orchards only. Those who are blessed with old and decrepit standard trees may renew their vigorous growth by heading them down. In three years young, healthy and fruitful branches will replace the old and useless wood of generations. A difference is sometimes observed in the conduct of trees on the Pear stock. Some will be more fruitful and bear larger fruit than other trees of the same sort and age. This arises from the influence of the stock upon the graft. All Pear stocks are raised from seeds, and great variety, of course, exists. The difference sometimes seen in the produce of trees growing side by side is often so great as to cause doubts of the identity of the fruit.

The seedling Pear stocks imported from France are raised from the pips of perry Pears, and of these, two sorts are distinguished, one, with smooth bright leaves, from the district of Le Mans, and the other, woolly or sage-leaved, from the province of Anjou. I believe the pips of the wild or forest Pear are employed in Germany for raising stocks.

Garden trees on the Pear stock should be either trained as espaliers, wall trees or pyramids. Root-pruning will cause unfruitful trees to bear, and those who have them will do well to practise it. The Pear stock is not fastidious about soil. My own experience of the Quince stock convinces me that it is the most useful stock for all styles of garden training; it is adapted for espaliers, pyramids, bushes and cordons. Cordon training, although known and practised in England for some time, has been brought more prominently into fashion during the last thirty years. It is, perhaps, the most simple and productive of all sorts of training. An Oak fence 7 ft. high, planted with diagonal trees 18 ins. apart, in four years will produce a large quantity of fruit, and a wall from 12 ft. to 15 ft. high in five or six years will produce like results. I have found that pruning twice a year (in June and October) is sufficient to keep the trees in fruitful order. In the June pruning the young shoots must be stopped at the fifth or sixth leaf, and in October every spur must be pruned as close to the main stem as possible, avoiding any injury to the fruit buds, which are, of course, easily detected. Diagonal cordons may also be trained to wire trellises, and treated in the same fashion; this is a very interesting and ornamental style. The single horizontal cordons and the double horizontal cordons, trained at 18 ins. from the ground, form a neat and fruitful edging to side walks. The five-branched vertical cordon has five upright shoots springing from a common horizontal base. These may be planted 4 ft. apart. The horizontal cordon has the branches trained at regular intervals from a main vertical stem; this form is admirably adapted for espaliers by garden walks, and is very tractable and pleasant to manage. Vertical cordons, planted in the open ground 4 ft. apart, will give large crops of fruit. Two forms of cordon training seem to me to be very unpractical—i.e., vase cordon and the plan of training over an arched trellis; the former is more trouble to manage than a bush tree and gives no better results, and the latter is contrary to common sense, part of the tree being grown in the shade. All cordons require the same system of pruning. Pyramid and bush trees

on the Quince stock are charming garden trees, the pruning being somewhat different to that practised for cordon trees; the side shoots should be pruned in June, and the leading shoot untouched until October, superfluous shoots being occasionally removed during the summer to admit the sun; the unpruned leading shoot must be shortened back in October.

PEAR TREE MANAGEMENT.

Garden trees require root management, and a modified system of root-pruning should be practised with all. A circular trench, about 3 ft. from the stem of the tree, should be dug annually if the room for the tree is restricted; in the autumn the soil in this trench should be refreshed with manure and fresh soil, and a surface dressing of artificial manure applied during the spring. For the latter purpose soot, superphosphate of lime and guano are probably the most useful. The trench and the manure will render the planter independent of the soil. If Pear-growing is to be made a certainty, cultivation under glass must be adopted. A glass house is, of course, a prime necessity; it may be as plain as possible for the purposes of protection. During the spring the trees can be packed closely, for in the early period of growth they do not require much space. About the end of May, or when all danger of frost is past, many of the trees should be put out of doors, leaving enough in the house to stand 3 ft. from each other. The trees taken out of the house should be plunged in a border prepared for them, and the trees inside sunk in the soil up to the rim of the pot; the sides of the pot should be perforated, but this is not an absolute necessity. The trees should be surface-dressed with manure, and watered with manure water twice or three times a week; when under glass abundance of air must be given. Culture under glass makes a crop a certainty, and requires no more attention than is given to Melon or Cucumber growing.

Protection to Cordon trees trained about 1 ft. from the ground may be given by planks on each side, placed on edge supported by short stakes and covered with mats during severe frost. Ground vineries also form very efficient protection, but are not so cheap as planks.

Raising seedling Pears is always interesting, from the uncertainty which attends the pursuit. I have raised some hundreds from the best sorts known, which I have crossed in every conceivable fashion. The "Conference" Pear, which gained the suffrages of the Committee of the Pear Congress of 1885, came from a baking Pear, the Leon le Clerc de Laval, the pips of which I planted without any special design. All pips intended for seed should be taken from the finest and best developed fruit.

CONGRESS PEARS.

The sorts of Pears of recent introduction selected by the Pear Congress of 1885 were the following:—

Beurré Gifford	Emile d'Heyst
Clapp's Favourite	Beurré d'Anjou
Summer Beurré d'Arenberg	Marie Benoist
Madame Treyve	Beurré de Jonghe
Beurré Dumont	Rose Crassane
Pitmaston Duchess	Duchesse de Bordeaux
President d'Osmanville	Olivier de Serres
Madame André Leroy	Nouvelle Fulvie
Conference	L'Inconnue.

And for orchards and market gardens—

Beacon	Marie Louise d'Uccle
Fertility	Durondeau.
Souvenir du Congrès	

The improvement in Pears will no doubt continue, and in 1886 amateurs will wonder that we could be contented with fruit so inferior to that which they will enjoy, even as we are no longer satisfied with the fruits which charmed De la Quintinye and his friends.

PRIZES FOR CHRYSANTHEMUMS.

Our readers will remember that in the spring of last year the National Chrysanthemum Society announced in their schedule that M. Délaux would offer certain prizes for competition at the society's exhibition in November, 1887. We now learn that, acting on the advice of several of his English colleagues, M. Délaux has thought it desirable to make the following modification:—1, Sixty plants of the finest and best grown Japanese flowers in pots, distinct varieties. First prize, Silver Cup, value £12. 2, Sixty cut blooms of the finest Japanese, distinct varieties. First prize, Silver Cup value, £12. 3, Twelve cut blooms of early-flowering Japanese, distinct varieties; and six cut blooms of early-flowering Pompons, Pæony-shaped or intermediate

kinds, distinct varieties. First prize, Silver Gilt Medal, value £4.

The prizes will be awarded to the nurseryman or amateur who shall exhibit only the new varieties distributed by M. Délaux in 1887. To obtain sixty distinct varieties, competitors will be bound to grow at the very least 100 plants to ensure the requisite number, and as the price of the collection is not far short of the declared value of the prize, the competition certainly does not promise to be very severe. It will be seen that there are no second and third prizes offered, but probably the society may see their way clear to provide for these, as an inducement for growers to enter in good numbers.

GARDENING MISCELLANY.

Berberis Jamesoni.—The subject of this note is a yellow-flowered species, and a comparatively recent introduction from Quitto in the Ecuador district of South America. In the south of Ireland it flowers and fruits freely. At the present time the bushes are covered with masses of berries, giving them the appearance of being embossed with ornaments of bronze and jet black. For indoor decoration nothing more beautiful or effective could scarcely be imagined than fruiting sprays of this Berberry mixed with Christmas Roses, Camellias, Azaleas, Rhododendrons and other bold flowers of that character at this season of the year. Owing to the intensity of the colouration of the berries, it is essential that flowers, fruits or leaves of some relieving character should be associated with them in order to show them off to the best advantage by contrast. A beautiful combination of such dissimilar, but perfectly associable subjects, could not fail to produce a fine effect when arranged in vases. Up till quite recently, only one night's frost had been experienced in the south of Ireland, from whence fine fruiting sprays have been sent to us by Mr. W. B. Hartland, of Cork.

The Gros Maroc Grape.—I shall be pleased to hear if any Grape-grower has succeeded in obtaining this fine Grape of a flavour equal to our popular varieties. I have seen it at various places in fine condition, but have always received the same opinion of it, viz., no flavour. I believe many growers have cut it down or inarched it with another variety. Without doubt, it is a fine exhibition variety, some splendid examples having been staged in London during the past season. It sets freely; the bunches are usually of good shape, and the berries large, while it possesses the rich bloom of the Alicante; but, so far as my knowledge goes, it is not a late-keeping Grape. After November it gets very insipid, while its flavour is barely third-rate at any time. It is planted here in the Muscat-house, and ripened in September. The Grapes received a bad character in the dining-room, though their appearance was all that could be desired. I think, with Mr. M. Temple, that I should not coudemn it because we have failed to grow it to our satisfaction; but I much doubt if he will obtain any flattering reports about it.—*James B. Riding.*

The Carnation Maggot mentioned by "R. D." is not, by any means, a new visitant, having been noted by the late Mr. George Wygell, of New Hampton, some ten years ago. The mature insect is a small black fly with transparent wings, whose natural time for appearance outside I cannot state, but which is now to be found among indoor Carnations. The eggs are laid in the leaf of the Carnation the same way as are those of the apparently allied Celery fly, and the grub, eating its way down the leaf, enters the pith through a hole at the axil of the leaf. When once in the pith, they eat their way up or down as food is available, leaving ruin behind them. After some time, which seems to vary according to circumstances, the hitherto white grub becomes darker in colour, and at last escaping from the stem, envelopes itself in a covering somewhat resembling a piece of chaff, and attaching itself to the hollow side of a Carnation leaf, becomes a chrysalis, from which the perfect insect emerges to commence another circle. I think "R. D." rather charges this troublesome pest with too much in attributing to it the sudden dying of Carnations at the collar. It appears to be something of the nature of paralysis, as I have examined sadly too many which have died that way, without finding any trace whatever of the maggot. The only thing to mitigate the ravages wrought by the

maggot is to keep a constant watch, and pick off any leaf noticed to be spotted, as by removing the grub before it has time to get into the main branches, it is prevented from working the serious mischief it otherwise would. As to varieties attacked, all are apparently liable; but we find Miss Joliffe the most favoured by it.—*Thomas Woodfield, New Hampton.*

Should Chrysanthemum Cuttings be Watered?—Mr. W. J. Murphy, in your last week's issue, p. 284, questions the judiciousness of watering Chrysanthemum cuttings as recommended by me in my Chrysanthemum Guide; but I venture to think that my advice is perfectly correct. Cuttings that were inserted in November, Mr. Murphy will surely admit, will require some water before they are potted off in February (in our climate they do at all events); and knowing how very fond some amateurs are of using the watering can, I purposely made use of the words mentioned by your correspondent. The sort of compost used for striking cuttings in has much to do with the question of watering. The soil recommended by me is equal parts of loam and leaf-soil or cocoa-fibre refuse (I give preference to the latter), with the addition of plenty of silver sand. Where cuttings are inserted in soil thus composed, they will always keep moderately dry, and soon emit roots. Air should then be given on all favourable occasions, and any leaves showing signs of damping should be picked off; and whenever the soil is quite dry, the young plants should be carefully watered, *i.e.*, receive just enough moisture to well moisten the soil, and no more water should be given until the soil again gets dry.—*W. E. Boyce, Archway Road, Highgate.*

Belvedere House Gardens, Wimbledon.—Those acquainted with the fine avenue of Evergreen Oaks at Belvedere, Wimbledon, will regret to hear that many of them suffered severely from the gale of Dec. 26th. It is heartrending to see these noble specimens split about so much. They have enormous limbs, and in many instances half the trees are carried away, quite disfiguring the whole avenue. One fine specimen in a meadow which measured 16 ft. in circumference, and 20 yds. in the spread of its branches, is entirely disfigured, losing several of its enormous limbs. Mr. Lyne, the gardener, has done all that man possibly could do to protect them by using cable chains of enormous strength, but these were completely broken as if useless. The Cedars which many will remember have alike suffered severely; and the splendid specimen Rhododendron, Lady Eleanor Cathcart, which has been the admiration of so many when in flower, has also suffered severely. This is a sad misfortune, for noble trees in the vicinity of London, such as these, are by no means too numerous, and it is a pity that any mishap should happen to the few that are left.—*A. O.*

Chimonanthus fragrans grandiflorus.—In the neighbourhood of London we are usually favoured in all ordinary winters with an abundant supply of the fragrant flowers of this plant during the months of December and January; the past autumn was so cold, however, that the flowers did not expand, and this is altogether out of the question during the present severe weather. Should the unexpanded flower buds resist the frost unharmed in this condition, their flowering is only a question of time when the weather becomes more favourable. Their hardiness, however, remains to be seen, though if they had been flowering before the late severe snowstorm set in, they would, undoubtedly, have been all destroyed. Lindley is responsible for the name of this variety, which he describes as having clear yellow rounded flowers, whose outer segments are sometimes curled at the edge and spreading, while the inner ones are bright red. This form is figured in the *Botanical Register*, t. 6451. The type is figured in the *Hortus Kewensis*, and Curtis' *Botanical Magazine*, and has small greenish yellow flowers, with the inner segments dull purple. This twiggy shrub must be propagated from seeds, which it sometimes ripens in this country, or by layering the shoots; it is difficult or almost impossible to propagate it by cuttings.

Heating by Hot Water.—Mr. Alexander Methven, in your issue of November 20th, 1886, states that "when the pipes are lower than the boiler, the working will not be satisfactory with two or more connections if on different levels." This, however, is not always the case, as I saw proof of, a few days ago, at Mr. Troughton's, Walton Nurseries, near Preston.

In a house about 60 ft. long and 170 ft. from the boiler, some of the pipes are 18 ins. below the level of the flow-pipe at its departure from the boiler, and lower still than those heating the adjacent houses. To follow the usual rule laid down by those who undertake the heating of our houses, it would have involved the expense of either lowering the boilers and the whole of the stoke-hole, which is a large one, or raising the house; for when first erected it was unheated, and intended only as a protection for hardy shrubs and other plants for forcing; but as the demand for cut flowers increased, it had to be filled with Chrysanthemums, and then came the question of heating to keep the flowers dry. The glass houses here are numerous, and the majority run at right angles with another range, which must multiply the connections, and necessitate the pipes being on different levels. Those that I felt at 230 ft. distant from the boiler were too hot to be comfortable for the hand for any length of time.—*W. P. R.*

Centropogon Lucyanus.—This is a most useful, high-coloured winter-flowering stove plant. If well grown on during the summer season it will yield a surprising lot of its rosy red Salvia-like trusses of flowers; and after the terminal truss has been cut, it will throw up others all the way down the stem, thus prolonging its usefulness for a considerable period during the dull winter months. It appears to like rather a strong compost, consisting of loam, rotten manure and leaf-soil, broken up roughly, with a sprinkling of sharp sand, and potted rather firm. It delights in a good stove temperature, and enjoys the syringe during summer; but I find it will not stand it at all in the winter, when it should stand well up above other plants, so that air can circulate freely around it, or it is apt to lose its bottom foliage. This is a great detriment to the appearance of the plant, which has a very graceful habit when well grown. If you cannot cultivate it well, do not attempt it at all, for it is one of those plants that must have good cultivation to bring out its fine winter-flowering qualities.—*W. G.*

Staking Peas.—When the men are staking Peas, frequent complaints are heard through the skin being lacerated, and clothes torn by the rough stakes, and the head gardener complains too, if he sees the sticks laid on the tender shoots. To remedy this I had made, two years ago, a light open frame hand-barrow, 10 ft. long, and 3 ft. wide, on which to carry the stakes from the wood-yard to the Pea quarters; and I would strongly recommend other gardeners to do the same. I have found it a most efficient and requisite article where work has to be done in a careful and expeditious manner.—*Alexander Methven, Pelaw House Gardens, Dec. 31st., 1886.*

Plumbago coccinea superba.—This is a high-coloured winter-flowering stove plant, and is very attractive to the eye when mixed with a general collection of stove plants. It seems to enjoy any amount of heat, and likes a free use of the syringe during the summer and autumn months. This encourages growth and also prevents thrip and red spider from committing their depredations upon its foliage. It strikes freely from cuttings in the spring months of the year, and should be grown in a compost of equal parts of loam and peat, with a dash of good sharp sand. Young plants flower freely, but older ones make strong shoots, and after the terminal spikes of flowers have been cut, it will throw up spikes from all the latent buds, and thus continue flowering a long time.—*W. G.*

Causes of the Fall of the Leaf.—The following observations on the causes of the fall of the leaf have been made by Dr. H. Molisch, and are quoted in the "Journal of the Royal Microscopical Society":—"If transpiration is suddenly stopped in branches which ordinarily transpire strongly, the leaves fall, while plants which thrive in a moist atmosphere often preserve their leaves for a long time in saturated air. A not too rapid but continuous diminution of the water in the soil tends to the formation of the separating layer, and in many cases to the fall of the leaf, which is then greatly favoured by the saturation of the soil. The fall takes place indifferently, whether the withering is caused by increased transpiration, by insufficient supply of water, or by both causes; but if the withering takes place too rapidly the leaves dry up before the separating layer is formed. Cut branches which transpire slowly shed their leaves even when lying on the ground. An insufficient supply of water is also the cause of cut branches, dipped in water, losing their leaves earlier

than when growing on the tree, and also of plants shedding their leaves when moved from the open soil into pots. Stagnant water in the soil injures the roots and causes plants partially or entirely to lose their leaves. The same result ensues from want of light. This is shown most by strong transpiring plants with herbaceous leaves, such as Coleus; less by those with coriaceous strongly cuticularised leaves, such as Azaleas, Rhododendron and Abies pectinata; scarcely at all by Evergreen Conifers or by the Box. The influence of temperature on the fall of leaves is very complicated. It acts both directly and indirectly by influencing the transpiration. Leaves immersed in water become detached much later than those growing in moist air.

VINE BORDERS AND PLANTING VINES.

THE Vine is probably the most important subject the gardener has to cultivate, and as its growth and fruitfulness depends, in a great measure, on the border, a few further notes (see p. 266) as to both construction and planting may not be thought inopportune at this period of the year, when those who contemplate planting fresh houses in the coming spring are preparing borders, &c. In constructing Vine borders, much depends on the situation. In low-lying districts, I would advise that the borders be raised as much as possible. Again, the sub-soil must be taken into consideration. If of clay, good drainage must, of necessity, be made; but if of a gravelly nature, so much the better, nature having proved herself of great assistance in the matter of drainage. Where a little cost is not of great moment, I would advise the bottom of the border to be covered with a layer of concrete or bricks, with a slight fall to the outside; some 2-in. pipes, laid in different directions, leading to an exit in the lowest portion of the border, and then about 1 ft. of broken brick-bats. This will ensure a perfect drainage, and also act as a preventative to the roots getting down into bad soil.

As to the borders being inside or out, this, too, is a matter for consideration, water being one of the chief points. Some prefer them to extend both inside and out; but my opinion is that the practice is bad, and one that is going out of date, although some good fruit has been, and is now, grown on that principle. Still, I prefer them either inside or out; and to sum up the matter in a few words, I would say, for early and late houses, if possible, have the borders inside. For mid-season Grapes, the borders will be as well outside. No doubt the extra labour of watering is the thing most deprecated in inside borders, and the supply of water is unhappily, in many places, insufficient for the needs of the garden, and too much water can hardly be given to Vines during the season of growth, providing the border is perfectly drained. As to the depth of the border, about 4 ft. is ample, and with the 1 ft. of drainage no fear need be entertained of the border getting soddened. As regards width, this is a matter of opinion, but if inside, only the width of the house can be given. I prefer the border made in a "piecemeal" fashion, restricting the roots to a portion of the border (say a third, or half to a small border), by a wall a single brick thick. As the piece becomes filled with roots, extend the border, and when so extended, if outside, enclose the last addition with a good wall which will prevent roots from getting into inferior soil. From 12 ft. to 18 ft. I think should be about the width of a border.

When the requisite quantity of drainage is placed in the border, some fresh cut turves should be laid over it, the grass side downwards, and then the compost made of good maiden loam, of a yellow fibry character, chopped up about the size of bricks, to every ten cartloads of which should be added two loads of old mortar rubble, half a load of wood ashes, and five or six cwt. of inch bones, well mixed together. This may be well trodden down, and I would not advise the border to be filled too full; the soil will naturally sink considerably, still the Vines in after years will be greatly benefited by an occasional top-dressing, and if filled too full in the first instance this operation is not so easily performed after.

In planting Vines one great error is often committed, viz., planting too deep, or what I should term burying. This is more generally the case in plant houses where the borders extend both inside and out, under the pretence of the roots requiring to be placed on a level

with the arches. In planting, I would advise the soil to be removed from the border to the depth of about 4 ins., the vines to be then carefully shaken out from the pots, and the roots laid evenly over the border and covered first with a little fine soil, and then with the compost that was removed in the first instance. A good watering will settle the whole affair down, and a slight mulching will help to keep the surface moist. As to the distance apart at which vines should be planted, from 3 ft. to 4 ft. I think should be about the average, as nothing is gained by overcrowding. Avoid, if possible, walking on the border, rather have some wooden trellising, which is a good protection, and has a tidy appearance. If planted outside a little protection in the way of litter will be needed the first winter until the roots have penetrated well into the soil.—*Wales.*

AN ENGLISH LANDSCAPE GARDEN IN PORTUGAL.

AN occasional correspondent of the *Times* says:—Everybody has heard of Cintra, but how few people have visited that veritable eye of the world, that earthly paradise, that *buen retiro* where one can imagine that to retire and dream away one's days like the Lotus-eaters, would be the supremest of conceivable delights. Here, indeed, at all times have come the worn-out heroes of the land itself, to die in peace, setting in their glory as the sinking sun in the deep blue Atlantic before their eyes. Here came and died Don John de Castro and Pombel; here Camoens sang; and here, too, it is said, came Columbus, not indeed to die, but to ponder on the unknown land beyond the waters, realms of infinite wonderment beyond the setting sun. Here, indeed, on the shining strand of the Praia das Maças, where the sea-waves beat as they did 400 years ago, may still be picked up unknown weeds, and branches, and fruit-husks, waifs from far-off islands of the West, patent evidences now, as they were then to the great discoverer, of the existence of the New World. Later still came brilliant epicureans from our own land—Beckford, that Cæsar, wealthy moreover in letters and in art, and Byron, to whom at Cintra came the inspiration of Childe Harold. Here, too, fate or fortune, or rather his own prescience, fixed the scene of the most splendid exploit of England's greatest captain, for the outlying rampart of Cintra is the line of Torres Vedras, and within that fold Wellington gathered an entire nation, and thence his conquering progress sped on unchecked to Waterloo. Nowhere in the world, perhaps, is there a spot—literally it is but a spot, a mere scant oasis—so beautiful in all its lines and features, and so wonderfully endowed by nature with a climate of its own, heavenly in itself, where there comes never frost or snow, nor too great heat or drought. Few places, moreover, are there with a more copious and enthralling record in history and romance. Here, in short, assuredly, if it had to be planted again, would the garden of Eden be fixed. Cintra's heroic age seems, however, to have come to an end, and now more familiar themes and actors occupy the stage.

Here, some twenty-five years ago, chance or family associations brought, in a happy interval of rest from business toils, an English merchant, in whose mind the love of natural scenery, gardens, pictures, and all things beautiful was latent. Cintra took this gentleman captive, and thenceforth his life became a dual one, the happiest part by far of every year he passed in this Portuguese paradise. Here it is, indeed, not too much to say that this countryman of ours has created the most noble and beautiful landscape garden in the world, for it embraces an entire district of mountain slopes, green valleys, craggy peaks and ravines, mountain streams and lakes, bounded by distant blue horizons and cloud-capped summits in the skies. Only an English merchant prince could, or perhaps would, ever have thought of doing what Sir Francis Cook, of Richmond and St. Paul's Churchyard, has achieved at Cintra. To any but an Englishman, indeed, the having to cross the Bay of Biscay, there and back, to get to one's pleasure garden, would have been an insuperable objection; but in spite of winds and waves, in fair weather and in foul, our untiring countryman has never once failed, when every year the appointed moment came, to visit his ever-augmenting and more beautiful possession. To an enthusiastic gardener it was in truth a great temptation, for there

all things flourish better, if possible, than in their own native soils, and glasshouses and stove-heat are almost unknown superfluities. Cintra is but a single, isolated mountain, or rather a group of serrated, conical mountains, abruptly rising from a vast, rolling plain some twenty miles north of Lisbon, and abutting on the sea. It is a huge mass of granite, pushed upwards at some far-distant antediluvian time through subjacent limestone strata. The highest summits, some 3,000 ft. high, are sharp, serrated peaks, worn and fretted into a thousand fantastic shapes, and everywhere huge boulders, obelisks, columns, and spires of granite are seen interspersed among the rich verdure which clothes the mountain sides. Forests of ancient cork trees and great table Pines cover the higher reaches, while beneath a splendid sea of green and golden Orange trees, Arbutus, flowering rock Cistus, Aloes, Geraniums, and endless orchard trees and wild flowers fill up every ravine, and clothe the lower rocky spurs.

The district, indeed, forms one continuous natural and most beautiful wild garden. The soft moisture-laden breezes from the near Atlantic always play around the favoured mountains, while mist and clouds hang on the high summits ever ready to distil refreshing rain, when all the low, outlying region is burnt up with furnace heat. A thousand rills and rivulets course in splashing cascades down the rugged gullies and ravines; the refreshing sound of falling water, indeed, is everywhere, and every *quinta* and garden patch can have its own system of unfailing irrigation. From the earliest times Cintra has been the favoured and unique gala place of the land. The kings of Portugal have always had their summer palace here, and all the noblest families their *quintas*, or villas, clustered round. In the town of Cintra itself, the ancient half Moorish, half Gothic palace of the old kings is the principal attraction, while above it on a high peak is seen a grim old Moorish fortress, connected with the town by miles of battle-mented walls. Higher still, perched as it seems upon a mere craggy pinnacle, soars up another cluster of towers, hanging terraces and frowning walls; here the father of the present Majesty of Portugal, the King Regent, Don Fernando of Saxe-Coburg, a cousin of our own Prince Consort, fixed his summer abode, and working in the nucleus of an ancient convent, in the course of years formed it into a wonderfully picturesque castle palace in the sky. But the most beautiful and favoured Cintra region is situated on the lower slopes of the mountain, to the west of the town itself, looking towards the Torres Vedras mountains and the sea; here were situated in close juxtaposition most of the ancient villas of the high nobility of Portugal. In former times every inch of this favoured ground was eagerly coveted and disputed, settled in strict entail from father to son, and not to possess a *quinta* at Cintra was esteemed an unbearable stigma of inferiority to every great Portuguese family. But Portuguese nobility is sadly fallen in these later times, and one by one these beautiful properties have nearly all changed hands. More or less romantic and picturesque-looking are all these old country houses, their massive grey granite walls, towers, terraces, and overhanging tile roofs being in perfect keeping with the scenery around.

The most celebrated and beautiful of all these villa properties, the *quinta* of Montserrat—situated, moreover, in the exact centre of this district *d'élite*—is the one which, in the first instance, fell into the hands of Sir Francis Cook; and one by one nearly all the surrounding properties, comprising an entire region many square miles in extent, ranging from the lowest valley to the summit of the mountain, have been added to it. The whole of this territory, as a matter of fact, now forms one vast landscape garden, and the making of it has been, as it were, the painting of a picture with natural rocks, castles, trees, cascades, lakes and skies. To keep the ancient houses, their noble trees, terraces, and quaint gardens intact has been our countryman's first and primary aim; for, unfortunately, modern "improvements" of an incongruous and often utterly hideous nature have, in these latter times, invaded even Cintra. More than once, indeed, our enthusiastic compatriot has had his æsthetic senses utterly upset by the sudden apparition of some hideous modern bungalow, painted all the colours of the rainbow, in some distant reach of landscape, and then amicable remonstrance and negotiations with the view of toning it down, or even directly buying out the nuisance, has been the unflinching resource. Sir Francis Cook, in short, has been entirely engrossed, and has shrunk from no sacrifices in the carrying out of his beautiful and costly hobby; but it is a hobby universally applauded in the country itself, and cannot fail to be appreciated by every visitor, for it has been strictly conservative and yet progressive at the same time.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

PROPAGATING AUTUMN-FLOWERING PLANTS.—Very many of the autumn-flowering plants which have assisted in keeping the intermediate house gay will now be going past their best. In every case select half a dozen or so of each (such as different varieties of Bouvardias, the flowering Begonias, Centropogons—in fact, all of which it is desirable to provide a stock for next season's service), and after pruning back where necessary, let them be plunged in bottom heat, so that the necessary cuttings may be obtained early in the season. Later on every structure will be crammed with occupants all requiring immediate attention, but if these plants are struck early, they will stand a little rough treatment with impunity; not so if neglected, for it is next to impossible to secure a perfect bloom unless the plants are thoroughly prepared. Do not forget to put in a good stock of Libonia Penrhosiensis, one of the very best and brightest of all autumn-flowering plants, and withal so easy of culture.

CHRYSANTHEMUMS.—It will be advisable to examine the stock of Chrysanthemum cuttings, and see that they are in a fair way; should any be doubtful, and the stools of these varieties have been placed out-doors, remove them at once to the pits, so that good cuttings may be secured; without these precautions successful heads of flower next autumn cannot be hoped for. Callas will now require an abundant supply of liquid manure, so that fine flowers may be secured; placed with their own foliage in large trumpet-shaped glasses they have a bold effect, and are much appreciated.

THE GREENHOUSE.

With the constant firing necessary to maintain the proper temperature in greenhouses, great danger exists of unduly exciting many of the occupants to make premature growth, which is always of an unsatisfactory nature. Let those most susceptible be placed at the coolest end; and even if the lights cannot be opened, generally speaking the doors can for an hour or two each day. We would very much prefer placing mats or other covering material over the houses rather than resort to over-heating of the pipes or flues in these houses.

STOCK PLANTS of such things as Verbenas, Petunias, Lobelias and others should now be placed in heat, to afford an early supply of cuttings. The first-named should be placed where the syringe can be freely used amongst them, as they are very subject to red-spider. If possible, devote a shelf to these plants, so that good healthy cuttings may be secured.

THE CALANTHES in the stove are just now at their best, and extremely bright and pretty they look, many of the spikes being 30 ins. high, with as many as twenty-seven flowers expanded, and more to open. Anthurium Scherzerianum is now making a good clean growth, and becoming established in the new compost. When root-action is brisk, give copious waterings, so as to ensure large foliage, as upon this in a great measure depends the size of the spathes, which will appear later on, and are so valuable for cutting.

THE FORCING HOUSES.

FRENCH BEANS, &c.—As the sowings of French Beans advance towards fruiting, give them frequent doses of liquid manure water, and as soon as exhausted let another sowing be made; the previous sowing being placed on the shelves, to take the place of those removed: this routine strictly observed gives an unfailing and reliable supply. We have made up hot-beds ready for Carrots and Radishes; the soil upon which we shall allow to become well chilled before sowing the seed, to assist in rapid germination.

CUCUMBER.—The young batch of Cucumbers are growing steadily on a shelf near to the glass; we shall not be able to spare the house to plant them out before the end of the month, by which time they will be good sturdy plants. Give the old plants which are fruiting frequent waterings of liquid manure—Clay's Fertiliser suits them admirably. Do not relax attention to the

PEACHES which are in flower: the weather has not been at all favourable for a good "set," so take extra care to the end of flowering. Keep the early vinerias as quiet as possible; for while light is so deficient, the

growth made will be of a flimsy nature if at all hurried. If the clusters are opening their flowers a temperature of 65° by night must be maintained, with a corresponding rise by day. Tap the rods very frequently during the day, and be careful that no damping is done between the hours of 11 a.m. and 3 p.m. at this stage.

THE KITCHEN GARDEN.

SOWING PEAS AND BEANS, &c.—We are still frost-bound, but to-day signs are visible that the snow will quickly disappear. As soon as the ground will permit we shall make a good sowing of early Peas and Broad Beans, using William I. Pea and Wonderful Long-pod Bean, as we find them most suitable. We shall also make a good sowing in 10-in. pots of American Wonder, for first gatherings. As the weather will permit fill up blanks in the Cabbage squares. Look to the stock of autumn-sown Cauliflower and Lettuce, and if there are signs of failure, make a sowing in boxes, which must be placed in a gentle heat.

EARLY POTATOS.—We have put the soil into two more pits ready for Potatos, and as soon as it has become well warmed, the "sets" will be planted. We are trying Sutton's Seedling; quite hoping it will be valuable for this purpose. We have obtained a supply of the very old Ash-leaf (true), but intend to grow it all for seed this season, to obtain a good stock. We are making good progress with out-door pruning, so that digging may be resumed as early as weather permits.—*Walter Child, Croome Court, January 4th.*

ORCHID NOTES AND GLEANINGS.

Orchids at Heaton House, Cheshunt.—The owner of this collection of Orchids, J. C. Partington, Esq., ought to be very proud of his *Phalænopsis*. They are really and truly grand; I have not seen any approaching them in excellence, and as cultivated specimens they are admitted to be unrivalled. They are free from root and leaf pest of any kind; the foliage is without spot or blemish, and the last and fully developed leaves are gigantic, in many instances over 1 ft. long, from 3 ins. to 5 ins. in width, very firm, and of thick texture throughout. A plant of the old Javan variety of *P. grandiflora* is now producing a bloom spike with upwards of forty flowers. This is a single-stemmed plant with thirteen leaves, some of them 1 ft. and upwards in length, and 3 ins. in breadth. *P. Schilleriana*, *P. amabilis*, *P. violacea* and *P. Sanderiana* are equally vigorous, and it is almost needless to say that the flower spikes and panicles of blossoms are enormous.

Mr. Searing, the gardener, attributes much of his success to the frequent sponging of the leaves with clean water, careful attention to the atmospheric condition of the house, and to giving less water at the roots than is generally thought to be necessary; but whatever may be the secret of his success, the result is apparent in the magnificent, clean and healthy plants, and superb spikes. One may often see two or three specimens of *Phalænopsis* well done, but to see a house-full of such excellent plants as these is a rare occurrence. There is nothing exceptional in the house in which they are grown, which is a lean-to with a south aspect, the atmosphere of which is rather dry; temperature 60° to 65° in winter, 70° to 75° in summer.

Mr. Searing's success as a grower is not confined to the *Phalænopsis*; *Odontoglossums*, *Masdevallias*, *Lycastes*, *Anguloas*, *Cattleyas*, &c., are all well grown by him. A recent addition to the gardens is a good roomy light *Cattleya* house, in which the plants are making excellent progress, the last pseudo-bulbs, in many instances, being quite exceptional. The collection includes most of the best kinds, and, probably, the largest stock of the best form of *C. Gaskelliana alba* in the country. The beautiful genus *Lælia* is abundantly represented, and many of them are in bloom. The East Indian house contains well-grown good specimens of choice Orchids. A grand plant of *Angræcum sesquipedale* had six spikes of bloom; *Aërides Lawrencei*, two spikes; and *Aërides cylindricum*, a large mass, was showing bloom. I also noted a plant of the beautiful *Grammatophyllum Ellisii*, in good condition, in this rather hot house. *Dendrobium Dearei* was making up fine growths; in fact, *Dendrobies* are specially well done in this collection.

The *Odontoglossum* house is full of promise for bloom. One plant of *O. crispum* had five spikes, and many of the new pseudo-bulbs were developing two

spikes each. On one enormous branching spike I counted ninety flower-buds. *O. Pescatorei* sometimes produces a great number of flowers on a spike, and some of Mr. Partington's plants have spikes with seven branches. I have only mentioned a few that were showing spikes, being much more interested in the exceedingly robust and sturdy development of the plants, and the great strides some of them had made from small to large bulbs in a short space of time. A noticeable feature throughout this collection is the thick substantial leaves and firm healthy tissue, and the use, not the abuse, of the watering-pot. All the plants are evidently handled by a master hand, and to Mr. Searing all credit is due for the excellent condition of the collection. The owner is a great enthusiast, and loves his plants, as a true amateur, for the pleasure they bring him.—*G. J.*

Lissochilus speciosus.—This terrestrial Orchid has a strange habit of sending up suckers at some distance from the old plant, and which appear sometimes on the other side of a path some 4 ft. wide or more. They appear to be seedlings, but when they first show themselves above ground, the leaves are as large as those of the mother plant. The query suggests itself whether, after all, these new comers are not seedlings that have attained considerable development underground before appearing above. Miss North painted this Orchid from one in my rock-work. The second year after planting the *Lissochilus* on Mr. Wilsou's rockery, the same peculiar habit was shown by the plant as happened in my garden, when it sent up shoots 4 ft. or 5 ft. away from the old stool. A grand specimen was figured by Johnstone at Conger Marsh; this was 6 ft. high, and the counterpart of my plant magnified.—*R. Hallack, Port Elizabeth.*

Prizes for Orchids at York.—We understand that owing to the success which attended the special exhibition of Orchids at the York Gala in June last, a subscription for the purpose of continuing the special prizes for Orchids at the next June show has been opened, and has been so liberally responded to, that it is proposed to offer the sum of 50 guineas, in four prizes, specially for Orchids, in addition to the usual Orchid prizes offered by the society. Messrs. Backhouse & Son have also offered £6 6s. for four Orchids in flower, distinct, to be competed for by amateurs.

Phalænopsis amabilis.—In virtue of an oversight on the part of the late Dr. Lindley, the Orchid that should have borne this name by right of priority, was named by him *P. grandiflora*. This was unfortunate, from the fact that when once plant names, whether erroneous or not, get disseminated in gardens, it is next to impossible to eradicate them. The above name was given to the plant by the botanist Blume long before its introduction to this country. It is readily distinguishable from the *P. amabilis* of Lindley at all times, whether in flower or not. In the first case the comparatively long and narrow labellum will separate it from the wrongly-named plant; and few cultivators would have difficulty in distinguishing the long spatulate or strap-shaped pale green leaves of this species when compared with the broad and short, often purple tinged, leaves of Lindley's plant. The flowers of both species often vary in colour in a similar manner, so that no reliance can be placed upon these characters for distinguishing the two. As an alteration of the names may be found in some collections it may not be out of place to call attention to the facts of the case.

A Crimson Satyrium.—We paid a visit to the locality where the grand crimson *Satyrium* grows, but could detect no signs of it; foliage, stems, and all were gone. We hope a friend of ours got some last week, as he told us he went in quest of them. They should be collected before the flower-stalks are blown away or scattered by the wind, otherwise it is impossible to find them. The foliage decays before the flowers are expanded on the upper part of the stem, so that they can be moved with safety while in full flower. The same statement applies to *Gladioli*. We are not certain about the specific name, but Mr. Bohus says it is not *S. membranaceum*, as that name belongs to a smaller species with pink flowers. The bracts of this latter species are pale brown, membranaceous or paper-like; but they are a much darker brown in the crimson-flowered species, which we have been endeavouring to collect and add to our collection.—*R. Hallack, Port Elizabeth, Nov. 22nd, 1886.*

FLORICULTURE.

LATE-FLOWERING ROSES.—A correspondent writing the other day said—by way of a footnote to his letter—I wish you would give in the *GARDENING WORLD* a list of Roses that may be denominated autumn-bloomers. I need scarcely say that it would be difficult to name a number of varieties that would find acceptance with all growers; yet I am able to supply some names of Roses that, I think, will meet the wishes of the enquirer. The varieties I name are, on the whole, of robust constitution, and do well when planted in a moderately rich soil; and as a good time to plant will be during the mild open weather that will surely follow upon the fall of snow, the list may be regarded as a seasonable one.

Of hybrid perpetuals I can name: A. K. Williams, Alfred Colomb, Alphonse Souper, Avocat Duvivier, Baron de Bonstetten, Black Prince, Camille Bernardin, Charles Darwin, Charles Lefebvre, Comtesse de Serenye, Comtesse d'Oxford, Crown Prince, Dr. Andry, Duchess de Morny, Duchesse de Vallombrosa, Duke of Edinburgh, Duke of Teck, Elie Morel, Etienne Levet, Ferdinand de Lesseps, Fisher Holmes, François Levet, François Michelin, Horace Vernet, John Bright, J. S. Mill, La France, La Rosiere, Louis Doré, Louis Van Houtte, Madame Charles Wood, Madame Eugène Verdier, Madame Gabriel Luizet, Madame Hippolyte Jamain, Madame Lacharme, Madame Laurent, Madame Nachury, Madame Rothschild, Madame Victor Verdier, Mdlle. Emilie Fontaine, Mdlle. Eugénie Verdier, Marie Rady, Mdlle. Marie Verdier, Magna Charta, Marguerite de St. Amand, Marie Baumann, Marquise de Castellane, Merveille de Lyon, Mons. E. Y. Teas, Mons. Norman, Nardy Frères, Pierre Notting, Queen of Queens, Reynolds Hole, Royal Standard, Sénateur Vaisse, Star of Waltham, Violette Bouyer and Xavier Olibo. I also name the following Tea-scented varieties: Catherine Mermet, Innocente Pirola, Madame Sertot, Madame Willermoz, Marie Van Houtte, Niphotos, Gloire de Dijon, Souvenir d'Elise and Souvenir d'un Ami. Hybrid Tea: Lady Mary Fitzwilliam. Bourbon: Baronne Gonella and Souvenir de la Malmaison.

It will, perhaps, be said that this is a long list, but it includes all that were flowering well in the month of September in a large collection. This is my justification for classing them as autumnal-flowering Roses. Now a hint or two as to planting Roses. I am persuaded that a great many fail through planting being imperfectly done; and so when a bed is to be made, the soil should be thoroughly trenched 2 ft. deep, or as the nature of the sub-soil will admit of this being done, working into it at the same time some rich turfy loam from an old pasture, and some well-decomposed animal manure. If this be well done at the outset, the beds will last some years, provided a good surface dressing of manure be put on annually.

And do not prune at the time of planting. The Hybrid Perpetuals may be pruned about the beginning of March, but the Tea-scented not until the last week in April; in both instances, much, of course, must depend upon the state of the weather. The most vigorous-growing varieties should have some shoots taken out entirely, the others being from 6 ins. to 18 ins. long, according to their vigour. The moderate growing sorts should be cut back closer, say from 3 ins. to 6 ins.—*R. D.*

QUESTIONS & ANSWERS.

TABLE PLANTS.—Will some correspondent please name the best two Table Plants, one for stove and the other for greenhouse culture?—*G. S.*

PHALÆNOPSIS.—Can any correspondent say which was the first *Phalænopsis* introduced to this country, and to whom we must give the credit of first cultivating any of the beautiful and popular genus now so much admired in our hot-houses?—*F. R. M.*

FICUS ELASTICA.—A fine plant of this was given me in autumn, but for some reason or other it has lost the greater part of its foliage, and the upper part of the stem has completely rotted away. It was growing beautifully when I had it; when it was placed in a room where a fire is seldom lighted. What is the cause of its failure, and is it possible to grow it in a dwelling-house?—*H. B. K.*

EVERGREEN, SHRUBS AND CONIFERS.—What is the reason that so many of these evergreen ornamental subjects have been prostrated by the recent snow storm, when ordinary trees, shrubs and similar things—both in the shrubbery or woods—although, in many cases, severely broken, have been left standing? Is their root system deficient in staying power to resist the storms of wind and snow, with which our country is occasionally visited?—*J. McD.*

VINES NOT RIPENING.—*George Ridelle*: The difficulty of ripening the wood would have been more easily tackled in autumn, while the rods were still furnished with foliage. The next best remedy in this particular case, is to leave the vines unpruned for a few weeks, and apply a little fire heat, leaving ample ventilation at the top of the house, according to the state of the weather. A dry atmosphere should be maintained during the operation, and every precaution taken to prevent the vines starting into growth owing to the lateness of the season. A week or ten days of this treatment should suffice, after which, the rods may be pruned, and allowed to rest till all danger of bleeding is over, when they start into growth in spring.

NAMES OF PLANTS.—*J. Dawson*: *Nephrolepis exaltata*, *J. W. B.*: 1, *Taxus laevis fastigiata*; 2, *Cupressus Nutkanensis*; 3, *Libocedrus decurrens*; 4, *Juniperus chinensis*.

MISTLETO.—H. R.: Berries of the Mistleto may be collected now or at any time while fresh, and rubbed on the branches of some tree till they adhere by means of the viscid matter contained in them. Mistleto grows more or less readily on various trees, but you could not do better than try it on the Apple tree first. After securing the berries to the underside of the branch, where the germinating embryo may be able to penetrate beneath the rough bark, apply some sort of protection to keep birds and other animals away till the plant has established itself.

DECORATIVE PLANTS FOR ROOMS.—ERRATUM.—At p. 281, line 24, in the article on this subject, for "Loinarias" read "Lomatias."

NAMES OF FRUITS.—J. C.: Apples, 1, Col. Vaughan; 2, Golden Pearmain.

COMMUNICATIONS RECEIVED: C. H. P.—S. & T.—D. B.—C. D. T. B. B.—G. F.—B. S. W.—E. R. C.—W. B. G.—H. C. & Son.—R. D.—A. D.

TRADE CATALOGUES RECEIVED.

DANIELS BROTHERS, Norwich.—Illustrated Guide for Amateur Gardeners.

WM. CUTBUSH & SON, Highgate, London.—Descriptive Catalogue of Flower, Vegetable, Farm Seeds, &c.

CHR. LORENZ, Erfurt, Germany.—Illustrated Catalogue of Flower and Vegetable Seeds.

R. B. LAIRD & SONS, 17, Frederick Street, Edinburgh.—Catalogue of Kitchen-Garden and Flower Seeds, Gladioli Roots, Implements, &c.

BARR & SON, 12 & 13, King Street, Covent Garden.—Spring Catalogue of Choice Seeds for Flower and Kitchen Garden.

DOBBIE & CO., High Street, Rothesay, N.B.—Catalogue of Choice Seeds and Plants.

JOHN DOWDIE, 144, Princes Street, Edinburgh.—Descriptive List of Garden Seeds.

IRELAND & THOMPSON, 81, Princes Street, Edinburgh.—Vegetable and Flower Seeds, French Hybrid Gladioli, &c.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Descriptive List of Garden Seeds.

WATKINS & SIMPSON, Exeter Street, Strand, W.C.—Wholesale Catalogue of Garden and Flower Seeds.

VICARS COLLYER & CO., Leicester.—General Catalogue of Seeds and Plants.

CHARLES SHARPE & CO., Sleaford, Lincolnshire.—Catalogue of Garden and Farm Seeds.

W. DRUMMOND & SONS, Stirling.—Catalogue of Select Vegetable and Flower Seeds, Gladioli, Garden Implements, &c.

LITTLE & BALLANTYNE, Carlisle.—Catalogue of Seeds and Every Garden Requisite.

LONDON SEED TRADE.

January 5th, 1887.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report but little business doing owing to the severe weather. English Reds Clover is held for higher prices, but buyers do not come forward. No change in value of foreign Reds, White or Alsike. Rye Grasses are firm. Bird Seeds and Tares remain unchanged.

COVENT GARDEN MARKET.

January 6th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1	6	3	Pine-apples, St.	
Grapes	1	0	2	Michaels, each	1
Kent Cobbs	100	65	0	0	1
Melons	each			Pine-apples, Eng., lb.	1
				Strawberries .. per lb.	1

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3
Beans, French, per lb.	0	6	0	8	3
Beet, per dozen	2	0	3	0	5
Brussel Sprouts, per lb.	0	3		Lettuces .. per dozen	1
Cabbages .. per doz.	2	0	2	6	1
Carrots, per bunch ..	0	6		Mushrooms, p. basket	1
Cauliflowers, English,				0	2
per dozen	3	0	5	0	2
Celery, per bundle ..	2	0	2	6	4
Cucumbers, each	0	6	0	9	0
Endive, French, doz.	2	6	3	6	0
Herbs, per bunch	0	2	0	4	1
				0	6

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4	0	8	Mignonette, 12 bun...	
Azalea, 12 sprays	0	9	1	6	
Bouvardias, per bun.	1	0	1	6	
Camellias .. 12 blooms	2	0	4	0	
Carnations, 12 blooms	1	0	3	0	
Chrysanthemums,					
12 blooms	1	0	2	0	
Chrysanthemums,					
12 bunches	12	0	24	0	
Cut Tulips, 12 blooms	1	0	2	0	
Czar Violets (French),					
per bunch	1	6	2	6	
Epiphyllum, 12 blms.	0	6	1	0	
Eucharis, per dozen ..	4	0	8	0	
Gardenias, 12 blooms,	9	0	24	0	
Heliotropes, 12 sprays	0	6	1	0	
Lapageria, red,					
12 blooms	1	0	2	0	
Lapageria, white,					
12 blooms	2	0	4	0	
Marguerites, 12 bun...	3	0	6	0	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	0	
Arum Lilies, per doz.	18	0	24	0	
Begonias, per dozen ..	6	0	12	0	
Bouvardia, per doz.	9	0	12	0	
Chrysanthemums, doz.					
Cyperus, per dozen ..	4	0	12	0	
Dracena term., doz.	30	0	60	0	
—viridis, per dozen	1	0	24	0	
Epiphyllums, per doz.	18	0	30	0	
Erica gracilis, per doz.	9	0	12	0	
—hyemalis, per doz.	12	0	24	0	
—Riegerianus, doz.	9	0	12	0	
—various .. per doz.	8	0	24	0	
Evergreens, in var.,					
per dozen	6	0	24	0	

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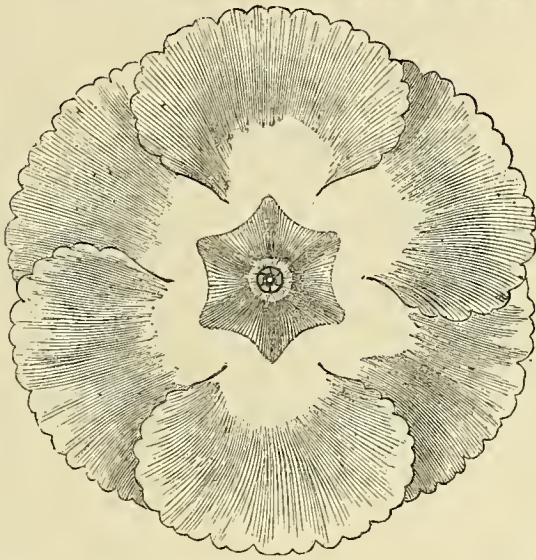
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WORLD who experience any difficulty in obtaining the paper at Railway Bookstalls, or through local agents, are respectfully invited to communicate with the Publisher.

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Next Week's Engagements.

MONDAY, Jan. 17th.—Sale of Japan Lily Bulbs at Stevens Rooms.

WEDNESDAY, Jan. 19th.—Sale of Roses, Fruit Trees, &c., at Stevens' Rooms; and of Lilies, Roses, &c., at Protheroe & Morris's Rooms.

FRIDAY, Jan. 21st.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, Jan. 22nd.—Sale of Roses, Fruit Trees, &c., at Stevens' Rooms; and of Roses, Plants, &c., at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 15, 1887.

ROAD IMPROVEMENT.—The recently announced formation of a Road Improvement Association may mean little or much, but it seems not improbable that it is the outcome of the recent development of eyeling, which has rendered thousands otherwise little acquainted with the provinces now familiar with the rural districts, and the kinds of roads found in them. The condition of roads naturally has exceeding interest for all classes, whether they be riders in vehicles, on cycles, or are pedestrians. The more facile the intercommunication by road between various districts, the better for those

residing in them; whilst good roads attract visitors, and in that way promote the prosperity of the localities. Our best and most prosperous towns have the best kept streets, our best and most effectively governed of rural districts have the best kept highways; indeed, we may take it for granted that roads of any kind form a fair criterion of the condition of local government in the locality, and, perhaps, also of the average amount of intelligence which governs it.

Our present system of road management is of the most chaotic form, because in the hands of such diverse bodies, and so many. In rural districts, where the parishes of a union have formed themselves into a highway district, a fairly competent surveyor has the control; but in parishes managing their own roads, the work is in the hands of some farmer, or two, who simply patch and mend as best they can, and are always guided by motives of economy, they being, perhaps, the largest ratepayers. Local boards and corporations manage their roads, and county authorities have control over bridges and certain other appurtenances to highways; in fact, we find road management to be as mixed as the most ardent lover of confusion in government can desire. Of course, roads are a somewhat heavy burthen upon ratepayers; and so long as the cost is laid upon the rates, it is but fair that the ratepayers should have control. As evidence, however, of the varying and irregular methods of maintenance, we may point to the Government subsidy, constituting one-fourth of the entire cost of maintaining old disturnpiked highways, provided such highway is accepted by the county surveyor, the county authority upon receipt of his certificate paying also from the county rates one-half the cost. Hence the parish direct has to provide but one-fourth the cost of the highways, the rest coming in this piecemeal and roundabout fashion.

Highway rates form a somewhat heavy burthen upon land, although land derives a very appreciable benefit from good roads. Realising this burthen, a former Government gave the sum of £250,000 annually towards the cost of maintenance of disturnpiked highways, until some broad national scheme for local government becomes law; and when that is the case, it is hoped that certain taxes may be allocated in relief of rates as a preferential method of dealing with local expenditure to granting subsidies from the imperial revenue. The various highway authorities which exist, show, amongst other things, how desirable it is that some tangible and thoroughly representative system of local government for the rural districts should be established.

As horticulturists, we may be assumed to have little to do with the general character of roads, or with their various methods of management; but there are elements of management, nevertheless, which merit our attention. Good hard clean roads, and broad, well-faced footpaths, are essential features, but in any locality they are hard features; indeed, few things, perhaps, are more wanting in beauty or picturesqueness than hard, straight, level roads. But the gardener's art could lend some charm to them, especially those running through flat monotonous districts. First, the gardener desires to see on either side broad expanses of green herbage, which give relief to the glare of the dusty road, and adds a pleasant touch of nature. Perhaps the gardener, being endowed with a love for tidiness and order, would prefer to see neatly-trimmed hedgerows bordering the highways; but the sluggard's untidy, untrimmed, overrun, and wild-looking hedgerows would, by the laws of nature, be pronounced the most pleasing. But hedgerows of this latter kind seldom assist in the preservation of good roads, whilst promoting vermin, and provoking mischief and damage.

But all gardeners, and, indeed, all lovers of beauty, would desire to see our roads, wherever possible, partly sheltered and pleasantly decorated by trees, which obviously must be in lines, but whether straight or otherwise must be dependent necessarily upon the form of the road. Sinuous or curved roads, whilst the most pleasing, are far from being the most useful, as the more direct the better for the objects of travellers. Still, something is due to our innate love of the beautiful; and sinuities and undulations, if annoying to those in a hurry, are yet very pleasant to those who use roads for the purpose of enjoying the beauty of the country. It may be that so far we have done little in the past to assist the traveller who is in search of pleasure in this way. How many objects of interest or of special charm do high hedges or other useless interpositions shut out from the eyes of seekers after the beautiful? Were earnest efforts made throughout the kingdom, in any new system of road management whilst improving the roads, to add to their charms, and form them so as to enable travellers to see beautiful objects or scenes, how much might thus be done to attract our wealthier classes to seek for pleasure in holiday seasons in perambulating the rural districts of their own country, rather than in seeking for the pleasures and excitement of danger amidst foreign scenery.

Roads leading over wastes, heaths or commons too often display only dreary desolation; these judicious planting might beautify. Roads running through meads, woods or forests abound in natural beauty, but still would in numerous cases become of greater interest if the gardener's art were employed in thinning trees, bringing out prominent specimens or groups, or in developing beautiful objects or scenery. The gardener's art is a broad one, and may well embrace even road management.

MR. EDMUND P. DIXON, founder of the nursery and seed business at Hull, so long associated with his name, died on the 2nd inst, aged 82 years.

MR. JAMES WATT, of the firm of Messrs. Little & Ballantyne, Carlisle, has been elevated to the dignity of a magistrate for the city of Carlisle.

MR. H. J. JONES, of the Hope Nursery, Lewisham, has joined Mr. Norman Davis, of Camberwell, in partnership, and the new firm will trade under the title of Davis & Jones.

THE nursery business at Edinburgh, formerly carried on by Messrs. Peter Lawson & Son, and subsequently by the Lawson Seed and Nursery Co., is in the private sale list.

MR. EDWIN LONSDALE, who was for some time at Enville under Mr. S. Taplin, and who went to America a few years ago, has recently been elected recording secretary to the Pennsylvania Horticultural Society.

THE dates of the three exhibitions of the ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY, to be held this year, have been fixed as follows:—June 21st, July 28th and September 8th.

MR. WATSON, sub-curator of the Royal Gardens, Kew, sailed from Southampton, on Thursday, for the Cape. Mr. Watson is taking the trip for the benefit of his health, and we sincerely trust that the holiday may have the result desired.

MESSRS. EDWARD WEBB & SONS, Wordsley, offer SPECIAL PRIZES for competition this year at no less than eighty-three horticultural societies' exhibitions in various parts of the country, and some eight classes are allocated to the Royal Horticultural Society. The prizes range in value from 63s. to 5s., and, with one or two exceptions, are offered for vegetables.

THURSDAY was a wretched day for enjoying the beauties of ORCHIDS, nevertheless there was a good show of well-flowered plants at Stevens' Rooms. Specially fine were the many varieties of *Lælia anceps*, *Odontoglossum crispum* and *O. Rossii majus*. Among the *O. crispums* was a small plant, with nicely rounded richly spotted flowers—a very pretty thing.

At the meeting of the Fruit and Floral committees, at South Kensington, on Tuesday, votes of condolence were passed to the family of THE LATE MR. THOMAS MOORE; and it was also agreed, with the consent of Mrs. Moore, that a monument to his memory should be erected in Brompton Cemetery. The subscription is to be limited to one guinea, and Mr. Harry Veitch has kindly consented to act as treasurer, and Dr. Masters as secretary.

A SURREY paper records the fact that MR. WAITE, gardener to the Hon. Col. Talbot, Glenhurst, Esher, won at various exhibitions during last year, no less than 103 prizes, and many of them, especially in vegetable classes, against strong competition. These include fifty-six first prizes, thirty second, twenty third and two fourth. Glenhurst is not a large place, but this remarkable run of luck, if it may be so termed, shows pretty well that the cultivation given must be of the best, for in many of the competitions only the highest quality would have won.

ON Tuesday next, the first general meeting of the recently formed BILSTON GARDENERS' ASSOCIATION will be held, when prizes will be awarded for four dishes of vegetables, three Leeks and three Parsnips respectively; and in the evening, a lecture on the cultivation of Potatoes for exhibition, will be delivered by Mr. J. H. Knight.

WINDOW DRESSING is alluded to in a recent issue of a Manchester evening paper as an interesting and valuable industry that has sprung up; and after the draper, says the writer, the man who has the best opportunities is the market gardener. There is a wealth in vegetation which, as a rule, is put to the best use. The gardener who has a thoroughly intelligent appreciation of his profession is one of nature's artists; he has chances of study of colours which no other man can rival, and he is able to give that true rendering of what all artists struggle after—representing the real. Of all men of an artistic temperament the horticulturist is to be envied.

At a committee meeting of the NATIONAL AURICULA (southern section), PRIMULA, AND PICOTEE AND CARNATION SOCIETIES held on Tuesday, the Rev. H. H. D'Ombra was unanimously elected chairman of committees, in place of the late Mr. Thomas Moore; and Dr. Hogg was appointed auditor in conjunction with Mr. Harry J. Veitch. The prizes offered by the trustees of the Turner Memorial fund were accepted with thanks; but the suggestion that something be done to commemorate the Jubilee year was not adopted, as it was thought best to leave the matter to be dealt with by the Royal Horticultural Society. The balance in favour of the National Auricula Society was stated to be £27 1s. 4d.; that against the Carnation and Picotee Society being £6 16s. 1d.

WE are informed that the usual monthly dinner and *conversazione* of THE HORTICULTURAL CLUB were held on Tuesday last, at which there was a large and influential gathering of the members. The Hon. and Rev. J. T. Boscawen was chairman, and the subject for discussion was the Royal Horticultural Society. A very animated discussion followed the introduction of the subject by the chairman, who stated that he was sure that the utmost confidence might be reposed in the council. A very strong desire to be of use to the society was expressed by all present, and a sub-committee was appointed to take the whole matter into consideration, to consist of Mr. H. J. Veitch, chairman; Mr. A. H. Pearson, vice-chairman; Dr. Masters, Messrs. Geo. Deal, Arnold Moss, H. J. Pearson, Francis Rivers, H. Herbst, and Wm. Bull, with power to add to their number.

THE SHEFFIELD AND WEST RIDING CHRYSANTHEMUM SOCIETY held its second annual dinner on Tuesday evening the 10th inst., at the Clarence Hotel, Sheffield, Mark Firth, Esq., president, being in the chair. Upwards of fifty members and subscribers sat down to an excellent dinner, after which an enjoyable evening was spent. Mr. W. R. Woodcock, the honorary secretary, read the annual report and balance sheet, which showed that the society was in a favourable position. The next show was fixed for the 18th and 19th of November, in the Corn Exchange, and Mr. Firth and Mr. Jeffcock each promised £5 towards the prize list. It is the intention of the committee to offer, in addition to the money prize, a Challenge Cup in the open class for cut blooms. Mr. Broomhead, the treasurer, informed the

meeting that he had already received £5, and other sums are promised towards the Cup fund. It is hoped that a sufficient amount will be forthcoming to enable the committee to offer a cup worthy of the town and district.

At a meeting of the trustees of the VEITCH MEMORIAL FUND, held at South Kensington on the 11th inst., it was decided that a £5 prize and Medal should be offered for competition at the principal shows of each of the following societies:—York Gala, Liverpool, Birmingham, Leicester, Oxford, Derby, and Royal Horticultural, May 24th (Cypripediums). Also at the National Dahlia Show, to be held on September 2nd, prizes of the value of £2 10s. each and a Medal in each of the following classes:—Self show, parti-coloured show, Pompon, decorative and single; and, further, at the National Chrysanthemum Society's show, to be held in November, prizes of the value of £3 3s. each and a Medal for twenty-four incurved Chrysanthemums, distinct, and for twenty-four Japanese kinds, distinct; also prizes of the value of £2 2s. each and a Medal for each of the following:—Twenty-four reflexed, twenty-four large-flowered Anemone, twenty-four Japanese or hybrid Anemone-flowered, and twenty-four Pompon, including Anemone-flowered. The object of the Trustees in the two latter competitions is to make the exhibitions as complete as possible, by inducing exhibitors to bring together specimens of all the best

MIMULUS CUPREUS, BRILLIANT.

For spring and summer-flowering the old and well-known garden plant *M. cupreus* is second to none in point of numbers of flowers produced. The whole plant seldom exceeds 6 ins. in height, and branching freely, covers the ground with a rich profusion of flowers. The brilliancy of the latter renders the plant a favourite with hardy plant lovers, who delight in free-flowering subjects; and the variety under notice, when properly disseminated amongst the gardening community, cannot fail to become a favourite. The flowers are rich salmon-red, and produced in great abundance. In size, the flowers are comparable to those of the hybrid *M. Harrisoni*, but are possessed of more attractive colours, and the foliage is not scented. The plant is perfectly hardy, easily propagated from seeds or division, and should be grown in a light, rich moist soil. Any good garden soil will grow it to perfection, if a sufficiency of moisture is ensured. On dry parched soils the individual flowers will be short-lived, and the duration of the blooming period curtailed, so that a tolerably moist soil should be taken into consideration in selecting a position for the plant. It may even be grown on a shady border, and being of dwarf compact habit may appropriately be introduced about the lower and moister parts of the rockery. The accompanying illustration has been placed at our service by Messrs. James Carter & Co.



MIMULUS CUPREUS, VAR. BRILLIANT.

sections of Dahlias and Chrysanthemums in cultivation. The number of prizes offered during the year are, therefore, seven special, five Dahlia and six Chrysanthemum prizes, or eighteen in all, each being accompanied by a Medal, and open to competition amongst amateurs only.

With reference to the "TURNER MEMORIAL" fund, we understand that the amount subscribed twelve months ago, viz., £182 18s. 6d. was invested in Consols, and that £20 will be available for prizes every year for a period not exceeding ten years. During the ensuing season this amount will be given in prizes at the following exhibitions:—The National Auricula and Primula Society (southern section), at South Kensington on April 26th, 1887:—for six Show Auriculas to be competed for by amateurs who do not employ a gardener regularly. The exhibits must contain at least one representative of each of the four classes, green, grey and white-edged, and self-coloured. Four prizes, 40s., 30s., 20s., 10s. The National Carnation and Picotee Society, to be held at South Kensington on July 26th, 1887:—six distinct Carnations and Picotees, to be competed for by amateurs who do not employ a gardener regularly. Four prizes, 40s., 30s., 20s., 10s. The Newcastle-on-Tyne Botanical and Horticultural Societies exhibition, to be held in the Jubilee Grounds on August 30th and 31st:—twelve distinct Roses, three prizes, 50s., 30s., 20s.; twelve distinct Dahlias, three prizes, 50s., 30s., 20s. To be competed for by amateurs or gentlemen's gardeners.

Mr. WILLIAM KELWAY, of the firm of Kelway & Son, Langport, entertained the whole of the Nursery employees on the 4th inst. at his new house, "Brooklands."

AN OLD GARDENER'S JUBILEE NOTES.

It is no mean privilege to be enabled to take a retrospective view of all that has taken place during upwards of half a century; and those gardeners who have survived that important period, and who possess their entire faculties and also a vivid recollection of what has transpired—of the many changes and improvements in everything appertaining to Horticulture, have most certainly great cause to be thankful. It is only such who can realise and fully estimate the vast strides that have been made in every branch of their profession; and I may truthfully assert that the science of gardening having been so extensively disseminated, everyone at the present time, whatever his or her avocation in life may be, has ample means at disposal to become readily conversant with plant cultivation.

All kinds of appliances are obtainable at very small cost as compared with that of fifty years ago. How vastly have things altered since that time! Why, many a city clerk and artisan at the present time can boast of possessing more convenience in regard to glass structures than could many a worthy gardener, who professionally held what was considered a very important position. Comparatively few possessed glasshouses, and many of these were of the most rude construction. But the progress that has been made subsequently is of a stupendous and extraordinary character, as viewed by gardeners of the old school. To my mind it appears that since the introduction of steam locomotive power, every transaction that is undertaken, whether intellectual or commercial, has assumed a similar impetus or

ratio, universal intercourse and pecuniary advantages having most decidedly resulted therefrom.

THE GARDENING WORLD and its contemporaries are now published for the sum of one penny. Fifty years ago, on the 7th January, 1837, the first gardening newspaper was published, under the title of the *Gardeners' Gazette*, and it was edited by the late George Glenny. I became a subscriber in the autumn of the same year, and continued to take it until it became incorporated with the *Gardeners' and Land Stewards' Journal*, some years after, and which was conducted by Mr. Robert Marnock, then Curator of the Regent's Park Botanic Garden. The *Gardeners' Gazette* was never of a very high-class order, and was more patronised by the growers of florist flowers than by professional gardeners and nurserymen. Growers of Dahlias, Tulips, Carnations, Picotees, Pansies, Pinks, Auriculas, &c., designated as fanciers, were a class scarcely recognised by the professional gardeners, who were at that time very conservative in their general deportment. There were many amongst them, however, who devoted their attention to the raising of seedling Dahlias, and thus became associated with the interest of the florist with good old English familiarity. Upwards of forty years ago I witnessed some very great gatherings at my old friend George Glenny's annual meetings. I will not stop to enumerate their names; but many of their faces are very vividly pictured at present in my mind's eye, although they have long since passed away.

Perhaps few were more interested than the writer in the perusal, a short time since, of your leader on our old friend, the *Gardeners' Chronicle*. I became a subscriber to that paper at the time of its birth, 1841. Under the editorship of Professor Lindley, "The Chronicle" became a lion in strength, and essentially a gardener's paper, to say nothing of the agriculturists and the general body of scientific men of those times who contributed to its pages. How familiar even now are the names of the departmental writers, and other contributors, to my memory! Although they have long since ceased to wield the pen, I have pleasure in reverting to the changes that have taken place, but it is with a degree of sadness, because one is apt to feel that we shall never look upon their like again. We do not for a moment deplore the fact of these great changes, as time rolls on. Progress becomes a necessity, and competition must inevitably sweep away friends, and much that was considered good and useful in their day. Compared with old times, we now live in a new world. Gardening has become a favourite pastime with the generality of people, let their professions be what they may, and is tending very materially to elevate the minds of all classes in whatever sphere they may move. I fully endorse the words of Bacon, that "Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."

The year 1837 was to me a very memorable one, and, I may add, an important one in the history of this country, as in that year Princess Victoria ascended the throne of the United Kingdom. I well remember, when a boy, the time when the Princess Victoria resided with her august mother, the Duchess of Kent, at Mount Pleasant House (now the Calvary Hotel), Calvary Park, Tonbridge Wells.

It was during the summer of 1837 that I was first employed to thin a house of Grapes in the neighbourhood of Tonbridge Wells; and in the autumn of that year fate ruled that I should leave my native soil never to return, except as an occasional visitor; but there is no spot, after the lapse of so many years, that affords me so much soul-stirring interest as does that charming place where Her Most Gracious Majesty spent some of her young days.—*Man of Kent*.

NOTES ON PENTSTEMONS.

THESE may fairly be classed among the most beautiful flowers which enrich our collections of hardy and half-hardy plants. Planted singly in flower borders among other things, or in beds by themselves, they stand unrivalled by any class of plants of similar habit of growth; and they afford a diversity of colour exceeded by none, while very useful for cutting to decorate flower vases. They should be put into water with the least possible delay after being cut, because they soon droop. I think it a matter of regret that little or no advance has been made among them for some time. Mr. J. Laing, of Forest Hill, before he got absorbed in the improvement of tuberous-rooted

Begonias, paid special attention to them, and produced some grand varieties, many of which are still recognised as standard kinds. If someone with sufficient leisure could take them in hand, they would find much encouragement in this interesting pursuit, which could be carried out at little expense.

I would suggest securing a dozen or more of the best named varieties obtainable, taking care that a varied assortment of colours and form of flowers are included, so that ample material may be available for cross-breeding. It should be remembered that while some have long tubular flowers, others are much shorter, with wide, open mouths. Increasing the size of the long tubular flowers, by cross-breeding them with the wide-mouthed varieties, affords the greatest scope for the further development of this race of plants. I think no very striking departure can be expected in colour.

Anyone starting afresh with them should procure their plants well established in 60-size pots in the spring, and plant them out about the beginning of April, if the weather be favourable, on well-prepared and manured ground; it cannot be too rich for them. Should bad weather set in after planting, protect them at night by turning a flower-pot over them. Keep them well watered in dry weather, and they will yield a profusion of flowers from June till October.

If sowings of seed are made from carefully cross-bred plants during February or March, a great variety of form and colour will appear among the seedlings, many of which will equal the parent flowers, and some improved forms may be expected. To keep up the collection, cuttings should be taken in July, the side shoots being the best for this purpose. Insert them in finely sifted sandy soil, either in pots or under a hand-light in a shady position. Keep them close till rooted; then pot them singly into 60-sized pots, and place the pots in a cold frame, or on a light airy shelf in a cool house for the winter.

I have often considered that if they could be successfully grown in pots into fair-sized specimens, and shown at the summer exhibitions they would excite a great amount of attention. This, I think, might be managed by growing on a collection during one summer in 48 or 32-size pots, and keeping them dwarf and bushy by pinching at intervals. In the spring of the next year shift them on without stopping in 24 or 16-sized pots, and plunge them in a bed of ashes or cocoa-nut fibre with full exposure. Give them occasional doses of weak liquid manure. If thoroughly well done, they would be formidable rivals to many more highly esteemed subjects on the exhibition table.—W. B. G.

TRAINING PEAR TREES.

I OBSERVE that Mr. T. Francis Rivers, in the pleasant paper on Pears, which you published in your last, deprecates two kinds of training, viz., vase-shaped and arched cordons. With the former style I have no sympathy, but with respect to the latter, after the admirable results I have seen from year to year at Heckfield, I should say that Mr. Rivers had not practised the plan which he condemned. I think, on further consideration, so practised a cultivator as he is must admit that the objection that portions of the trees must be growing in the shade has no tangible basis. As much might be said almost against any trees found on a north wall, or with respect to that portion of trees which is in contact with walls, even on those fully exposed to the sun. Literally, it is found that only the most infinitesimal part of an arch-trained cordon tree is in complete shade, for one tree does not shade another, and the sun, or at least the light, has the fullest play upon almost the entire surface.

Again, with arched trees there is the natural tendency on the part of the shoots, buds and leaves to turn up to the light, hence the objection that some portion of the tree is in shade is minimised to the utmost. Practically no part is in shade, any more than it can be said that the inner side of the branches of any ordinary tree are in shade. After the undoubtedly satisfactory results of this arched system of training yearly seen at Heckfield, I have come to the conviction that it is both pleasing and highly profitable; and were I about to plant cordon Pears largely, should follow suit decidedly. I believe Mr. Wildsmith will say that he finds this method of training gives him his most regular and best crops. The arched or bent forms of

the trees, in checking the ordinary rapid ascent of the sap, promotes fertility, and that is something.

As a rule, on walls, cordons are obliquely trained for the same end, but it is not quite so effective as is the arched style of growth. If trees be planted at 3 ft. apart, on either side of a 5 ft. path and, of course, opposite to each other, once the stems have become stout they will need little extraneous support. The neatest support will be found in iron arches, which, when fixed in the soil, give a clear middle height of from 6½ ft. to 7 ft. I do not know that there is a special reason for planting in any particular aspect, because the sun will find its way in and around the arches, let the paths run which way they will.

Horizontal cordons are popular, and often very productive, but it is obvious that when trained near the soil all the undersides of the branches must be much more in shade than are the undersides of arched trees. It would be fair to object to the plan were the trees but 1 ft. apart, but no one would plant so close. It is apparent that, with intervals of 3 ft., ample room for light and air to circulate is afforded.—A. D.

A FEW GOOD TABLE PLANTS.

It would be well, at the present time, for growers of table plants to examine their stock, and see how they stand for variety, both for exhibition purposes and for home use. Too much sameness is often kept up in this matter, the everlasting Palm being always to the fore. If a little more variety could be introduced, in many cases it would be duly appreciated by those who sometimes witness the attempts that are made at decorating a table with foliage plants amongst silver ornaments, fruit, &c. In many cases the table plant is too heavy in foliage to be graceful, and at other times it is in too large a pot to be effective. A 5-in. to 6-in. pot is at all times large enough for a plant to be grown in that should grace a table, and many plants that I shall enumerate can be grown in even smaller pots. Plants with light and graceful foliage should be used in preference to those with heavy and cumbersome leaves.

A great evil, in many cases, arises from the practice of taking choice stove plants direct from the stove into the dining-room; whereas if a little forethought were to be exercised, and plants that are intended to be used for this purpose were placed in an intermediate house for a few days beforehand, they would not suffer near so seriously as they generally do when taken direct from the stove. Plants that are accustomed to greenhouse and intermediate treatment do not suffer the same as plants from a stove usually do. Another cause of plants suffering from use at dinner-tables for an occasional night is, that before they are removed to the room care is not taken that they have sufficient water at the roots before they are so used; this, in all cases, should be avoided. The general height required for table plants is from 9 ins. to 18 ins., and this size generally suits most people, unless it is a very large table indeed.

The following stove and greenhouse plants are suitable for this kind of work, and all can be grown in pots ranging from small 60's to 48's (London size). I will take the stove plants first, and in this class the *Aralias* undoubtedly hold the premier place, the varieties *Veitchii* and *Veitchii gracillima*, with elegantissima, being the chief favourites. *Dracena angustifolia*, a splendid variety with long curved leaves, and very highly coloured, is another exceedingly handsome variety, and, possibly, the best amongst the narrow-leaved kinds with high coloured foliage; *D. rubra marginata* and *D. Wiesmanni* are both very serviceable plants, and should be always kept in stock for this purpose. *Crotons* next claim attention, the best to my mind being *Chelsoni*, *Wiesmanni* and *angustifolium variegatum*, all making the most graceful table plants.

The following also make excellent specimens used in a small condition for this purpose:—*Paullinia thalictrifolia* is really one of the most useful plants when grown on a single stem, and supported with a neat green stake, and running about 12 ins. to 18 ins. high; the foliage resembles an *Adiantum*, and is very graceful indeed. *Asparagus plumosus*, and the variety *nanus*, may also be grown, and treated in the same manner as the preceding. *Aphelandra Chamissoniana*, when kept in a small pot, and grown up about 1 ft. high, more

especially if it is strong enough to carry a head of its fine yellow flowers, is a good plant for the purpose, as also is *Eranthemum reticulatum*, with its leaves beautifully netted over with a deep golden colour. This makes one of the best golden-leaved plants we have, when kept in a very small pot and close to the light, but if potted on into a rich soil it loses its character and becomes quite green. But yet even here we cannot get on without the everlasting Palm. We must have *Cocos Weddelliana*, *Geonoma gracilis*, and *Euterpe edulis*; but here we stop till we begin to recommend heavier foliaged plants for table decoration. Two species of *Selaginella* make handsome table plants when grown on single stems about 1 ft. high, and clothed from the pot to the apex with their beautiful pinnæ, looking really charming; these two varieties are, *S. Wallichii*, and the new species provisionally named *S. cognata*.—W. G.

NEW PLANTS CERTIFICATED,

By the Floral Committee of the R.H.S.

January 11th, 1887.

KALANCHOE CARNEA.

Few of these Crassulaceous plants have been introduced into cultivation, those we have being characterised by yellow sweet-scented flowers. *K. carnea* is also very fragrant, with cymose panicles of pale rose-coloured flowers on a white ground. The plant is of easy culture, has a good habit, and is free-flowering. Its natural season of flowering is January and February, and it should become a favourite for decorative and market work. Exhibited by Messrs. James Veitch & Sons.

KOROLKOWIA DISCOLOR.

The genus *Korolkowia*, founded by Regel, is included in *Fritillaria* in the *Genera Plantarum*. The perianth of the plant in question varies, with yellowish green, purplish or purplish-green segments externally, and yellow internally. The segments spread at right angles, or are revolute above the middle like some Lilies. The plant is hardy, and of good habit. Exhibited by Mr. T. S. Ware.

CYPRIPEDIUM LEEANUM SUPERBUM.

The petals and labellum of this form are of a shining brown, but its greatest attractions are centred in the upper sepal; the basal part of this organ is green, while all the rest is pure white, attractively spotted with lilac or mauve-lilac. The cut flowers shown were large and handsome. Exhibited by Mr. Ballantine, gardener to Baron Schroder.

LELIA ANCEPS SANDERIANA.

With the exception of the labellum the flowers of this fine variety are pure white; the labellum is characterised by a purple blotch at the tip, a medium longitudinal yellow band, with deep purple ascending lines on the lateral lobes. A very fine variety, exhibited by Baron Schroder's gardener, and also by C. G. Hill, Esq., Arnott Hill, Arnold, Nottingham.

LELIA ANCEPS STELLA.

The flowers of this variety resemble those of *L. a. Sanderiana*, but differ in the absence of the purple blotch at the apex of the labellum. Owing to the basal purple blotches being partly hidden, the flowers appear almost pure white. Exhibited by Mr. Ballantine, gardener to Baron Schroder.

BARKERIA VANNERIANA.

The flowers of this epiphytal Orchid are produced in a raceme at the end of long flower stalks, and being closely arranged, are very effective. The sepals and petals are warm rosy purple, and the somewhat darker labellum is furnished with a white blotch about the middle. Exhibited by W. Vanner, Esq., Camden Wood, Chislehurst.

PTERIS TREMULA VAR. FLACCIDA.

The variety here named is a highly developed form of the popular decorative and useful *P. tremula*—a native of Australia, Van Diemen's Land and New Zealand. It is a greenhouse plant, and the variety under notice exhibits a great development of the basal pinnules on the posterior side of the respective pinnæ. A very fine variety for decorative purposes. Exhibited by Mr. H. B. May, Dyson's Lane Nursery, Edmonton.

CHRYSANthemum GOLDEN GEM.

This is a new decorative Japanese variety that will doubtless prove of great value for mid-winter flowering purposes, and the deep yellow flower heads are slightly

tinted with bronze, and freely produced. The size is all that could be expected where a great number of flower heads are produced. Exhibited by Mr. R. Owen, Floral Nursery, Maidenhead.

CHRYSANTHEMUM, MRS. H. J. JONES.

This is a fine yellow sport from Ethel, producing medium-sized flowers very freely at this season. The individual florets have broad strap-shaped corollas, of a fine, deep, but clear canary yellow on the upper face, and paler on the back. As a late-flowering variety it requires no recommendation. Exhibited by Mr. T. S. Ware.

CHINESE PRIMULAS.

The varieties Certificated were:—Double Blue, plain-leaved, and Double Blue, Fern-leaved; Double Scarlet, plain-leaved; Gipsy Queen Fern-leaved; Rosy Queen, Fern-leaved, and Double Rose, plain-leaved. For descriptions see p. 315. Exhibited by Messrs. Sutton & Sons, Reading.

By the National Chrysanthemum Society.

January 12th.

CHINESE PRIMULAS.

Messrs. Sutton & Sons were awarded First Class Certificates for the same half-dozen varieties as are named above, and for two others, viz., Reading Blue, Fern-leaved single; and Double Carmine, a very pretty variety of the semi-double section. Messrs. James Carter & Co. received a similar award for a Fern-leaved variety named Pearl, a very attractive blush ground flower with a rosy centre; Messrs. Cannell & Sons, for White Perfection, a Fern-leaved variety, with large massive single white blossoms; and Mr. G. Braid, Winchmore Hill, for Braid's Seedling, a variety which, so far as we know, marks a new departure, being what by florists would be called Auricula-eyed. The ground colour is crimson-purple, and the yellow eye, small, and surrounded with an angular band of dark ruby-red.

CHRYSANTHEMUMS.

At this meeting, Mr. R. Owen, Maidenhead, received First Class Certificates for the new Golden Gem, described above, and for Princess Blanche, a medium-sized reflexed Japanese, of a creamy white colour with salmon centre; dwarf in habit, and said to be naturally a late bloomer. Mr. T. S. Ware also received a similar award for the yellow sport from Ethel, Mrs. H. J. Jones.

CYCLAMENS.

Mr. R. Clarke, Twickenham, received First Class Certificates for Cyclamen persicum Albert Victor, a rich deep ruby-crimson flower of very fine quality; and for Cyclamen persicum giganteum compactum album, a large finely shaped pure white variety, distinguished from the generality of the giganteum strain by its shorter and stouter flower stalks.

GARDENING NOTES FROM SCOTLAND.

The Weather.—While we read of the intense severity of the weather for some time past, especially in southern parts, it fills one with gratitude to experience such leniency in our own district, where frost has been comparatively of a minimum character—15° below the freezing point has been the most severe figure which we have experienced, but seldom has there been more than 10° of frost. Snow has also been little more than an inch deep, certainly not 2 ins., and many portions of the land have not been covered with it at all—grass sown late during last autumn being uncovered and green. We wish snow had been more plentiful, as it would then have afforded protection to many crops, such as Lettuce, Celery, young Cabbage, Onions and others. Last season, when the frost was most severe, we had a good coating of snow over the surfaces of crops, and as a protection for Celery it was much more serviceable than long dry litter. To read the details of wreck and ruin produced by snowstorms and wind in the southern counties of England is appalling. The pictorial papers, as well as newspapers and horticultural journals, give sad accounts of desolation caused by the storms which have prevailed of late, and reports from private sources in Somersetshire are such as never were known in those parts; some friends had to get the snow dug from their dwellings before an exit to the outer world could be made. We may yet

get our turn of wintry weather, and have prepared for it by covering the roots of shrubs, Roses and vegetables likely to suffer with dry soil and sand. Vegetables are abundant and fresh.—*Caledonian*.

Scottish Horticultural Association.

Jan. 4th.—Mr. Robert Grossart, Oswald Road, Edinburgh, read a paper at this meeting on "Odontoglossums." He made the remark that these were a comprehensive and strikingly beautiful genus from the cool airy ranges of the Cordilleras of Mexico, Peru, New Granada, and Venezuela, where they grew and flowered profusely. There was scarcely a species that was not worth growing, the whole genus being highly popular with Orchid growers, while they were constantly gaining favour in the estimation of the plant-loving public. The flowers of Orchids were, without exception, the most peculiar and beautiful in nature, the singular shape of the flowers, their delicate and aromatic odours, and the richness and variety of their colours, all being different from anything met with in other flowering plants. The colour, size and formation of the flowers varied greatly in the different species, some being borne on short spikes and generally few-flowered, while others had tall branching panicles, with from thirty to fifty flowers, and on some upwards of a hundred. Mr. Grossart then proceeded to describe the various varieties, and in referring to the cultivation of the plants, remarked that a few points to be observed were careful potting, watering, shading, and the regulation of the temperature with regard to moisture and heat. After some discussion, Mr. Grossart was heartily thanked for his interesting paper.

Mr. A. D. Mackenzie, Upper Grove Place, then gave a paper on "The Present Position of Horticultural Building," in the course of which he remarked that in the great tide of prosperity the country had experienced during the last fifty years, horticulture and the necessary accompaniment, horticultural building, had participated to the full. Fifty years ago there were many noble establishments where horticulture under glass was brought to very great perfection, as perfection was then looked upon; but it had only been within recent years that the marvellous development in this direction had taken place. Many causes might be assigned for this, the greatest being, of course, the increasing wealth of the mercantile and trading class, along with an ever-increasing love of the beautiful. Another cause was the abolition of the duty on glass about thirty-five years ago; and yet another, the great revolution in the modes of heating. The old smoke flue was fast dying out, as, with the advent of improved modes of casting hot-water pipes, there was no further need for them. Calculating roughly, he believed that during the last ten years there had been expended in Scotland about £40,000 per annum upon the erection of buildings for the cultivation of fruits and flowers. The depression of trade had not had such an effect upon this trade as upon others, showing that there was abundance of wealth in the country. Mr. Mackenzie went on to describe the great improvements which had taken place in the modes and manner of construction. Glass houses, he said in conclusion, were being erected, the taste for them having largely increased; they were making progress in the modes of erection, ventilating and heating; and, looking to the future, there was good reason to think this onward progress would continue to develop in a wider and wider circle. After some discussion, a cordial vote of thanks was accorded to Mr. Mackenzie.

Dumfries Horticultural Improvement Association.

—The first monthly meeting of the second season of this Association met in Greyfriars' Hall on January 6th. Mr. M'Creath, president, occupied the chair. After the minutes of last meeting had been read and approved of, and other business matters dispatched, the President read an interesting and instructive paper on the Gloxinia. Starting with its history from its introduction, when the flowers were only about the size of our present type of Pentstemon, he traced it to its gorgeous and immense size of the present day, to which care and cultivation have brought it. The cultural directions were treated in a masterly way, which showed that they had been drawn from practical experience. He was awarded a hearty vote of thanks. Several members intimated their willingness to give special prizes as in the past season, and other monthly papers were offered and arranged for. A vote of thanks to the chairman concluded the meeting.

THE AMATEURS' GARDEN.

PEAS AND BEANS.—Little will be gained by sowing these too early out of doors, especially towards the northern part of the Island. When a favourable opportunity occurs, however, a sowing may be made in dry sunny positions on south borders. A more profitable plan, however, and one that will in the future be more universally adopted, is the sowing of early Peas in boxes or on turves indoors. Rough boxes may be made of two long narrow pieces of deal loosely fastened together with cross pieces at the end to make them stand; a transverse section of such a box would give a triangular outline; the bottom of this should be filled with rough material from the potting shed, and the Peas sown on it and covered up; keep in a cool house well exposed to light, and do not attempt to force them. When all danger of severe weather is over, the boxes may be transferred to the open ground, and the boards forced apart with some wedge-shaped instrument, allowing the whole line of Peas to drop into a prepared trench, by this means Peas fit for use will be obtained much earlier than by sowing out of doors, without the attendant risk of being destroyed by mice or frost.

THE SPRING GARDEN.—The planting of Tulips, Hyacinths and other hardy bulbs should be finished without delay whenever a favourable opportunity occurs. Where collections of Daffodils and other species of Narcissus are still on hand, no time should be lost in getting them in the soil, as growth should now be progressing fast. Such valuable bulbs as those of Narcissus, which are of permanent utility in a garden, will repay the trouble of potting. This is especially the case where the collection consists of named species and varieties, together with the numerous hybrid forms and cross-bred races now in cultivation. By placing the pots in a cool house, growth is favoured, as well as a proper development of the roots. When the spring weather becomes mild and otherwise favourable, the bulbs may then be transferred to their permanent quarters in beds, borders, or on the rockery. They receive no check if the ball of soil be plunged in the ground intact after removing the pots, and will flower with their wonted vigour.

RHUBARB AND SEA KALE FORCING.—The roots of these may be lifted and introduced to a regular forcing house, or any warm structure, such as a stove or an early vinery. No soil is necessary for Rhubarb provided it is lifted with a good ball, but most satisfaction is given by those clumps that have their roots well protected by tan, or some other material to preserve the moisture, and induce strong, plump and crisp stalks. The other method is a little more troublesome but perfectly practicable. The roots are allowed to remain where grown, and Sea Kale pots or conical or pyramidal boxes, furnished at top with a lid, are placed over the crowns. Stable manure, leaves and other fermentable material should be collected and placed around and over the boxes to some considerable depth, so that the heat engendered may start the crowns into active growth. Longer time is required by this process to obtain the leaf stalks fit for use; but they are equally good and as valuable as those obtained in a forcing house, while the forced roots do not sustain such injury as in the former case, and the Rhubarb will generally regain its usual luxuriance in the course of the following summer.—*F.*

CARROT-TOPS FOR DRESSING VASES, &c.—Have any of your readers ever tried the forcing of Carrot-tops for this purpose? I am given to understand, by a member of my employer's family, that when visiting in the south, last winter, Carrot-tops were noticed as figuring largely in vases arranged with flowers, and that they looked well. I suppose that if a few deformed or forked Carrots are planted in boxes—say, 4 ins. apart each way—and placed under stages, or in any out-of-the-way place where there is a little warmth, the young tops will soon appear, and after a little exposure to light, will be available for use. I have no doubt, where there are large demands for Ferns, the Carrot-tops would occasionally make a good substitute, and be none the less effective or appreciated either, notwithstanding that cynics may suggest a preference for vegetables in their proper place. We use the tops of the Asparagus from the kitchen garden instead of *A. plumosus* uanus. Why, then, not use *Daucus carota*, with its finely-cut foliage, in the same way?—*B. L.*

THE LATE MR. THOMAS MOORE.

By the demise of this much-esteemed gentleman we have lost an important link in the chain connecting the old school of gardening with the new. In the year 1843 I was a subscriber to the *Florist's Journal*, and, at that time, had the pleasure of reading some well-written articles therein, on the "North Indian Species of Impatiens as Border Plants," also "Remarks on the Properties, Cultivation and Preparation of Tobacco," &c. At that time Mr. Moore was at the Regent's Park Botanic Gardens. In the following year, 1844, a series of papers appeared under the heading of "Horticultural Essays, by the Members of the Regent's Park Gardeners' Association, on Vegetable Physiology," in the perusal of which, at that early period of Mr. Moore's career, the master-mind was seen dealing with a profound subject in a most elaborate and able manner; and, even after a lapse of so many years, a perusal of these papers would at the present time, I have no doubt, very much interest and instruct young gardeners anxious to acquire a thorough knowledge of their profession. It was in this year also that his work on the "Theory and Practice applied to the Cultivation of the Cucumber in the Winter Season," was very favourably noticed by the editor of the *Florist's Journal*.

It was about the year 1845 or 1846 when I first became personally acquainted with Mr. Moore, and well do I remember meeting him at various times at the South London Floricultural Society's Shows, Surrey Zoological Gardens, Walworth, and other exhibitions; also at some of the meetings of the Regent's Park Gardeners' Association, in the management of which he took a very deep interest. I have also a vivid impression of Mr. Moore as a young man of about twenty-five years of age, quiet and retiring in his demeanour, his mind always appearing to be engrossed in matters of deep interest, and that such was the case has been proved by his subsequent contributions to horticultural and floricultural literature. Mr. Moore has left behind him records of a life, whose precepts and example young gardeners would do well to follow and imitate.—George Fry, Lewisham.

THE MISTLETO.

It may be asked, "Why is not the Mistleto more widely spread if, as is often said, birds carry the seed abroad?" This is easily answered by the facts—first, that the plants are dioecious, and, therefore, the chances are numerous against the seed possessing the principle of life. It has been remarked by a keen observer that the majority of plants which were examined in an orchard of several acres in Herefordshire were pistiliferous. Out of fifteen trees which were specially examined, twelve were only pistiliferous, two both pistiliferous and staminiferous, and one staminiferous only. Then, many seeds are annually destroyed by birds, and especially the tits—the great tit in particular.

The seeds being deposited, no matter in what position in regard to the bough, the radicles are directed to the bark, and the root penetrates to the heart of the wood. Specimens have been cut having the plants growing in every possible direction, and yet a section vertical to the plane of growth of the bough on which it was found exhibited the root forcing its way to the heart of the wood, or beyond the heart, at right angles to a tangent drawn from the point of contact with the bark. The root appears to force its way, taking entire possession of the bough by expansion, behind the growing point, and gradually forming an excrescence above the bark somewhat resembling the crown of a root.

The absorption of the juices by the Mistleto in time causes the decay of that part of the branch cut off from communication with the trunk by it. This, in all probability, will account for large plants of Mistleto found on the branches being almost invariably at the end thereof.

A theory was at one time held that the Mistleto might be propagated by fibres running from one plant, and so taking possession of the whole tree. The observer alluded to above states that in order to test this theory, he tried several specimens where, on the same bough, he found two large plants within 6 ins. of each other; but he failed to detect, in sections cut from between the two plants, any fibrous connection.

The capricious habit of the Mistleto is very remarkable. In a wide district, abounding in white and Lombardy Poplars, there is scarcely one of the former that is not covered with masses of Mistleto; but not a

single sprig was found on the latter. Is it the white Poplar only to which "J. S. T." refers on p. 283? On one Ash, standing in a clump of Ash trees, there could be found ten plants of Mistleto; but not one of the surrounding trees bore a plant. It is said that the same caprice applies to its growth on the Lime and white Thorn.—*Quo.*

CLEVELEY, ALLERTON.

THE neighbourhood of Liverpool abounds in fine places, and gardening, in its various branches, is well carried out in many of them. Convincing proof of this may be seen by the grand examples of cultivation which are yearly shown at the horticultural exhibitions by the local growers. The above place—the seat of F. S. Timmis, Esq.—is situated about six miles from Liverpool, and here gardening, in its various branches, is practically carried out. The horticultural

are used; and it must be gratifying to both these engineers to hear such favourable accounts from those in charge. The work has been done in a thoroughly practical manner, and both are entitled to great credit.

A walk on the east side of the mansion brought me to these houses, which I will describe by starting with No. 1, which is in two divisions, one devoted to Azaleas and Rhododendrons, the other to Camellias. Amongst the former are many finely trained specimens of all the leading sorts 2½ ft. to 3 ft. through; standards with stems 2 ft. to 3 ft. high were about the same size. Rhododendrons are represented by the leading sorts, including Veitchii and Gibsoni, of which there are very fine specimens. The side stages are devoted to young Azaleas and miscellaneous hard-wooded plants. The Camellia house, the other division, is well stocked with fine plants of all the leading sorts, pictures of health and well set with flower buds. Around one standard specimen a table is arranged with seats in a circular



THE FIRST HYBRID BEGONIA: B. SEDENI.

buildings are new, and are everything that can be desired for the purpose for which they were intended.

The mansion, which is built of stone, has a very imposing appearance, and commands extensive views of the Welsh hills and part of Cheshire, including the River Mersey. Although the gardens and pleasure grounds are not very extensive, there being only about six acres, they are full of interest and well kept. A lawn tennis ground, and retiring-room or tea-house of Chinese design, has just been added, the latter being of a very pleasing character. The surroundings are well planted with choice Rhododendrons, which seem to do well here, as also do the Hollies. Several fine specimens of both are very conspicuous in various parts of the grounds. The kitchen garden likewise occupies a suitable position, and is well stocked with fruit trees of various descriptions in all the leading varieties.

I wish to draw attention to the horticultural erections, which, to my eye, form as compact and useful a block of houses as I have ever entered. They were erected by Mr. J. Hill, of Woolton. The heating was entrusted to Mr. Joseph Bramham, of Liverpool, whose boilers

form, which can be used as a snugger for smoking. The entrance to this house is very ornamental with carved wood of fruits and flower, while from the ridge goes up a weather vane, giving the whole a very imposing appearance.

Going from these houses, the roofs of which are adorned with creepers most suitable for the structures, we came to a corridor 120 ft. long and 10 ft. wide. At the time of my visit this was full of well-grown Chrysanthemums of all the leading sorts, arranged along the back. The front staging was gay with zonal Pelargoniums, Primulas, Narcissus, Roman Hyacinths, and other winter-flowering plants. The back wall is also planted with climbers of various sorts, which, from their gracefulness, produce a pleasing and charming effect.

No. 2 range, in two divisions, leads from this corridor, and, as well as the others, is a fine span-roofed structure. One division is used as a stove, the centre of which contains fine specimens of well-coloured Crotons, healthy Palms and showy Anthuriums. The side stages are filled with a varied collection of Orchids and stove

plants. *Phalænopsis* are done well and are quite at home; there are fine specimens of *P. Schilleriana* and *P. amabilis*, the latter having nine leaves over 1 ft. long, and throwing a fine branching spike, as well as the former. *Dendrobium heterocarpum*, suspended in baskets, was conspicuous by having over 200 flowers expanded, which filled the air with their rich perfume; a showy variety of *Cattleya superba*, well-flowered, is also represented. The fine growths made by *Dendrobium Wardianum*, *D. crassinode*, *D. Devoniana*, and others will ensure a fine show in the future. The *Calanthes* are well done and nicely flowered. These, mixed with *Poinsettias*, *Euphorbias*, *Begonias* and foliage plants, produce a charming effect at this dull season.

The next house to this is an intermediate one, but at present is occupied by specimen *Ixoras*, *Allamandas*, *Clerodendrons* and *Gleichenias*. A specimen of *Gleichenia dichotoma* here is 6 ft. through, and *Anthurium Scherzerianum* is 4 ft. through, these occupying the centre stage. The side stages are filled with healthy plants of various Orchids, such as *Cattleya Trianae*, *C. Mendelii*, *C. Mossiae*, *C. Percivaliana*, *C. gigas*,

planted with *Ferns* and mosses. The surface is covered with spar where the cool Orchids are grown, and these are doing well, and include some fine plants of *Odontoglossum*, and various *Sophranitis*. Around the recesses to the tanks in this house filmy *Ferns* are planted, which seem quite at home, giving the house a very nice appearance. Another range, 60 ft. by 12 ft., in three divisions, is used for forcing, and Cucumbers, Melons and Strawberries are grown in great profusion.

Conveniently arranged alongside the corridor are the garden offices, comprising a good potting shed, packing shed, sheds for storing soil and pots, Mushroom house, &c. Large tanks conveniently arranged for supplying rain water have also been provided; and, in fact, every convenience on the most approved principle has been secured. The place is well kept, and the practical manner in which the various departments are managed reflects great credit on the abilities of Mr. B. Cromwell, the gardener, under whose superintendence all these arrangements have been carried out. It must be a source of great pleasure and satisfaction to Mr. Timmis, to have so unique a place, and which is so well

fruit as at present; but this is noticeable in most parts of the country—at least, if the numerous notes in our public newspapers be anything to go by.

The fruit of the Strawberry tree (*Arbutus unedo*) is, for a considerable length of time in autumn and winter, of great value for decorative purposes, and being usually produced in abundance and in conjunction with the racemes of bell-shaped flowers, is rendered particularly interesting and well suited for cutting purposes, its lasting qualities making it valuable in this way.—*A. D. Webster, Llandegai, Bangor.*

THE TUBEROUS BEGONIA.

ITS HISTORY AND CULTIVATION.

(Continued from p. 266).

THE first hybrid raised in this country, perhaps the first that was ever raised anywhere, and certainly the first put into commerce of which we can find any record, was *Begonia Sedeni*, sent out by the Messrs. Veitch in 1870. It was raised by their foreman, Mr. John Seden, and originated from a cross between *B. Boliviensis* (see fig. on p. 264.) and a species which the Messrs. Veitch



BEGONIA QUEEN OF THE WHITES.

Lælia anceps, many *Cœlogyne cristata* and its variety, *Lemoinei*, all showing a fine lot of flowers. *Cypripedium insigne* is grown in quantity. These useful Orchids are in fine condition and bid well to make a fine display at their periods of flowering. Suspended from the roof of this house is a fine mass of a good variety of *Lælia anceps*, on a teak raft, with over 500 bulbs flowering for the first time.

No. 3 range, in two divisions, consists of vineries, an early and a late one. These have carried fine useful crops of well-coloured highly-finished Grapes, giving every satisfaction. In these houses I noticed good specimens of *Dendrobium nobile*, 3 ft. through, which, from their appearance, were anxious to burst into flower.

No. 4 range is in two divisions, one of which is used as a Muscat house, in which the Vines are remarkably well done. The other is used at present as a Peach house, but is intended for Madresfield Court Grape. No. 10 is at the extreme end of the corridor, and is devoted to cool Orchids. In the place of stages rock-work is substituted, planted on the side with *Ferns* and *Begonias*. The back wall is wired, packed and

managed in every department.—*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway.*

BERRY-BEARING PLANTS.

SELDOM, indeed, have our woodlands presented such a cold and unattractive appearance as during the present winter, for, indeed, the *Privet*, *Yew*, *Euonymus* and *Skimmia*, berry-bearing shrubs, were more the exception than the rule. *Skimmia japonica* has been and is at present particularly attractive, for the dull red berries intermixed with the pleasing evergreen foliage, and pretty, though inconspicuous flowers, have a fascination that is certain to be quite their own.

The *Privet* (*Ligustrum vulgare*), although seldom a word is said in its praise, is yet a chaste and distinct berry-bearing plant; indeed, I have more than once been in raptures of delight over good-sized breaks of these plants when laden with their ebony-like fruit. For mixing amongst cut flowers, berried spikes of the *Privet* are far too much neglected, but where once tried they will more than likely ever afterwards be used. *Hollies* of all kinds, plain and variegated foliage, yellow and red-berried, have not for many a year been so destitute of

then had, but which was never named or sent out. In what year Mr. Seden commenced crossing the tuberous *Begonia* we do not know, nor have we any knowledge of the number of hybrids he raised, from which were selected *B. Sedeni*, and the seventeen other sorts subsequently sent out by the Messrs. Veitch. Suffice it to say then, here, that considerable numbers were raised and grown on to the flowering stage, and then rigorously selected, and all but the favoured few destined to be named and propagated, were burnt, "seedling *Begonias*" being not so valuable then as now.

Begonia Sedeni was first introduced into public notice in June, 1869, when it was awarded the silver Flora Medal of the Royal Horticultural Society, as "the best new plant shown for the first time in bloom." Its pretty rosy crimson flowers it need scarcely be said were greatly admired, and Mr. Seden used his treasure with good effect, both as a seed-bearing and pollen parent. It may be convenient here to place on record an authentic list of the varieties raised by Mr. Seden for his employers, showing the order in which they were raised, their parentage, and the year in which they were sent out.

LIST OF HYBRID TUBEROUS-ROOTED BEGONIAS RAISED BY MESSRS. JAMES VEITCH & SONS.

Order in which they were raised.	NAME.	PARENTAGE—Female Parent always Named First.	When put into Commerce.
1	B. Sedeni	B. Boliviensis × species unnamed	1870.
2	„ intermedia	„ Boliviensis × B. Veitchii	1872.
3	„ Chelsoni	„ Boliviensis × B. Sedeni	1872.
4	„ Stella	„ Sedenii × B. Veitchii	1874.
5	„ Vesuvius	„ Clarkei × B. Sedeni	1874.
6	„ Excelsior	„ Chelsoni × B. cinnabarina	1875.
7	„ Model	„ Sedenii × B. Pearcei	1876.
8	„ Acme	„ intermedia × B. Sedeni	1876.
9	„ Monarch	„ Sedenii × B. intermedia	1878.
10	„ Viscountess Doneraile	„ Monarch × B. Sedeni	1877.
11	„ Mrs. Charles Scorer	„ Viscountess Doneraile × B. seedling	1880.
12	„ Emperor	„ Clarkei × B. Chelsoni	1877.
13	„ Kallista	„ Sedenii × B. Stella	1876.
14	„ Queen of Whites	Light-coloured varieties of B. rosæflora	1878.
15	„ Admiration	B. Excelsior × B. Davisii	1881.
16	„ rosea superba	„ rosæflora × B. seedling	1880.
17	„ Miss Constance Veitch	„ Davisii × B. seedling	1880.
18	„ Mrs. Arthur Potts	„ Davisii × B. seedling	1882.

We need, perhaps, scarcely go into particulars respecting the whole of these hybrids, as many of them are not now to be found in trade lists, but a few for special reasons may be alluded to. B. intermedia bore flowers which closely resembled those of its male parent, but darker in colour. Chelsoni, sent out the same year, was a pale orange-scarlet. Vesuvius was the next step in advance, and is still valued as a robust and useful bedder, having bright orange-scarlet flowers. Acme, a purplish carmine, is still much grown; and Monarch was a brilliant vermilion-scarlet. Viscountess Doneraile, the result of crossing the last-named with B. Sedeni, is destined to play an important part in the future history of the Begonia, it being one of the parents of Begonia John Heal, a variety raised by Mr. Heal, another of Messrs. Veitch's clever foremen, and which gives promise of being the first of an entirely new race of winter-flowering varieties; however, of this more anon. Emperor, orange-scarlet and a fine bedding variety, was the largest-flowered form raised in the Messrs. Veitch's nursery, and when sent out was considered a magnificent variety, and marked a wonderful stride forward. The next, and certainly one of the most valuable varieties of the series, was Queen of the Whites, sent out in 1878 at half a guinea each. This some growers consider to be a white form of B. Veitchii, and further, that it should have been called B. Veitchii alba; but be that as it may, its parentage is well known, it having been obtained by intercrossing light coloured varieties obtained from B. rosæflora, and from it (Queen of the Whites) the present race of white-flowering Begonias have sprung. (To be continued).

GARDENING MISCELLANY.

Mauve Beauty Stock.—To those who have not yet grown this very fine ten-week Stock, let me say “try it.” I have cultivated it ever since it was sent out by Mr. Richard Dean, and my neighbours and friends now all grow it, especially those who exhibit Stocks in July or August. It is a compact-growing variety, not very tall, throwing an immense head of flowers under good culture, the few lateral shoots forming the base of a fine pyramidal spike of flowers, which are of a most pleasing blue-lilac shade of colour. It is a grand variety for exhibiting.—*Exhibitor.*

Grafting Permanent Vines.—How often the question arises, “What shall I do with it?” when any particular kind of Grape has failed to give satisfaction. When in one of the vineries at Springhouse recently, I was forcibly impressed with the manner in which Mr. Ives works his Vines, and which is worthy of imitation by those who do not already follow the plan. “I see, you practice a little on the long-rod system, Mr. Ives,” said I, noticing a couple of fine young rods of last summer's growth trained up alongside what I took to be their parents. “Well, no, not exactly,” he replied, “those young rods are grafts of last spring worked upon the bottom laterals at the base of the Black Hamburgs, which are doomed. The second year, these young rods or grafts will again be pruned to one eye, and allowed, like history, to repeat themselves. The third year, the old rods of Black Hamburg, or whatever sort it may be, will be care-

fully cut out at the junction, and the young or three years' grafted rods will take their places. Providing the rods and the borders are all right, we never uproot, and do not have blank places of Grapes, which would be the case if we uprooted the Vines, or cut the old rods down to the grafts the first year.” This is what I should call killing two birds with one stone.—*B. L.*

Primula, The Queen.—Among Primulas of recent introduction, The Queen may truly be described as a perfect gem. It is a magnificent Fern-leaved variety with white flowers, relieved with a large yellow eye, compact in habit of growth, and many of the flowers measuring over 2 ins. across. The trusses of flowers are borne well above the foliage, and when fully developed makes a charming plant for table or room decoration, for which purpose I find them very useful. No doubt, when this Primula is better known, it will become an universal favourite. I may mention that I bought the seed of Messrs. J. Veitch & Sons.—*W. Driver, Longfords, Minchinhampton.*

Tree Ferns at Chiswick.—After the close of the Colonial Exhibition at South Kensington, most of the fine collection of Dicksonias, Cyatheas, Todeas and other Ferns were removed to the Royal Horticultural Society's Garden at Chiswick. Those that were retained at Chiswick, and had not to pass through the trying ordeal of a sojourn at the Exhibition, now look healthy, green and respectable; although they cannot be said to have regained their pristine vigour, because too recently removed from their native wilds. The effects of the dry, draughty and generally ungenial atmosphere, however, are but too painfully evident in the specimens that have been brought back. The fronds, in most cases, have a brown and scorched appearance, especially about the tips of the pinnae; but their case is infinitely better than those few left at Kensington till quite recently. During the destructive snowstorm of the 26th December, the snow collected on the roof of the house adjoining the New Zealand Fernery, and, after a time, pitched bodily down on the glass roof, which collapsed, working great havoc amongst the Ferns that had not then been removed. Splinters of wood, glass and iron were forcibly driven into their crowns, in some instances to a considerable depth, so that much careful treatment will be necessary to re-establish them on their former footing.—*J. F.*

Tuberous Begonias.—I strongly suspect that the merits of these as summer bedding decorative plants are very little known, and yet they can now be obtained at such cheap prices as to be within the reach of all. I, last summer, saw a bed of tuberous Begonias on the lawn in Mr. E. Cooling's nursery, Derby, which eclipsed all the other beds in brightness, as well as in the pleasing shades of colour of the flowers; and as the tubers last year after year if proper care is taken, the first cost of the roots is the only outlay beyond the preparation of the beds and a little labour. That it is a summer out-door plant, we have annually proof enough at the Stanstead Park nurseries, Forest Hill, London, where Messrs. Laing & Co. plant out every year quite 100,000 plants of seedling and named sorts; and really fine varieties in colours for massing can now be obtained at from 4s. to 6s. per dozen, and less by the hundred. At these low prices, a trial bed is not a costly matter, and within the reach of a large number of amateur gardeners.—*W. D. W.*

Colouring Lime-washed Walls.—Whilst the stormy wintry weather continues the overhauling of plant houses and vineries will be in full swing; rubbing, scrubbing and scraping being the order of the day. Amongst the many odd jobs that will claim attention is the limewashing of back walls of lean-to houses, potting sheds and offices connected therewith, one and all having its annual dressing to make all sweet and clean for the time being. In some places white walls are an objectionable feature, and the prevailing colour used to tone down the whiteness is venetian red, 1 oz. or 2 ozs. of which is mixed in the can or pail of limewash before using. What I recommend is, that whatever the colouring ingredient used may be, 2 ozs. or 3 ozs. of alum should be boiled in two quarts of water, and well mixed with the whole before using it.—*B. L.*

Osmunda regalis palustris.—Perhaps this Fern is not unfamiliar to many readers of THE GARDENING WORLD, but cannot be too well known or too frequently cultivated under whatever name it may be grown. It is merely a variety of the widely distributed O. regalis, but is very distinct in all stages of its growth, but particularly so in a young state. The whole frond in the latter condition is reddish, but the petiole retains this colour in the mature state, and is much moreslender, dwarfer and more graceful than the type. It is perfectly hardy, but merits cultivation in pots, and is extremely appropriate for indoor decoration. To those who possess the ordinary form this will prove perfectly distinct, and a valuable addition to the collection. Some healthy specimens are grown in the Royal Horticultural Society's gardens at Chiswick.

Pancratium fragrans.—The usual flowering period of this useful species is summer, varying in individual bulbs according to their condition from May to August. Its pure white flowers were very conspicuous the other day at Devonhurst, Chiswick, where it showed up to the best advantage amongst a collection chiefly of foliage plants, but seemed out of season according to its usual custom. The foliage is evergreen, but the young leaves and the flowers are contemporaneous, and Mr. Wright, the gardener, observes that the flowers are more decidedly fragrant in summer than when developed during the dull winter months. The whole plant is compact for a subject of this class, and a figure of it will be found in Loddiges' Botanical Cabinet, 834.

Blenheim Orange Melon.—I was glad to see your remarks on this splendid Melon in a recent issue, and hope you will allow me, through your valued columns, to bear testimony to the very high qualities of this truly first-class variety. I have grown it for the last few years, and find it to be one of the very best of Melons; the appearance and flavour could not be excelled. All lovers of Melons ought to give this variety a trial.—*T. S. Murphy, Cleveland Lodge, Great Ayton.*

British Plants.—The large room of the Birmingham Gardeners' Society, at the last meeting, was “hung around,” not with “pikes and bows,” but with a curtain of green baize, on which were exhibited 300 admirably mounted specimens of British plants collected in Sutton-Coldfield district by the exhibitor, Mr. James Brishton, who is a working man following the occupation of groom and gardener at Wylde Green, near Birmingham. Very great credit is due to him for having collected and cleverly mounted this collection during the year 1886, in order to compete for a special prize offered by Mr. Wood for exhibition at the general meeting. Each specimen was in excellent condition, easily recognised, and mounted on good sized cardboard, with botanical and English names affixed.

Aristolochia elegans.—A Georgetown correspondent of the American Gardeners' Monthly, who sent seeds of this plant to Europe in the winter of 1882-83, contributes the following particulars respecting its origin and cultivation:—“In the winter of 1882, my then employer, Prof. Richardson, New Orleans, handed me a paper of seed he had just received from a lady friend in Brazil, without name, but represented as the prettiest flower in that country. I took an interest in it, and after the plants came up, I potted them off in thumbs, and put them on the bench in the propagating house, when they stubbornly refused to grow any more. In making room, some time after, I put them outside in a cool frame, where they almost immediately commenced to move and push roots through the pots. I then placed three small plants in

a 10-in. pot, and stuck a piece of Orange branch in the centre for them to climb on, as they appeared to incline that way. I gave them the protection of a lath-house all summer, where they grew away and covered the branch. In September, I moved them to the Palm-house, and they bloomed in October of the same year—the first time, I think, in the United States—and turned out to be *Aristolochia elegans*. The plants seed very freely, and is very interesting. While in seed, the pod bursts open and remains suspended half full of seed, the seed hanging by five or six thread-like appendages, which combine into one higher up, and give the plant the appearance of being covered all over with little hanging-baskets.”

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

POTTING BEDDING PLANTS.—With the present severe weather upon us out-doors, hands can be profitably employed in this department. Let the potting off of bedding plants be proceeded with, and the extra labour available will expedite the work. A good situation for the plants will be found on the borders of the early vineries and Peach houses; being potted thus early, they will be sufficiently established to enable them to be removed to the pits before seriously interfering with the necessary attentions to the proper occupants. A word of caution: Let the roots of all the plants be placed in water for a few minutes before potting, in this way they will retain instead of losing much of their foliage, a very great advantage at bedding-out time.

THE CINERARIAS now require more room; a great many of the earliest sowing are in bloom and give a bright and cheery effect to the greenhouse. Those coming on must receive frequent doses of liquid-manure water, changed as frequently as possible, and to have really good heads they must be turned twice a week, or they are apt to draw. The potting of the plants in the stoves may be also carried on; in the case of such plants as *Crotons*, requiring to be reduced, bottom heat should be afforded them until they recover and have made a new growth, when they may be returned to the stages; *Meyenias* and such-like subjects must be placed where they can be frequently syringed, to encourage them to break as freely as possible; for these to flower freely they must be grown in plenty of light, so as to secure thoroughly ripened wood. In the

POTTING OF PALMS, use a good proportion of loam, particularly if not of too heavy a nature; far better foliage is secured than if the compost is light, and they last so much longer. *Alocasias*, *Marantas* and *Anthuriums* all require a rough compost with a liberal addition of charcoal; stagnation at the roots is fatal to this class of plants. Be careful in the way of watering with all newly potted plants, more particularly with creepers that have, so far, made little or no growth; in most cases, the rather free use of the syringe will suffice for the present. It is hardly necessary to say, that the house should receive a thorough cleansing before the plants are staged. This will also afford employment for part of the out-door staff. Our

CHRYSANTHEMUM CUTTINGS, which were in cold pits, have to-day been placed in a heated frame, so as to do away with the necessity of matting up, and also to give them a start into growth. As soon as fairly started, they will be potted off and returned to the same structure, and then be gradually hardened off.

THE FORCING HOUSES.

VINES.—With almost continuous fogs and snow storms, those indulging in early forcing of Vines must be anything but happy with their charge, more particularly if well advanced in growth, for under the present meteorological conditions it is next to impossible to secure a good growth. To maintain anything like a high temperature, hard firing must be resorted to, with its almost certain attendant injury; and to make matters worse, but little air can be admitted to assist in the development of the foliage. With pot Vines much may be done by keeping the bottom-heat frequently renewed, to ensure activity of the roots. The ammonia, too, from the fermenting material will be of the greatest benefit to the foliage, and greatly assist in warding off the attacks of thrip and red spider, so much to be dreaded.

ASPARAGUS AND RHUBARB.—We were fortunate enough to lift a good batch of Asparagus and Sea Kale roots last week, so that supply will not fail with these; and as there is every appearance of very hard frosts, we shall take the precaution of putting litter over the crowns of Rhubarb which are required for the next batch. We have also put in the necessary quantity of bulbs and other plants for furnishing cut bloom. As the weather is so unfavourable, we have placed the Potato sets in boxes, covering them with leaf-mould, and put them in gentle heat that they may start quicker than if planted at once in the pits.

THE DISBUDDING OF THE EARLY PEACH TREES must be carried on very slowly, only removing the strongest growths first, being also careful not to remove the shoot where fruit is set, pinching out the point, and leaving two or three leaves. By this means a greater amount of foliage is secured, which can be readily removed when the fruit is thinned down.

THE KITCHEN GARDEN.

PROTECTING CROPS, &c.—In this department little can be done beyond protecting such crops as Endive, Lettuce and others likely to be injured by the severe weather. If the supply of Parsley be likely to run short, lift some of the old roots and pot or box them in leaf-mould, placing them in heat they will quickly start into growth. Celery, too, must receive extra covering, or it will be badly damaged, and as this crop is of so great service in the kitchen as well as the pantry, care should be taken of it. Continue the wheeling out of manure, leaf-soil, or other material, that there may be no delay whenever the weather will permit of digging operations being resumed.

PEA STICKS AND STAKES of kinds can be sharpened and stored away until required for use. We have unnailed the Peach trees, preparatory to dressing the wall; this is a necessary and important matter, particularly if much infested with insect pests, as most old walls are. As we shall require to make new Gooseberry and Currant quarters, we are taking off and making the cuttings, after which they will be heeled in until required for planting.—*Walter Child, Croome Court.*

FLORICULTURE.

CHINESE PRIMULAS AT READING.—Those who during the last few years have been close observers of what has been going on in the Messrs. Sutton & Sons' London Road nursery, Reading, in the way of Primula improvement, will not be surprised to hear that the display of flowers there at the present time, exceeds, in interest and beauty, all former efforts in the same direction; nor will they be greatly astonished to learn that out of ten new varieties shown at the meeting of the Floral Committee on Tuesday, no less than six varieties were considered worthy of First-class Certificates. The remarkable group of plants staged at South Kensington on Tuesday, and again at the Aquarium on Tuesday, where eight varieties were certificated, was a sample only of the grand lot of flowers to be seen at home, and under the leaden skies which prevailed while they were in town, fine as they were, appeared in nothing like such superb form as in their own admirable houses, and under the more pure atmospheric conditions which prevail at Reading. Still, that half-a-dozen should receive Certificates at one time is a very remarkable accomplishment—a veritable best on record indeed, as far as Primulas are concerned.

For convenience the cultivated varieties of the Chinese Primrose may now be divided into three classes, viz.: 1, Plain or Palm-leaved; 2, Fern-leaved; and 3, Crisp-leaved or Moss Curled, as the new type is popularly called; and each class may again be divided into three sections, viz.: single, semi-double and double-flowered. Of the double-flowered varieties, or those which have to be increased by means of cuttings, we need now say nothing, as the whole of the varieties grown by the Messrs. Sutton are either single or semi-double, and such as can be raised from seeds, and to these we will simply confine our observations.

In the Plain or Palm-leaved class with single flowers, Ruby King is still the most distinct, and its rich crimson-magenta colour, dwarf habit, and bold truss thrown well above the foliage, are qualities which strongly recommend it both for decorative purposes and as a breeder. Reading Scarlet, in its section, is also very fine, the colour very decided, the individual blooms of good size and freely produced. Pearl is

decidedly a gem, being pure white and of fine form the trusses large and globular in outline, borne on stout flower stems well above the neat foliage. Reading Pink is exceedingly pretty in colour, rich salmon-pink, with a well-defined yellow eye, and a neat compact habit. Reading Blue represents a fine strain of the rich porcelain-blue flowers, which will be called blue until a genuine blue Primula makes its appearance. The colour of this strain undoubtedly marks a step onwards, while the habit is neat and the trusses large. The distinct variety known as Giant Lilac, seems, this season, inclined to assume a reddish hue, but is decidedly pleasing. Giant White is a variety not yet in commerce, but is distinguished by flowers of great size, fine form and good substance, with a clear lemon eye, and will surely make its mark. Another novelty not yet offered, nor yet named, is what may be called a Picotée-edged flower, the centre being white with a broad lacing of pink; it is exceedingly pretty and may lead to other “breaks” of much value and interest.

The leading semi-double-flowered varieties with plain leaves are, Double White, a full flower, pure white (which does not run), good foliage and bold showy trusses; Double Rose, a remarkably full double, considering that it comes true from seed, of admirable habit, and a most pleasing flower of a rich salmon-rose colour; Double Scarlet, the nearest approach to a double variety of the colour named, and a fine handsome flower with good broad foliage; Double Lilac, an attractive colour, and a good variety with bold stout trusses; Double Carmine, very fine, and marking an advance onwards in depth of colour; and a Double White, flaked with carmine, from which much is hoped in the future.

The Fern-leaved class is rapidly increasing in numbers, and already includes some grand varieties. As a rule, they have a neat spreading habit of growth, with stout rigid leaves, which form a perfect green setting for the compact many-flowered trusses, so that one cannot be surprised at the demand for them for table decoration. Gipsy Queen is a special favourite in this section, being perfectly distinct. It has very dark foliage, purple flower-stalks and white flowers, which become spotted and suffused with pink. The combination is good, and as a table plant it is A 1. Snowdrift, pure white, is the earliest of all, and remains a long time in bloom, retaining its purity to the end. Rosy Queen throws up grand trusses of flowers of a delicate rose shade of blush, and a neat stiff habit of growth, which renders it very useful for decorative purposes. A rich lilac-flowered variety, with a lacing of white round the flowers, is very pretty, but not yet in commerce; and a Fern-leaved blue Primula, with a fine orange eye, is another novelty still under probation.

A Fern-leaved double blue—or, rather, semi-double—flowered variety is a decided acquisition, being good in colour, a well-shaped and pretty flower, and the habit of the plant all that can be desired.

The Moss-curved or Crispifolia class, which originated on the Continent a few years ago, promises, in the hands of the hybridist, to yield some striking novelties at no distant date. At present the varieties seen at Reading are remarkable for their light green, heavily Moss-curved leaves, very distinct from the other classes. The leading varieties at present are the Moss-curved White, which has small single and semi-double white flowers; and the finer variety called Moss-curved Lilac, which is more double, and the lilac blossoms mottled or spotted with white. There are other “breaks” at Reading in this class, and ere long we shall doubtless have some desirable acquisitions.

SYRINGING ORCHIDS.

THE method adopted by “A. C.” in doing what he finds most beneficial, and the common-sense tone of his letter, is, in my opinion, well worth imitating. In his experience, he finds plants do better without the use of the syringe. Surely this is sufficient encouragement for him and for others to do what they find best in their own case. I am one of those who believe in treating Orchids in what I may term a more natural manner, and not by arbitrary laws which are never to be modified by any circumstances. Well do I remember, when I commenced growing Orchids, the opinions and remarks as to what must and what must not be done. The contradictory theories of those I discussed the subject with seemed to me singularly illustrative of the fable of the old man and the ass, and I soon found that

if I tried all the methods suggested I should please nobody, lose my Orchids and utterly disgust myself.

If all the circumstances are taken into consideration, rely upon it there are good reasons why one grower's plants do best under one treatment, and why similar treatment in other cases is unsuccessful. Like "A. C.," I am only an amateur, and when I find any plant not doing well, I endeavour to ascertain the cause and afterwards the remedy. If I notice that any particular plants thrive best with the use of the syringe I use it. I have sought, obtained and benefited by the advice of Mr. O'Brien, and am persuaded he is not one of those who, finding the use of the syringe successful, would condemn it.

On one occasion I found a batch of *Odontoglossum Alexandræ*, which had been growing extremely well at one end of the stage, ceasing to make any progress, apparently through the atmosphere being too damp. We at once discontinued the use of the syringe which had been freely used on these, and they went away again amazingly. Finding the stage somewhat overcrowded, I gave them a change of quarters, to a house having exactly the same aspect, but more airy, and with a lower stage, continuing the same treatment; but found they soon had an unhappy look about them, and noticing how much drier they appeared to get, I commenced to syringe again between the pots and slightly over the leaves, and this brought about a better result.

Since then I have noticed that in some positions very different treatment must be given to the same plants, and I am convinced that if we took more care to arrive at the reason why in any one position a plant fails to make progress, we should be more often successful. So also with syringing; should this be found beneficial, and meet the requirements of the plants in a house, use it in a fitting manner on those that obviously derive benefit from it; if otherwise, discard it, but do not condemn what may not suit at one place, as being unsuitable for every other. Circumstances not apparent at the first glance may so alter the conditions under which the plant is growing, that a very different treatment may be found necessary.

My own opinion is that if there were more genuine forbearance and candour in the intercourse between growers as to success or failure, it would very much benefit all of us.—*St. George.*

ORCHID NOTES AND GLEANINGS.

The Orchid-Growers' Calendar.—Continue the repotting of such of the cool-house Orchids as require it, as recommended at p. 285, carefully cleaning the plants, and the staging intended for their reception, before replacing them. It is not necessary to study the arrangement of the plants as they are passed over, as the whole can be better arranged after the repotting of the occupants of the house is finished. Aphides on young growths, and especially on pushing flower spikes, will now be getting very troublesome, and should be carefully sought out and removed by spouging with weak tobacco water. The tender buds of *Odontoglossum* and the young flower-spikes of *Masdevallias* are especial favourites with these insects, and if allowed to occupy them undisturbed, crippled and bad flowers are the result; where sponging them off would be likely to damage the buds, they should be removed with a soft hair pencil. Where the aphid cannot be kept down in the above manner, light fumigation for three successive nights should be resorted to, but only as a last resort, for seldom can fumigation sufficiently strong to kill the insects be carried out without injury to some of the plants. All resting plants should be carefully watched and supplied with sufficient water to keep them plump, and such of them as are showing bud should be brought on, as required, in a little more heat than is given them while inactive.—*James O'Brien.*

Orchids at the Cape.—In the western districts near Cape Town there is not a single epiphyte, but some hundred species, or thereabout, of terrestrial Orchids. Amongst them are several with a beard like that of *Herschelia graminifolia*, which is very abundant all round this place. It is very variable in the labellum, which is sometimes beautifully fringed with long and short segments resembling a tassel. Last year we discovered another species with a still finer fringed labellum, and which Mr. Bolus called *Herschelia*

lugens. The beard was like a curled feather, fully 1 in. long, and light green. It is also found near Cape Town, but we had our specimen from Graham's Town. Plants had not been detected for twenty years previously, and we have not heard whether they made their appearance this year.

Herschelia lugens differs from *H. graminifolia* in the beard having a mid-rib like a feather, with the plumes arranged regularly on each side. Mr. Bolus was invited here on New Year's Day, and he brought with him his drawings of Orchids which are being sent home to England from time to time. Amongst the species, in one little genus of this class of Orchids, is one we call *Fingers*. It has a small solitary flower, and develops one leaf only. The labellum, however, is as large as a Pansy. The petals are 1 in. broad, and cut up into some twenty segments, like the teeth of a comb. Amongst Mr. Bolus' specimens was a new variety about the same size as the type; but the labellum had fewer teeth, each of which was terminated by a gland resembling a stamen with its anther.—*R. Hallack, Port Elizabeth.*

Satyriums.—Would Mr. R. Hallack kindly let us know the natural conditions under which the various species of *Satyrium* are found in their native wilds. For years I have tried to cultivate such desirable kinds as *S. carneum*, *S. cucullatum* and *S. aureum*, but with no marked success; they flourish well enough, but rarely produce flowers. They are planted out of doors in a bed devoted entirely to hardy Orchids. *Lissochilus speciosus*, of which Mr. Hallack also writes, would seem to imitate in manner of growth our *Epipactis latifolia*. This latter plant certainly increases beneath the ground until of a flowering size; and one rarely sees non-flowering specimens, even where the plants are growing by the hundred. Has Mr. Hallack ever noticed the *Lissochilus minus* in flower? The specimen 6 ft. high of this plant found at Conger-Marsh must have been a sight when in full flower. What soil suits it best, and would it require protection in England?—*A. D. Webster, Llandegai, Bangor, N. Wales.*

Cypripedium calophyllum.—One seldom sees this curious *Cypripedium*, obtained between *C. venustum* and *C. barbatum*, and in every respect just intermediate between those species. Its flowers are large, and the peculiar green and white-striped dorsal sepal renders it attractive; its leaves, too, are prettily marked. It is in flower at Glasnevin Botanic Garden, Dublin, which has a very complete collection of *Cypripediums*, among which *C. Leeanum* and others are also in bloom. In the cold house the rare, distinct and showy *Masdevallia Mooreana* bears its large white and purple flowers, and many others are prominently in bud.—*J. B.*

Orchid Blooms.—Mr. G. W. Dutton, Summerfield, Curzon Park, Chester, has obligingly favoured us with a small box of Orchid blooms cut from newly imported plants, which are flowering for the first time in this county. Conspicuous among them were some flowers of *Odontoglossum Rossii majus*. One spike bore three flowers of large size, and very brilliantly coloured. The sepals were closely and finely blotched with dull purple on a white ground, and the petals exhibited an unusual number of blotches of the same colour. The white labellum was slightly tinted with blush, with the usual yellow callus at the base. The column was also dark, and altogether the flower was of superior merit. Another variety, very similar to this, differed in the blotches of the petals, being few and confined to the base, but was also a fine flower. A third spike bore three flowers, which, though of small size, were characterised by the almost spotless purity of the labellum, even including the basal callus. The petals were rather small, and the ground-colour of the sepals green. A fine large flower of *Lycaste Skinneri* had broad white sepals of great consistency, and white petals suffused with pale rose, especially at the base. The labellum was densely mottled with deep rose.

Odontoglossum Cervantesii and Od. Rossii majus.—These handsome and neat-growing Orchids are well grown in Mr. Wm. Gordon's Orchid and Lily Nurseries, Twickenham, in baskets suspended within a foot of the glass of the roof in a cool house; a fine lot of each may there be seen in flower or bud, and the varieties already open are superb. We note, too, that the whole of the general stock is sound and of good flowering capacity, and that many difficult subjects are in an unusually vigorous condition.—*J. B.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*Jan. 11th.*—There was a good attendance of members of the committee at this meeting, and for the season there was quite an average of interesting subjects exhibited. The main feature of the display which was held in the conservatory consisted of a magnificent group of Chinese Primulas, exhibited by Messrs. Sutton & Sons, and for which they were awarded a Silver Gilt Banksian Medal.

At the Floral Committee meeting, Mr. T. S. Ware, of the Hale Farm Nurseries, Tottenham, exhibited specimens, grown in pots, of *Primula obconica*, *P. floribunda*, *Lachenalia pendula*, and some handsomely flowered plants of the pure white *Narcissus monophyllus*, sometimes known as *N. bulbocodium Clusii*. He also exhibited the curious and distinct Lilywort, *Korolkowia discolor*, with somewhat salver shaped flowers, pale brown externally, and yellow internally. Messrs. H. Cannell & Sons, Swanley, Kent, showed two varieties of the Chinese Primula. Queen of the Stripes had large white flowers closely spotted, striped and blotched in a varying manner with purple. A plain-leaved sort with intense red flowers, large well-marked yellow eye and imbricating segments, was named Jubilee. Mr. R. Clark, Twickenham, showed some fine forms of *Cyclamen persicum*, amongst which was an intense crimson, Certificated in 1885 under the name of Albert Victor. *C. giganteum compactum album* was noticeable on account of the pure white flowers and short peduncles. *C. g. Advance* had large white flowers with purple eye.

A cut raceme of *Odontoglossum brevifolium*, bearing fifteen deep shining brown flowers, was shown by H. M. Pollett, Esq., Fernside, Bickley, Kent. The labellum was yellow, with transverse blotches of pale brown. A vote of thanks was accorded him. A vote of thanks was also accorded to F. G. Tantz, Esq., Studley House, Goldhawk Road, Hammersmith, for *Odontoglossum lucinianum* and *Cypripedium Marshallianum*. The latter had its foliage marbled with pale grey, and the sepals and petals were suffused rosy purple, spotted with blood-red, while the pale labellum was suffused with purple near the orifice. Mr. F. R. Kinghorn, Sheen Nurseries, Richmond, Surrey, exhibited a fine group of *Erica hyemalis alba*, backed up with a line of the normal form. This white variety was Certificated in 1882, and its flowers are as freely produced as in the well-known type. Mr. J. James, Woodside, Farnham Royal, Slough, had a vote of thanks for an interesting group of Chinese Primulas. The flowers were large, well formed, and showed considerable variety of colour.

Messrs. Charles Smith & Son, Caledonia Nursery, Guernsey, showed a late-flowering decorative yellow variety of *Chrysanthemum*, named Guernsey. Mr. Chuck, The Gardens, Brodworth Hall, Doncaster, exhibited a box of cut flowers of *Azalea*, in great variety, for which he received a vote of thanks. Messrs. Masereel frères, Ghent, had a vote of thanks for an exhibit of Orchids, consisting of *Pleurothallis* sp., *Restrepia* sp., and two varieties of *Odontoglossum crispum*. The *Restrepia*, which appeared like a form of *R. elegans*, was both curious and pretty; the lateral sepals were closely striped with alternate lines of deep brown and yellow. Besides those Certificated and mentioned in another column, Baron Schroder exhibited cut flowers of *Lælia anceps Williamsii*, with white flowers, having a few purple spots near the base, and a medium yellow blotch. The type was also shown, together with *L. a. Dawsoni*, having a darker blotch on the lip than *L. a. Sanderiana*. *L. a. Percivaliana*, had blush flowers, with darker labellum, and *L. Triophthalma* was conspicuous from its deep purple labellum. *Cattleya Percivaliana superba* was notable for its large, crisped, intensely-coloured labellum.

At the meeting of the fruit committee, Mr. Roberts, Gunnersbury Park, was awarded a Cultural Commendation for two heavy and very handsome fruits of the smooth Cayenne Pine; and a similar award was made to Mr. Norman, of Hatfield, for a fine sample of Mushrooms. Mr. Roberts, gardener, Charleville, Tullamore, showed bunches of a Grape called White Gros Colmar, a seedling from Gros Colmar, crossed with Duke of Buccleuch. It has rather loose shouldered bunches and smaller berries, and must be shown in better condition before it is likely to find much favour. Ripe, handsome, orange-shaped fruits of *Diospyros kaki* were sent by Mr. Myles, gardener to General Hutt, Appley Towers, Rydc.

National Chrysanthemum.—*Jan. 12th and 13th.*—The encouragement given by this society to raisers and cultivators of late-flowering varieties, is beginning to have the effect that was originally intended, and, if persevered with, must result in the mid-winter exhibition becoming an established institution. The exhibition opened on Wednesday was a complete surprise, both as regards extent and the quality of the blooms shown, the display being three times the size of that held last year, and the quality of most of the Chrysanthemums remarkably good, considering what growers have lately had to contend with. For a collection of cut blooms, Mr. R. Owen, Maidenhead, was first, with very fresh bright flowers of Golden Gem, Meg Merrilies, Madame Anna Délaux, Snowdrift, Yellow Dragon, Ceres, Jupiter, Géant de Vallance, Virginale, &c.; second, Mr. G. Bolas, gardener, Hopton Hall, Wicksworth, Derby, with a capital assortment, and the blooms surprisingly fresh, considering their journey of 150 miles, part of it across a rough country with 2 ft. of snow on the ground, and the thermometer recording 12° of frost! Third, Mr. J. Lowe, Uxbridge; and an extra prize was awarded to Mr. J. Walker, Thame. For twenty-four blooms, Mr. Walters, Sunnyside, Burton-on-Trent, was first, Mr. G. Stevens, Putney, second, and Mr. J. Hamlyn, Bletchley Park Gardens, Bletchley, third. For twelve blooms, Mr. Stevens came in first; Mr. J. Walker, second, and Mr. Searle, Crediton, third. Mr. Stevens also took the lead with twenty-four Japanese; and in the class for twelve, Mr. H. Lister, gardener, Easton Lodge, Dunmow, beat Mr. Stevens and Mr. Walker; while for six Japanese, Mr. R. Owen came in first. The leading varieties were Grandiflora, Princess Teck, Ceres, Mrs. C. Carey, Duchess of Albany, Jupiter, Criterion, Victoria, Sceptre Toulousaine, Comtesse de Beauregard, The Daimio, Fanny Bouchardet, Belle Paule, Roseum superbum, Madame Lacroix, Guernsey Nugget, Madame C. Audiguier, Peter the Great, Le Chinois, Etoile du Midi, &c.

The prizes offered for subjects of a miscellaneous character brought out good mixed collections of decorative plants, from Mr. H. R. Wright, of Lee; Mr. W. Holmes, Hackney; very fine collections of Primulas from Mr. G. Braid, Winchmore Hill; Messrs. James Carter & Co., Messrs. H. Cannell & Sons, Mr. Ives, gardener to E. C. Jukes, Esq., Hope House, Winchmore Hill; and Mr. Howes, Upper Tulse Hill; a grand bank of Cyclamens from Mr. Clarke, Twickenham; and Solanums from Mr. Wright. Mr. Edward Mizen, Miteham, received a special prize for a fine lot of blooms of the yellow incurved variety, Mrs. Norman Davis; and in a very nice competition with bouquets of Chrysanthemums, Mr. W. Brown, Richmond, took the lead, followed by Messrs. Davis & Jones and Mr. G. Bolas. On the whole the society has much reason for congratulation, and we hope the success achieved will lead to a bolder venture next year.

The Birmingham Gardeners' Society.—This society was started in February last, and now numbers over 250 paying members. The first of the annual general meetings took place on the 5th inst., when there was a large attendance of members, and the officers and committee were elected. Mr. W. B. Latham, chairman; Mr. J. Hughes, secretary; Mr. W. Spinks, treasurer; and Mr. J. Crook, librarian, were unanimously re-elected. The library fund has reached £70; about £40 has been already expended, and a further sum will at once be laid out in adding to the already well-stocked library of old and modern gardening works, which are lent out to members, subject to certain rules. A great deal of the success of the library movement is due to the energy and courtesy of the secretary, Mr. J. Hughes, who solicited subscriptions for this purpose. A syllabus of papers and lectures for the winter session is now being prepared, and great interest is taken in the meetings by the young gardeners of the district.

The general meeting was a very interesting one in other ways. In order to test how good naturally-grown plants of local Chrysanthemums can be had in January, Mr. A. Wood, of Sutton-Coldfield, at one of the earlier meetings, offered a first prize of 20s. for the best plants to be exhibited at this January meeting; he supplied the plants, but withheld the name of the varieties, so that no change of plants could be made. A second prize of 10s. and a third of 5s. was offered by other members of the society. All the plants distributed were Belle Paule, and three competitors entered for the prizes with admirably-grown plants, all cultivated by

young journeymen gardeners. Mr. C. Phinix took the first prize with a plant about 4 ft. 6 ins. in height, having fine healthy foliage to the pot, and nine stems to a plant, each stem carrying a fine well-developed bloom. Mr. G. Mumford was second with a scarcely inferior plant, also furnished with nine stems; and Mr. H. Dix got the third prize for a dwarfer well-grown plant having twelve stems, but the flowers somewhat past their best.

The plants were distributed at the latter end of March, and were all alike in growth then. The experiment has clearly demonstrated that beautiful, naturally-grown plants are easily cultivated in moderate-sized pots, and that we shall now find such plants gradually displacing the large formally-trained plants hitherto so popular at our exhibitions. Messrs. Cannell & Sons sent some blooms of new single Chinese Primulas, including some charming new shades of colour. Some of the blooms were large and of good substance, but as yet wanting in form; these created considerable interest. Cut blooms sent by Mr. Robert Owen of his new Golden Gem Japanese Chrysanthemum were also much admired.

Obituary.

I AM sure that every member of the United Horticultural Benefit and Provident Society will learn with very great regret of the death of their secretary, Mr. JOHN F. McELROY, at his cottage, Moray Lodge, Campden Hill, Kensington, where for twenty years he had resided as gardener to A. J. Lewis, Esq. Up to Friday last he had been as it appeared in his usual health; on that day, after being out in the garden and feeling unwell, he went indoors and fell down in a fit, unhappily the second of the kind. He was at once put to bed, but from the first it was believed there was no hope, and he died on Sunday, the 9th, fully conscious, peaceful and resigned, in the midst of the members of his family. In his death horticulture loses a good man, Mr. Lewis a faithful and efficient servant, and the United Horticultural Benefit Society a most laborious and painstaking secretary—one who did the work for the love of the thing, for all that he received in the way of remuneration was any small balance, scarcely ever much exceeding £3, which remained over from the benefit fund at the close of the year. It has been my privilege to preside at the annual meeting of this society for four years past, and I have had ample opportunity of seeing how indefatigable Mr. McElroy always was in his work; and he took great pride in the accuracy of his books, keeping them posted up to date.

From his boyhood John F. McElroy was a gardener. He was born about 1818, and his father was gardener to a Mr. Christie, whose son, William Miller Christie, afterwards became a botanist of considerable repute; young McElroy had the advantage of the companionship and instruction of his young master, and in this way became well informed on botanical subjects. At the age of seventeen he went to live with Mr. William Thompson, a market gardener at Hayward's Heath, first as assistant and afterwards as salesman; then with a Mr. Pigeon, at Clapham; next he became flower gardener to Mr. Webber, at Stamford Hill, and from thence he went to live with Mr. Renshaw, at Erith; but here his health failed him, probably owing to the moist character of the locality, and he was compelled to leave. He then engaged himself to Mr. Lancaster, of Stamford Hill, and laid out the grounds and got them into good working order; here he remained for nineteen years, when, owing to the death of his employer, he had to leave, and then he engaged himself to Mr. Lewis, at Moray Lodge, and had just completed the twentieth year of his service. For something like eight years he had been the secretary of the United Horticultural Benefit and Provident Society, and five years ago he was presented by the members with a watch in recognition of his services. When he became the secretary, he was too old to become a member of the society; but all his life he had devoted himself to the service of others, and recognising the invitation to become secretary as the call of duty, he devoted himself to the work as if he had a strong personal interest in its performance. He had also been a subscriber to the Gardeners' Royal Benevolent Institution since 1869.

John McElroy was essentially a worker. He took great pride in the gardens at Moray Lodge, and they were at all times a pattern of scrupulous neatness and order; and all social movements, having for their aim the good of his fellow men, found in him a warm supporter; his pen and spirit alike being pressed into their service. He was a staunch teetotaler, and gave the Temperance movement all the help in his power. His calm and peaceful end, tranquil to the last, was

the fitting close of such a useful unselfish life. "Deed and Duty" was his motto. He had but to realise that something had to be done, and a sense of duty caused him to buckle on his armour and enter the fray.

"The prize he sought and won,
Was the crown for duty done."—R. D.

[We are requested to state that Mr. James Hudson, The Gardens, Gunnersbury House, Acton, will receive all correspondence until such time as a new secretary is appointed.]

QUESTIONS & ANSWERS.

GRAPE, WEST'S ST. PETER'S.—*Scotia*: We know no more of its origin than is stated by Mr. Barron, in *Vines and Vine Culture*, viz., "that some 30 years ago it was considered the best late variety in cultivation, and that at one time a number of spurious varieties were grown: hence, to distinguish the true one, it was by some called Oldaker's West's St. Peter's, while others named it Money's West's St. Peter's."

PHALANOPSIS.—*F. R. M.* (p. 301): P. aphrodite, better known in gardens under the name of P. amabilis, was the first of the genus introduced to this country. It was sent to the late Messrs. Rollisson, of Tooting, by Mr. Hugh Cuming, from Manila in 1837, and it first flowered in their nurseries in 1838; therefore, to them the credit is due for first cultivating this beautiful genus, the queen of Orchids.—*B. Q.*

TABLE PLANTS.—*G. S.* (p. 301): To select the two best plants for table decoration—one for stove and the other for greenhouse culture—from the many varieties that are so suitable for that purpose would be a matter of taste. For the former, I give preference to *Dracæna terminalis*, one of the oldest of the genus, but still one of the very best for table and decorative purposes; it is easy to cultivate, and will stand the treatment of a room better than a great many stove plants that are used for that purpose. For greenhouse culture, I consider *Grevillea robusta* as useful as any; its beautiful Fern-like foliage specially adapting it for that purpose. It is very free-growing, and is easily raised from seed, when it soon attains a serviceable size.—*B.* ["G. S." may find some useful hints on this subject in the article by "W. G.," at p. 310.]

FICUS ELASTICA.—*H. B. K.* (p. 301): Probably your plant had been grown in a house kept at a high temperature before it was given to you, and suffered from then being put in a room with a much lower temperature, and less light. You may also have been treating it too liberally with water, giving more than the roots could absorb, and the leaves transpire, an evil against which precaution should be taken. Less water should be given during the winter months, but do not allow the soil to get dry. Being an Indian species, it thrives best in a stove, although it can be successfully grown in a greenhouse temperature. Its vigorous constitution recommends it as one of the best room decorative plants in cultivation.—*B. Q.*

ASPARAGUS PLUMOSUS NANUS.—*Market Gardener*: The statement in *The Horticultural Times* is simply ridiculous, and wholly misleading. The plant was not known in cultivation forty or sixty years ago; there are not forty varieties of it, nor one neither does it come from Hungary! *Asparagus plumosus* was introduced from the Cape or Natal by Messrs. Veitch about 1875; and *A. plumosus nanus* is a garden variety which originated in this country, and was also, we believe, put into commerce by Messrs. Veitch. The variety differs from the type in the false leaves (cladodes) being arranged in one plane, hence the flattened branches and plumose character. It is well known in almost every garden, and has been largely planted for market work.

EVERGREEN SHRUBS AND CONIFERS.—*J. McD.*: It is well known that the frequent transplanting of Conifers in nurseries is detrimental to the natural development of roots. This is done in order to ensure their removal without loss, or to minimise loss as much as possible, in their transference from nurseries to private places. This is especially the case with large specimens. The same danger of being uprooted by storms applies also to trees whose early days have been spent in pots, where the roots are all coiled up in a mass and never afterwards extend in a natural manner. The storm of 26th December last, coupled with the weight of the snow, levelled many fine evergreen trees and shrubs, showing a weakness in our present management of such ornamental subjects.—*J. C. B.*

HIBISCUS AND STEPHANOTIS.—*I* should be glad if you will tell me how to treat the flowering Hibiscus. I have two plants, one single and one double. Both flowered well last year, made long shoots, and are quite green now, and growing in the stove. I want to prune them. Should Stephanotis be kept dry in winter in a stove in order to rest it?—*G. D.* [The Hibiscus stands the knife well, and should be pruned now. It flowers on the young wood and may be closely cut back, leaving only a few eyes; this will keep the plant dwarf and bushy. Water sparingly until the buds have pushed some way; re-pot it, if necessary, at this time, and when it has taken to the fresh material treat liberally. If your Stephanotis is planted out, withhold water to induce the flower buds to develop; but if in pots, be more careful not to allow the leaves to droop for want of water, otherwise they will fall. All that is required is to keep the plant on the dry side but never dust-dry, during the winter season.]

CUPRESSUS NUTKENSIS v. THUJOPSIS BOREALIS.—Would any correspondent of THE GARDENING WORLD say whether *Cupressus nutkensis* is a separate plant from *Thujopsis borealis*, or whether they are mere synonyms for the same thing?—*H. C. C.*

SENECIO PULCHER.—Can anyone suggest, from experience or otherwise, a ready method of propagating *Senecio pulcher*? It produces seeds very sparingly, or not at all, and cannot therefore be increased rapidly in that way.—*J. T. B.*

FILMY FERNS.—Is it possible to grow Filmy Ferns in an ordinary sitting-room? If so, would someone give the names of a few hardy sorts that would succeed where frost is merely kept out?—A. F. S.

GOOSEBERRY BUSHES.—Some prune these on the spur system, while others thin out the shoots or merely shorten them. Which is the more advantageous system?—H. C.

FORCING ASPARAGUS.—After forcing the fleshy roots, is it more profitable to re-plant them, or to raise a fresh stock from seed? Should they be sown in their permanent quarters at once or in seed beds?—R. A. S.

COMMUNICATIONS RECEIVED.—G. B.—F. M. (thanks, next week)—A. M. (next week)—S. & S.—W. D.—J. C. & Co.—R. B.—W. G.—A. D. W.—B. F.—R. H. M.—W. C.

TRADE CATALOGUES RECEIVED.

H. CANNELL & SONS, Swanley, Kent.—Complete Illustrated Floral Guide for 1887, and Catalogue of Vegetable Seeds.

W. B. HARTLAND, 24, Patrick Street, Cork.—Year Book of Seeds for the season 1887.

BENJAMIN SODDY, 243, Walworth Road, London, S.E.—Select List of Flower and Vegetable Seeds.

JAMES DICKSON & SON, 32, Hanover Street, Edinburgh.—Vegetable and Flower Seeds.

RYDER & SON, Sale, Manchester.—Choice Flower and Vegetable Seeds, Plants, &c.

CHARLES TURNER, Royal Nursery, Slough.—Flower, Vegetable and Farm Seeds.

W. PIERCY, West Road, Forest Hill, S.E.—Early or Summer-flowering Chrysanthemums.

LONDON SEED TRADE.

January 12th, 1887.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a good enquiry for Clover Seeds, values of which remain unchanged, although sellers hold English Red Clover for an advance; buyers, however, prefer Super Foreign instead at the extremely low rates now prevailing. White, Alsike and Trefoil unchanged. New Konigsburg Tares are of good quality, and meet with attention at present low prices. Bird Seeds neglected.

COVENT GARDEN MARKET.

January 13th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1	6	Pine-apples, St.		
Grapes	1	0	Michaels, each	1	6
Kent Cobbs	65	0	Pine-apples, Eng., lb.	1	0
Melons	65	0	Strawberries .. per lb.	1	6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	Horse Radish, bundle	3	0
Beans, French, per lb.	0	6	Lettuces .. per dozen	1	6
Beet, per dozen	2	0	Mushrooms, p. basket	1	0
Brussel Sprouts, per lb.	0	3	Onions, per bushel ..	4	0
Cabbages .. per doz.	2	6	Parsley, per bunch ..	0	6
Carrots, per bunch ..	0	6	Radishes, per dozen ..	1	6
Cauliflowers, English,			Sea Kale .. per basket	1	6
per dozen	3	0	Small salading, punnet	0	4
Celery, per bundle ..	2	0	Spinach, per strike ..	2	0
Cucumbers, each	0	6	Tomatoes, per lb.	1	0
Endive, French, doz.	2	6	Turnips .. per bun.	0	6
Herbs, per bunch	0	2			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4	0	Mignonette, 12 bun...		
Azalea, 12 sprays	0	9	Parma Violets (French),		
Bouvardias, per bun.	1	0	per bunch	7	0
Camellias .. 12 blooms	2	0	Pelargoniums, per 12		
Carnations, 12 blooms	1	0	sprays	1	0
Chrysanthemums,			— scarlet, 12 sprays ..	0	6
12 blooms	1	0	Primula, double, bun.	0	9
Chrysanthemums,			— single .. 12 bun.	4	0
12 bunches	1	0	Pyrethrum, 12 bnchs.		
Cut Tulips, 12 blooms	1	0	Roses (coloured)	3	0
Czar Violets (French),			Roses, Tea .. per dozen	1	6
per bunch	2	0	Roses, red (French),		
Epiphyllum, 12 blms.	0	6	per doz.	2	6
Eucharis, per dozen ..	4	0	— Safrano (French),		
Gardenias, 12 blooms ..	0	2	per doz.	1	6
Heliotropes, 12 sprays	0	6	Stephanotis, 12 sprays		
Lapageria, red,			Tropeolums	1	0
12 blooms	1	0	Tuberose, per dozen ..	1	0
Lapageria, white,			Violets .. 12 bunches	1	6
12 blooms	2	0	White Jasmine, bun.	0	6
Marguerites, 12 bun...	3	0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	Ferns, in var., doz. ..	4	0
Arum Lilies, per doz.	18	0	Ficus elastica, each ..	1	6
Begonias, per dozen ..	6	0	Foliage Plants, vari-		
Bouvardia, per doz. ..	9	0	ous, each	2	0
Chrysanthemums, doz.			Hyacinths, per doz. pts.	9	0
Cyperus, per dozen ..	4	0	Marguerites, per doz.	6	0
Dracena term., doz. ..	30	0	Mignonette, per doz.		
— viridis, per dozen ..	1	0	Palms in variety, each	2	6
Epiphyllums, per doz.	18	0	Pelargoniums, doz. ..		
Erica gracilis, per doz.	9	0	Pelargoniums, scarlet,		
— hycmalis, per doz.	12	0	per dozen	6	0
— Regerminans .. doz.	9	0	Primulas, in p. doz.	4	0
— various .. per doz.	8	0	Solanums .. per doz.	9	0
Evergreens, in var.,			Tulips .. per doz. pots	6	0
per dozen	6	0			

POTATO MARKET.

January 8th., 1887.—During the week 288 trucks arrived at King's Cross, and 403 were emptied; 79 trucks arrived this morning and 88 were emptied. Nearly everything has advanced from 10s. to 15s. per ton in value, upon prices quoted a fortnight ago:—

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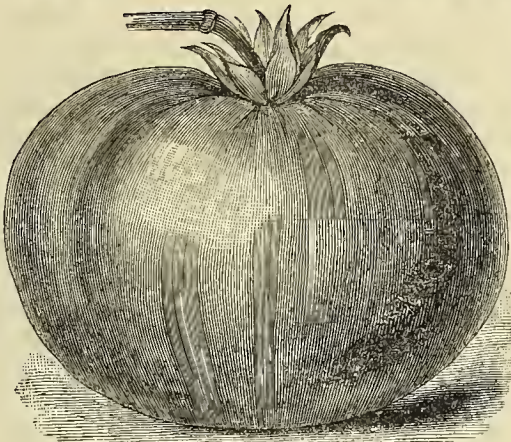
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January 20th, 1887.

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READERS OF THE GARDENING WORLD who experience any difficulty in obtaining the paper at Railway Bookstalls, or through local agents, are respectfully invited to communicate with the Publisher.
17, CATHERINE STREET, STRAND, W.C.

Next Week's Engagements.

MONDAY, Jan. 24th.—Sale of Japan Lily Bulbs, &c., at Stevens' Rooms.
TUESDAY, Jan. 25th.—Special Sale of Orchids in flower at Protheroe & Morris's Rooms.
WEDNESDAY, Jan. 26th.—Sale of Roses, Fruit Trees, &c., at Stevens' Rooms, and of Lilium Auratum, Roses, &c., at Protheroe & Morris's Rooms.
THURSDAY, Jan. 27th.—Sale of Imported and Established Orchids, &c., at Protheroe & Morris's Rooms.
FRIDAY, Jan. 28th.—Important Sale of Cattleya Lawrenceana, and other Orchids at Protheroe & Morris's Rooms.
SATURDAY, Jan. 29th.—Sales of Roses and other Plants at Stevens' and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 22, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—For many years, unhappily, the fortunes of the Royal Horticultural Society have constituted a stock theme for press writers; not, we are assured, in any case from ill-natured motives, but because so many who wish well to the old society have, from their point of view, been anxious to promote its interests and welfare. If it were of any use to cry over spilt milk, we might exhaust our columns in deploring the unfortunate mischance which originally led the society to quit its once comfortable, modest home at Chiswick for the courtly, but somehow ill-fated, aristocratic quarters of South Kensington; as also in recounting the vast sums of money spent and lost in the formation of the once fashionable, but now dismantled Royal Horticultural Gardens and surrounding buildings.

But reference to this unhappy matter farther would be useless, and a sheer waste of time;

what is done and past cannot now be helped. What is to be done in the future is the question that holds the field now. It seems to us that what should be done is to recast the society, to practically re-establish it, to lift it out of its difficulties and depression, and to form from it a society which, whilst having a broad basis, shall have the great body of the horticulturists of the United Kingdom for its constituency. Passing events seem to show that the society cannot possibly remain much longer at South Kensington; and the efforts of the Albert Hall Corporation to obtain possession of the conservatory and adjoining gardens, which will, doubtless, be successful, are, as it seems to us antagonistic to the position of the society, which, in the advent of this change of proprietorship, must inevitably clear out. We think it an unfortunate matter that the society should, as it were, determine to cling to this place so tenaciously, until ejected finally, and, perhaps, forcibly. The pressing necessity of the case enjoins upon the council that they should provide for the society and its London operations a new and more convenient home, where the society may, at least, hold up its head manfully, and realise that it has rights and privileges worthy of respect and esteem.

It is interesting to learn that an outside committee has been formed for the purpose of proffering the council advice and assistance in the emergency. For that proffer the council may be thankful, or otherwise; but the motive is good, no doubt, although some of the names mentioned, and the place where the committee originated, naturally leads to the conviction that the matter grew out of post-prandial oratory. If this committee has any definite scheme to submit to the council which offers some basis for future action, the sooner that scheme is published the better. The time draws near when the council will be called upon to meet the Fellows, and, of course, something decisive will be looked for in the report submitted. We trust that a decisive statement will be made, and that the president of the society will be enabled to declare that the Royal Horticultural Society has at length obtained a London home, in which it will be no longer under the constant fear of eviction, but possess it as a definite and legal habitation.

Now that the society has no longer to depend upon the support of the South Kensingtonians—the croquet and lawn tennis or pleasure-seeking Fellows—it is, at least, free from all trouble or concern on their account, and can all the more readily turn for strength to the great gardening body of the United Kingdom. We hope, in the interests at once of the society, the gardeners, and of gardening, that the question of reducing the annual subscription of Fellows to 10s. 6d. and 21s.—granting double privileges in the latter case—will be seriously considered. The Society has lost vast numbers of its diletante Fellows, and in so doing has, we trust, got rid of its Jonahs. The description of crew now to put on board in order to save the sinking ship is one of horticulturists pure and simple, and of every section.

Whatever course the society may take, we trust it will be an independent one. Its dual ownership at South Kensington has proved a most disastrous arrangement, and the strongest partner has at length crushed the weaker one out of ownership. There will be plenty of suggestions to the council no doubt. We wish not to hamper that body with anything specific, all that we ask is energy and promptness. The longer the present condition of things endures, the more must the interests of the society suffer. The sooner the crisis is closed up, and a firm and energetic course is taken, the sooner will the gardening community rally round the society. The council should remember the old apothegm, "He who hesitates is lost."

THE annual meeting of the UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY, will be held at the Caledonian Hotel, Adelphi, on February 14th.

THE death is announced of Mr. R. LAING, florist, Richmond Road, Twickenham, a much respected tradesman, and a warm supporter of local horticultural societies.

ON February 18th Mr. A. Dean will give a lecture on "CHARACTER IN GARDENERS, at the meeting of the Chiswick Gardeners' Mutual Improvement Association.

A DERBYSHIRE correspondent informs us that, during Monday night, Jan. 10th, and early the following morning, a flat of BRUSSELS SPROUTS, in his garden, was cleared by LARKS down to the snow line, only the stalks and mid-ribs of the leaves being left.

THE *American Florist*, commenting upon a BRIDE-MAID'S BOUQUET, made by a Portland florist, and which, according to the bill, consisted of fifty-five *Chrysanthemums*, *Myrsiphyllum*, *Adiantum*, *Asparagus tenuissimus*, frame, paper, moss and wire, remarks that it would appear to have contained everything requisite with the exception of some Horse-Radish!

AT the last meeting of the ROYAL BOTANIC SOCIETY, Mr. Sowerby, the secretary, spoke of the great damage done to the trees and shrubs in the gardens by the heavy snow of December 26th, many large branches being wrenched completely off. Mr. G. J. Symons, F.R.S., said that so great a weight of snow had not fallen at any time during the last thirty years. The destruction caused by it he traced to its very great density, more approaching that of ice than snow, and to the fact of its having thawed while falling, so that it stuck fast to the branches instead of reaching the ground.

"A WORKING SEEDSMAN" writes:—"Gentlemen's gardeners and others about to purchase seeds will confer an inestimable benefit upon their respective seedsmen by sending their orders early, especially during snowy or frosty weather, as by this means the terrific strain upon the seedsman's staff that must otherwise arise immediately the weather changes, will be considerably relieved, and equal advantage will accrue to the purchaser, inasmuch as more time, and, consequently, if possible, a greater amount of care can be devoted to the proper execution of the order."

AT a meeting of the Academy of Natural Sciences of Philadelphia, a specimen of a grass—*SETARIA VIRIDIS*—was exhibited not over $\frac{1}{2}$ in. high, but which had a large number of perfect seeds nearly mature. It was sent by Mr. Meehan to show that such minute plants might grow and produce seed annually for many successive years, the plants each year reproducing themselves among other vegetation, without anyone being aware of their existence. When such tracts were ploughed up, and plants like this grass get a good chance to develop themselves fully, it would appear that there had not been any plant of the species growing for years, and the fact used to illustrate the long vitality of seeds in the earth. It might be that there was good evidence that cases of long vitality were undoubted; but it served a good purpose to point out where error may creep in.—*American Gardeners' Monthly*.

IN consequence of the Gardens of the ROYAL BOTANICAL AND HORTICULTURAL SOCIETY at Old Trafford being incorporated with the great Jubilee Exhibition to be held in Manchester this year, the usual Whitsuntide Exhibition cannot take place in the Gardens; but the Council have resolved to hold the Exhibition on a suitable plot of land near the Old Trafford Railway Station, and in the immediate vicinity of the Jubilee Exhibition. The year being the Jubilee of Her Majesty the Queen's reign, the Council have determined to give First and Second Class Gold Medals, and a Third Class Silver Medal, which will have suitable inscriptions upon them, and be denominated "The Queen's Jubilee Medal." The Exhibition will open on the 27th of May next.

THE eleventh anniversary meeting of the SCOTTISH SEED AND NURSERY TRADE ASSOCIATION was held on the 12th inst., in the Waterloo Hotel, Edinburgh. Mr. R. B. Laird, Dundee, presided. The report for the past year, which was submitted by Mr. David Hunter, secretary, stated that the association was in a most satisfactory state, there being an increase of seven firms to the membership, while the funds were also reported to be in a most satisfactory condition. Mr. James Watt, Carlisle, moved, with the view of giving greater breadth to the operations of the association, that the name be changed and the annual meetings be

held in different districts. He said he had a letter from a firm in England, whose objection to join the association was that it was a Scotch institution. He moved that the word English be substituted for Scottish. Mr. David Syme, on condition that Mr. Watt would substitute the word National for English, agreed to second the motion. This Mr. Watts readily assented to, and the association is now called the NATIONAL SEED AND NURSERY TRADE ASSOCIATION. The annual dinner of the association was held in the evening, under the presidency of Mr. James Watt; about forty gentlemen were present, and the gathering was considered the best the Society has ever had.

THE annual general meeting of the guarantors and life members of the YORK HORTICULTURAL GALA, was held at the North Eastern Hotel, York, on Monday evening, January 10th, Mr. Alderman Rooke, J.P., in the chair. The Rt. Hon. the Lord Mayor (Mr. Alderman Terry), who for several years has been the chairman of the committee, was unanimously re-elected to that position, and president of the association; Mr. Alderman Rooke, vice-chairman; Mr. Joseph Wilson, late Town Clerk, and treasurer to the Gala from the beginning, as treasurer; and Mr. John Wilson, the secretary from the commencement of the Gala, again to the secretaryship. £550 was voted as prizes, many for plants, fruits and flowers, from the Gala funds, and about £450 for music, fireworks, balloon ascents and other entertainments. Messrs. Backhouse & Son, nurserymen, offer a special prize for Orchids, and a Veitch Memorial Medal and prize of £5 is at the committee's disposal; and other special prizes are offered also. In addition, handsome prizes will be offered for twelve Orchids, the sum of quite £50 being available for first, second and third prizes, this sum being given by special donations. Altogether, there is an excellent prospect of a great jubilee gala this year, as the strong committee, with the office-bearers, are not the men to do things by halves.

GARDEN PLANTS ILLUSTRATED.

CRINUM HILDEBRANDTI.

TWENTY-ONE flowers are represented in the coloured plate quoted below; but four to six are more frequent in fairly well-established plants. The long slender tube of the perianth is more or less stained with crimson; while the six segments are short, linear, white, and spread in a star-like manner. The flower-stems do not usually much exceed 15 ins. in height, and are produced while the plant is well furnished with leaves, so that this species possesses considerable merit as a winter-flowering plant for stove culture.—*L'illustration Horticole*, 1886, p. 173.

ODONTOGLOSSUM CRISPUM REGINÆ.

The excellent and showy nature of the numerous forms of this *Odontoglossum* will always render them favourites in gardens. The variety under notice flowered in the collection of F. A. Philbrick, Esq., Q.C., Oakfield, Bickley. Its qualifications depend on the numerous large blotches, distributed irregularly and almost equally over all parts of the flowers, which attain a diameter of $3\frac{1}{2}$ ins. The sepals and petals are pure white, blotched with reddish brown, and the latter are characterised not only by ample breadth, but in irregularly incised or jagged margin; the lip is white marked with a large reddish brown blotch on the upper part, and yellow with a few smaller side blotches on the lower part. The plant requires the same cultural treatment that suits the numerous other forms in cultivation, and when grown in a healthy vigorous way, flowers are produced freely on long pendent racemes.—*Orchid Album*, t. 264.

NEPENTHES MASTERSIANA.

The subject here mentioned originated in the establishment of Messrs. Veitch & Sons, of Chelsea, and is a hybrid between *N. sanguinea* and *N. khasiana*, generally known in gardens as *N. distillatoria*. It is intermediate in character between the parents, both as to form, size and colour. The pitchers, under good cultivation, attain an immense size, and vary in colour according to treatment; but when well managed are of a vinous red flushed with purple. The plant grows freely, is always well furnished with pitchers, and compensates, in a great measure, for the comparative rarity of the seed parent, *N. sanguinea*.—*L'illustration Horticole*, 1886, t. 618.

EPACRIS ONOSMÆFLORA FLORE-PLENO.

THAT the two varieties of the above—*E. o. alba* and *E. o. nivalis*—will become popular there can be no doubt; and it will be only a question of time in which to obtain stock before every collection in the country will have a few good plants of each variety to decorate the greenhouses during the winter months. Their free-flowering qualities will be a good recommendation in their favour; and their chaste and novel appearance, with their fine spikes of double white and blush-white flowers, will always cause them to be attractive.

My experience with these two varieties has been a very agreeable surprise. I must admit that I was rather disposed to think the illustrations overdone; but I find they have been in no way misrepresented. We have in flower now a good plant of each with fourteen and sixteen shoots respectively, averaging from 9 ins. to 27 ins. in length, all carrying flowers, the longer shoots having fully 12 ins. of blooms from the apex down the stem. The flowers are beautifully arranged on the stem, each one being embedded in the axil of a leaf, with the point projecting beyond the flower, which gives the whole a very pretty appearance. Certainly

produced in unusual abundance. A few plants placed here and there, either along the outskirts of the wood or contiguous to drives and paths, never fail to attract attention; but particularly so when laden with their attractive berries during the early months of the year, and when the plants are all but destitute of foliage. It is readily enough raised from seed or by layers; but the latter method need not be resorted to unless, indeed, for extending the plant for underwood, as the seeds germinate freely, and soon produce stout stocky plants, if only a moderate amount of attention be bestowed on their cultivation. In the woods here I believe the *Euonymus* to be truly indigenous, for it occurs at high elevations, and where far removed from houses or cultivated grounds.—*A. D. Webster, Llandegai, Bangor.*



EPACRIS ONOSMÆFLORA FLORE-PLENO NIVALIS.

These varieties of *Epacris* are, like most other new plants that are sent out, apt to be condemned before they have had time in which to prove their good qualities. This should not be done before a fair trial has been given; and this means time in which to allow the plant to develop itself. This is the case with the double *Epacris*; and now they have begun to show the public that they are likely to supersede many of the single varieties, they will, ere long, be sought after by all gardeners interested in the cultivation of good plants. The treatment they require as to growth is the same as that given to the single varieties (see p. 180), with the exception that they will not require so much cutting back after flowering. Stake out and allow the plants to form good bushes.

these two varieties must become general favourites; and we would advise those who want a really good thing, by all means to have one of them.—*W. G.* [By the courtesy of Mr. Bull, who introduced the plant, we give an illustration of *E. o. flore-pleno nivalis*.—*ED.*]

THE SPINDLE TREE (EUONYMUS EUROPEUS).

THIS is a very desirable woodland shrub, whether looked at from the point of culture, or as an ornamental subject. During the present winter, now our woods are unusually dull and unattractive, the *Euonymus* helps to fill up the blank caused by the want of Holly and other berries, the bright pink seed capsules being

LATE-KEEPING APPLES.—I.

FROM the infinite and almost endless variety of Apples now in cultivation, it is a matter of no little importance to be able to make a selection that will be serviceable for any given purpose. The results of the National Apple Congress has done much to clear up the difficulty, and the cultivator would profit by consulting the pages of *British Apples*. The superiority of home-grown as compared with American Apples, will always tell in their favour, and the advantages gained by a proper selection of varieties, so as to prolong the season of the most serviceable and popular national fruit, are of leading consideration, and might be turned to capital account at the hands of every cultivator in well-managed establishments. The season is now well advanced, and hitherto has been very unfavourable for the keeping of fruit, but we have been able to make a selection of good late-keeping sorts at the Royal Horticultural Society's Gardens at Chiswick, by the courtesy of Mr. Barron, the superintendent.

Many of the most useful Apples meriting cultivation for some particular purpose, are old well-established sorts, and it is remarkable how few, comparatively, of the recently raised seedlings are able to displace the old ones or surpass them in general excellence, either by their distinctness or some other quality, such as flavour, size, productiveness, or long-keeping properties. It is true that great numbers of the old kinds have been discarded, but reference to those mentioned below will show a considerable excess of old acquaintances over the new. This is no argument, however, that the Apple is incapable of further improvement, for we have much to learn yet with regard to the constitution and productiveness of varieties in different soils.

DESSERT APPLES.

The Ribston Pippin is an excellent well-flavoured Apple, of medium size, firm and yellow flesh, considered as mid-season, but still in good sound condition; it is suitable for cultivation in various parts of the country, but prefers a good rich loam or clayey soil to that of a gravelly nature. In northern counties the flavour is brisk and all that is desirable, but the fruit never seems to acquire the reddish tint on the exposed side which it does in more southern latitudes. Gascoigne's Seedling is a medium-sized, handsome pale yellow Apple, flushed with red, and although a mid-season kind is still good. A late-keeping Apple of large size, firm, acid and of first-class quality is Hanwell Souring; it may be used either for dessert or culinary purposes. The Red Winter Reinette of Baumann is a good keeping variety, with smooth pale red skin, yellow top and deep eye. Golden Reinette keeps well, and varies from pale green to greenish orange flushed with red, of medium or small size, according to soil and situation, but of first-rate quality. For late-keeping, Rosemary Russet will also hold its own, and is usually reckoned mid-season; it is conical in outline and greenish at present on the lower half, but russet upwards, with a firm, acid flesh of first-rate quality. For those who desire a large, handsome, good-keeping Apple, Blue Pearmain offers great attractions; it may be reckoned among the newer kinds, and is of a fine dark purple, suffused at least in the early part of the season with bluish bloom, but is only of second-rate quality. Though less imposing in appearance than the last, Rhode Island Greening is a serviceable late-keeping Apple of first-rate quality, and may be used for dessert or culinary purposes; its unassuming green colour and medium size make little show on the table, but its good qualities more than redeem its character. Save's Prolific is a small yellow round variety that fruits abundantly and keeps well; this is quite dis-

tinct from Prolific July Apple. There are several varieties, it would seem, of Winter Hawthornden in cultivation, and that of Paul is larger than the ordinary sort, and green instead of pale yellow, as in the latter; it is an excellent and handsome Apple for mid-season, and a heavy cropper. Woodstock Pippin is a pretty Apple, and a good-keeping sort.

TOP-HEATING GLASSHOUSES.

I HAVE read "A. D.'s" further remarks on this subject (p. 294), and note with surprise the statement that this system is nowhere in operation, especially after his sweeping condemnation of the present system in comparison with that which he recommends. He appears to have changed his mind by seeing a modification of this system, which is a very different thing—very simple, and, I believe, would be very useful in preventing condensation; but there the benefit ends.

Before recommending so strongly a new plan, one would expect its author to have made some experiments on the subject, or, at the very least, to have studied it a little. Consequently, I asked "A. D." to state the difference in the cost of the respective systems. This he seems unable to do; he only advises "tremulous gardeners to try the top-heating plan for themselves." For the reasons I gave in a former letter, I consider this system a great waste of power; you can only get among the plants that heat which has not time to escape outside; while, with the pipes under the stage, almost the whole good is got from them with the least possible waste.

Another very tempting bait is held out under "A. D.'s" system, by the setting of the boiler on the ground-level, instead of in a sunken stokehole. But well as this looks, it will not bear a moment's practical examination. Take first a lean-to house—most people would like to have the boiler fixed behind the wall. This done, how are the pipes to be got across the pathway to the roof in front? Seven feet of head-room is usually allowed in the newer structures; can the pipes cross at this height? With the return on the stage-level this would be impossible. If carried under the floor, then the boiler must be lowered. Again, in heating a span-roofed house, with a door at each end, place the boiler where you will, there is the same difficulty to get the pipes to one of the sides. The system advocated seems to call for a boiler for each side. Likewise in heating a range of houses, each requiring a different temperature, how could the heat be regulated, and how carried through a cool house to a hot one? Again, how could it be taken without the greatest waste and inconvenience to a second range?

But granted these difficulties were all satisfactorily explained, what would be the use of this system for a propagating bed, or bottom-heat for general forcing purposes? These are questions which "tremulous gardeners" have to face before trying this plan for themselves, and it will take both them and "A. D." some time to solve them.—*R. Bell, Morton Hall, Midlothian.*

NOTES ON APHELANDRAS.

APHELANDRA CHAMISSONIANA. — This beautiful Acanthaceous plant is an introduction from South America. It is a very serviceable addition to our winter-flowering stove plants, and along with several other varieties, deserves a place in every collection of good stove plants. This variety has a combination of variegated foliage and ornamental flowers. Its leaves are rather narrow and distinctly marked down the centre with a greyish white band, breaking up on the sides into numerous dots of the same colour. The plant does not exceed 12 ins. or 15 ins. in height before it shows its flower-spike, which, as it develops, becomes a deep yellow, and is very attractive, either grown with a single stem, or even more so when several stems are allowed to develop, all bearing flowers at the same time. The leaves are rather close set on the stem, and being somewhat of a drooping habit, give the plant an elegant appearance. Young shoots about 2 ins. to 3 ins. in length, rooted any time during the spring months, and potted into some suitable compost, will make good bushy plants by winter if pinched back about twice during the summer season. Plants confined to one stem can be rooted at any time during the early summer. It seems to succeed best in a compost

consisting of equal parts of loam and peat, and enjoys a good moist stove temperature.

A. FASCINATOR is another good species that flowers freely in autumn and winter, and also has beautifully variegated leaves. The leaves in this variety are of a rich dark green colour, beautifully banded with silvery white, the underside being of a purplish violet; the inflorescence is bright vermilion in colour.

A. NITENS is a very showy species, both with its bright vermilion flowers, and also on account of its peculiarly coloured foliage which is of a deep claret tint, and egg-shaped in outline.

A. AURANTIACA ROEHLII is a dwarf-growing variety, with ample foliage of a bright silvery green, and produces large spikes of orange and scarlet flowers abundantly. All the forms mentioned require stove treatment, and deserve rather better attention than they receive at the hands of growers at the present day. They are all easily grown, and, as a rule, not subject to many insect pests if kept in a good moist heat. Nearly all the species may be obtained from seed, and all root easily from cuttings. The high-coloured flowers they produce at this dull season should induce growers to take them in hand for the decoration of their plant stoves.—*W. G.*

A FEW GOOD TABLE PLANTS.

CONTINUING my remarks, from p. 310, I may add, that the following greenhouse plants are very suitable subjects for this purpose, but the whole of them would be better in an intermediate house during the winter months. Nothing can exceed in beauty nice plants of *Lomatia elegantissima*, the leaves being produced from slender stem, and also very finely divided; it is an elegant plant for any purpose. *L. polyantha* is a very useful variety, but much coarser in the leaf, and of good habit. Why these two varieties should not be more generally grown I cannot conceive, for they are not bad to manage, and with care they root freely enough; but are somewhat slower in growth than such things as *Grevillea robusta*, which is another plant I must select. *Dracæna congesta* and *gracilis* are always right plants in the right place. *Casuarina ericoides* must claim a place amongst table plants—it is so very fine in its foliage that it will always be a favourite; *Sisymbrium millefolium* is a charming little plant, and when once used will not readily be despised, while for a little golden colour amongst the greenhouse section I would adopt nice young plants of *Abutilon vexillarium variegatum* and *Coprosma Bauereana variegata*, plants grown up about 9 ins. to 1 ft. in height giving a very pretty effect.

All plants intended for the purpose of table decoration should have a nice covering of *Selaginella Kraussiana* growing on the surface of the pot, as it adds very materially to the effect to be produced, and soon gives a fair indication if the plants are suffering from the want of water.—*W. G.*

CUPRESSUS YOUNGII.

How long a raiser has to wait between the two periods when a seedling plant is raised, and when it can be sent forth to the public, is curiously illustrated in the case of *Cupressus Youngii*, which Mr. Maurice Young, of the Milford Nurseries, Godalming, is just distributing. About eighteen years ago, it was raised from seed received from north-western America. It would appear to be so thoroughly distinct in character that Mr. Young makes a new species of it. "It is of very rapid growth, robust character, thoroughly hardy, and bears transplanting well. It will make a large tree of close conical habit, the points of the young shoots being pendulous; in colour it is of a rich bright green, the bark of a rich brown." This is Mr. Young's description of it, and he further states that it is well adapted for a specimen plant, or for forming belts or hedges, and he predicts for it a very extended use.

It need scarcely be added that all the Cypresses are tall or medium-sized evergreen trees. There is much diversity of habit among the different species, the branches of some being erect, and of others spreading. The Chinese *C. funebris*, known also as *C. pendula*, has an erect habit of growth until the tree arrives at maturity, when the branches become pendulous at their extremities; and from these main branches others, long and slender, hang down towards the ground, giving the whole tree a weeping and graceful form.

The hardiest Cypresses are *C. Lawsoniana* and *C. nutkaensis*, as they come from a higher latitude than the other species; and they are found to withstand our severest winters without injury—a fact which tends to greatly increase their usefulness. Though all the sorts prefer a light loamy soil, they are found to do well and form fine specimens in almost every variety of garden soil, if the ground is thoroughly drained and the sub-soil warm and moderately porous. In every case it is well that they should be so sheltered as to protect them from violent winds, from which, in common with many other perfectly hardy but densely-branched evergreens, they are liable to suffer damage.

C. Lawsoniana and its numerous varieties are so well known that it is scarcely necessary to say much about them. In our shrubberies and pleasure grounds *C. Lawsoniana* is a rapid-growing plume-like plant of a symmetrical conical form, abundantly clothed with branches; the dense branchlets slender and drooping, and of a light green, sometimes slightly glaucous, colour. The cones—which even on very young plants are produced in great profusion—contain, very frequently, fertile seeds; and in early summer add to the attractions of the plant by their beautiful golden—and, in some varieties, purple—colour. *C. nutkaensis* was introduced to Britain as *Thujopsis borealis*, in 1851. Of its merits as an ornamental tree it is impossible to speak too highly. In almost every kind of soil it makes a free growth, while it has proved thoroughly hardy in the coldest situations during our severest winters. It is found to grow most freely where the soil is a peaty or rich fibry loam, and rather moist.—*R. D.*

FLORICULTURE.

SELECTIONS OF CARNATIONS AND PICOTEEES.—March is the month when Carnations and Picotees are placed in their blooming-pots; but ere this can be done, plants and compost must be ready. Supposing it is necessary to obtain plants of both Carnations and Picotees, it may be asked, "What are the best sorts for culture for exhibition purposes?" I propose to anticipate this question by giving the names of half a dozen or eight varieties of each section of Carnations and Picotees, presuming that an amateur is desirous of forming a suitable collection to start with. For a long time past, Carnations and Picotees have been sold in pairs, probably on the assumption that it is better to have two plants in case one should die. It is best to have plants from the nurseries in pots; but if they are to be taken from those in which they were layered, they should be had at the earliest opportunity, and potted singly in small pots preparatory to placing them in those in which they are to flower.

And now for my selection. I take first the highest order of Carnations—the scarlet Bizarres. A good six will be found in Admiral Curzon (Easom), Arthur Medhurst (Dodwell), Edward Adams (Dodwell), George (Dodwell), Fred (Dodwell), Master Stanley (Dodwell), and Robert Lord (Dodwell). Crimson Bizarres: E. S. Dodwell (Hewitt), Harrison Weir (Dodwell), John Harland (Adams), J. D. Hextall (Simonite), Master Fred (Hewitt), and Rifleman (Wood). Pink and purple Bizarres: H. K. Mayor (Dodwell), Sarah Payne (Ward), Sir Garnet Wolseley (Hewitt), Squire Llewellyn (Dodwell), Thomas Anstiss (Dodwell), and William Skirving (Gorton). Purple Flakes: Dr. Foster (Foster), Florence Nightingale (Scaley), George Melville (Dodwell), James Douglas (Simonite), Martin Rowan (Dodwell) and Mayor of Nottingham (Taylor). Scarlet flakes: Clipper (Fletcher), Henry Cannell (Dodwell), John Ball (Dodwell), Richard Gorton (Dodwell), Sportsman (Hedderley) and Tom Lord (Dodwell). Rose flakes: James Merryweather (Wood), Jessica (Turner), John Keet (Whitehead), Mrs. Dodwell (Lord), Miss Erskine Wemyss (Dodwell) and Sybil (Holmes).

And now as to Picotees. I commence with eight varieties of the red edged class; and the four heavy edged flowers are Brunette (Kirtland), J. B. Bryant (Ingram), John Smith (Bower) and Princess of Wales (Fellows). Light edged: Mrs. Bower (Bower), Thomas William (Flowdy), William Summers (Simonite) and Violet Douglas (Simonite). Purple edged, heavy: Medina (Fellows), Mrs. A. Chancellor (Turner), Mrs. Summers (Simonite), Muriel (Hewitt) and Zerlina (Lord). Light edged: Ann Lord (Lord), Clara Penson (Willener), Her Majesty (Addis), Mary (Simonite) and Minnie (Lord). Rose and scarlet edged, heavy: Constance Heron (Fellows), Edith D'Ombain (Fellows).

Fanny Helen (Niven), Miss Horner (Lord), Mrs. Lord (Lord), Mrs. Sharp (Sharp) and Royal Visit (Abercrombie). Light edged: Ethel (Fellowes), Evelyn (Fellowes), Favourite (Liddington), Miss Gorton (Dodwell), Mrs. Payue (Fellowes) and Nellie (Rudd).—*R. D.*

GARDENING NOTES FROM SCOTLAND.

Deep Tith.—Much has been written on this subject, both in horticultural and agricultural journals, and judging from statements adduced by advanced agriculturists, in parts where high-class farming is a speciality, it is perfectly certain that those who have the greatest depth of well-cultivated land under manipulation have the least reason to complain of their lot in such adverse times as have been experienced by the farming community. The difficulty with which fields are trenched, and the great outlay of capital required to do the work well, is a barrier which cannot be removed by ordinary cultivators. The "trenching plough," so well known in Scotland, does good service, but falls short of what is required to make the returns necessary for remuneration commensurate with the labour entailed.

In the cultivation of culinary vegetables, few are opposed to systematic trenching, as affording scope for descending roots, acting as preventives against drought and damp; vermin and their deposits are turned down out of harm's way, and can be covered with gas-line sufficient to destroy parents and progeny; and soil which is rendered impure by manure, can, by moving a portion of the sub-soil to the surface, be much improved and fitted for any kind of crops. Trenching is of great advantage, to old gardens especially. Some consideration is, however, necessary as to depth of trenching, and it would not be difficult to injure land for years, if not permanently, by injudicious manipulation; some soils are so shallow and have such unwholesome sub-soils, which may be inert clay or sand, heavily impregnated with iron (sour and canker-producing stuff) which would be mischievous to any land if turned to the surface; but if such is turned over well in the bottom of the trench, and broken freely with the spade, and a good coating of road scrapings (wood ashes, vegetable refuse, rotten leaves, or such material), which can be had plentifully in some places, a great improvement can be made in the land.

We have often practised what we now advise with the best results; and it is because we have seen much evil accrue from turning up in quantity unwholesome subsoils that we offer this warning against such a practice. Where weather permits, or where a coating of manure is spread over the surface of land to render it fit for the spade, the present time is suitable for forwarding such work. It is suggested by some that it is inferior gardening if the vacant plots are not turned up early in autumn to the action of the weather. We do not care about doing this till the leaves are well down, and the litter caused by them is past; then a clean rough surface remains.

We would here also note that it is *not* first-class gardening where there are many vacant spaces ready to be turned up before December. We believe in close cropping, especially for supplies of vegetables during winter; and in this practice market men excel. It would not pay them to adopt the practice often advised of "turning up" to weather. It is only within the last week or two that we have had vacant space worth digging or trenching, and there is not much which we could turn up to the depth of two spades with propriety, the subsoil being almost inert; but the mixing of a portion with old manure-sick surfaces is beneficial. Where turf rubbish, lime, &c., has been turned down in quantity of late years, the land is in prime order now for trenching. The system of close cropping, as practised by market men, does a deal to keep land in good condition.

We are acquainted with well-known cultivators who cannot dig or trench their land before it is required for use, as it becomes sodden and unmanageable when exposed to the elements during winter in a loose condition; these are wet positions, and where the soil is somewhat muddy in nature. There can be no hard-and-fast lines given for the manipulation of land, as its consistency, strength, and sometimes position, has to

be considered. We have seen the hot haste and energy of young beginners, who wished to eclipse their competitors as cultivators, badly rewarded for their pains when they inconsiderately turned up subsoil which required years of cultivation to fit it for the production of good esculents. Abundance of good surface soil, such as is known as "made ground," is always valuable land. Such may be found in market gardens, and we have noticed it in Ireland, where "lazy bed" culture was adopted for Potatos.—*Caledonian.*

Kintore Horticultural Association.—The members of this association held their annual general meeting in the Free Church School, Kintore, Aberdeenshire, on Friday, 14th inst.; there was a good attendance of members. The balance sheet for the past year was read and approved, and the following office-bearers were elected: president, Mr. Alexander Copeland; vice-president, Mr. William Gould; secretary and treasurer, Mr. William M. Cunningham. A large and influential committee was also appointed.

The Winter in Scotland.—"Caledonian," at p. 311, describes the frost as being of a comparatively minimum character. This might apply to his locality, but as this is not stated it would seem to apply to Scotland as a whole. Snow also is said to have fallen "not even 2 ins." The Registrar-General's Report for December, 1886, says that that month was the severest we have had in Scotland since 1878. The weather since then has been exceedingly wintry, and skating has been very little, if at all, interrupted, and snow-fall has not only been 2 ins. but 6 ins. It of very great importance that climatology should be accurately reported, and statistics taken from, say the Registrar General's Report issued each month; otherwise, in consulting previous years, one gains an unsatisfactory result, and your journal should be a standard authority on that point as it is on floriculture, &c.—*T. W. Glover, Aberdeen.*

FROSTY WEATHER.

I HAVE found the frosts which have visited us since Christmas more destructive in my cold house than at any time during the past ten years; except, perhaps, the tremendous frost of January, 1881. I had prepared for a spell of frosty weather by keeping the plants in my house as dry about the roots as possible, and, in addition, as soon as sharp wintry weather followed the snowstorm of the evening of December 26th, I covered up carefully all that I could with newspapers, and there they have remained ever since; for frosty day succeeds frosty night so continuously, that it is no use to uncover, and watering must not be thought of. I can see that many things have succumbed: Richardias, Eupatoriums, Fuchsias, Heliotropes, &c.; but two plants among others have bravely and successfully held their own, viz., Phormium tenax variegata and Latania borbonica. That there has been a tremendous slaughter of the innocents I have no doubt, for my house is large, open at the bottom, having simply a flooring of slabs of slate, and it is very much exposed. I have abandoned the use of lamp stoves of all kinds, for they are a great nuisance and of little practical value in excluding frost.

I am afraid that many amateurs and cottagers having small unheated houses and frames have suffered the loss of many pet plants, so severe and persistent has the frost been. In the case of pits, a thoroughly dry bottom is of the first importance, and, when the pit is constructed, the bed should be dug out to the depth of 9 ins., and some brick rubble, stones, clinkers, or something of the kind, filled in to the depth of 6 ins. It this cannot be done, then let a raised bottom be made of 10 ins. or 12 ins. of coarse cinders and clinkers, with some finer ones placed upon the top to stand the plants on. Brick sides are best; but if they are of wood, some sods of turf should be piled up as an outside covering. See that the glass frame is rain-proof, and then, with a little extra covering in the case of severe weather, a great deal of frost can be excluded. It is when we are suffering from any cause of this kind that the nature of necessary precautionary measures become fastened upon the mind. Keeping down damp is a point of the first importance, and this is greatly helped by keeping the inside of the frame and the plants as dry as possible.

Soft-wooded plants are most difficult things to keep in such weather without heat, and, to give them a fair chance, the wood should be firm and well ripened, not young and succulent. Dahlia roots could be hung up in a living room, or any dry place free from frost, or

they may—failing any other means of wintering them—be put away in a box with some dry sawdust or cocoa fibre. Damp is the great enemy to guard against.

The snow has been a great protection to the roots of Roses and many things in the open air liable to harm from frost. But now the snow has cleared, or is clearing away, some mulching—such as a mixture of sheep dung and leaves, cocoa fibre, short fern, spent hops, tan, or anything of this character should be placed about the roots as a necessary protection. A fall of snow is of great value as a protection, and when it melts and another spell of hard frost sets in, some other covering should be provided.—*R. D.*

THE AMATEURS' GARDEN.

MANURE FOR HOT-BEDS.—The ground is still unworkable out of doors, and will continue so for some days to come, owing to the continuance of alternate freezing and thawing. Even on the approach of favourable weather the soil will be wet and plastic; consequently, it will be more profitable in the end not to attempt digging or trenching till the soil is dry. If frozen lumps of soil are dug down now they take a long time to thaw, and keep the soil in a saturated condition that is very disadvantageous to the roots of crops. While this state of things lasts, work of another kind may be pushed forward. Manure for hot-beds can be collected from various sources, and thoroughly mixed together after being well shaken up. The lough littery material, and especially the drier parts, should be put in the centre of the heap. If too dry, a sprinkling of water may be given, which will induce fermentation. Too violent heating should be avoided by occasionally turning the whole heap. Towards the end of the month, when forcing of all sorts of plants is commenced, the material will be ready.

PLANT FORCING.—For some weeks past the light and temperature have been unfavourable for bulb forcing, and with the exception, perhaps, of Roman Hyacinths, progress with this class of plants generally has been unsatisfactory. The plan adopted in many gardens of placing an inverted flower pot over the crowns of Hyacinths, Tulips, and similar subjects when just commencing to push their flower-buds is one that may be employed to advantage. This retards the foliage by preventing the access of light to it, while at the same time favouring the development of the flower-spike. As soon as this has gained a slight advance over the leaves, the inverted pots should be removed, and the bulb-pots placed as near the glass as possible. The previously yellowish green leaves will soon assume their proper hue, and the flower-stems having once got the lead will keep it. By this method the leaves will be short, robust, and stand erect, which is a point of great importance. Batches of various other things should be brought into the forcing house once a week or fortnightly, according to convenience and the quantity required. Good crowns of Lily of the Valley and Solomon's Seal may be potted up and introduced to heat at once. They will be found very desirable and useful subjects for the decoration of the greenhouse or conservatory when in flower. The forced crowns may afterwards be planted out in the reserve garden if desirable, where they will recruit sufficiently to be utilised again in the course of two or three years. For size of flower, continental crowns of Lily of the Valley are generally, however, reckoned the best. Deutzias, Lilacs, and Spireas may also be put in heat, and darkness has the effect of blanching the flowers of the Lilac.

GREENHOUSE AND CONSERVATORY.—Now is the time to give the climbers in these structures a general overhaul before the busy season comes on. Fuchsias, Plumbago capensis, Clematis, and other deciduous subjects may be hard pruned back, so as to keep them within reasonable bounds, and encourage the production of vigorous young wood, which secures an abundance of flowers in their season. These may also undergo a thorough cleansing if infested with insect pests of any sort. Passifloras of the P. cœrulea type, and Abutilons if they have done flowering, may also be treated in the same way; but evergreen twiners, such as Hardenbergias and Kennedias, should merely be thinned out, and the healthy young wood tied to the wires or other supports. Those who are fortunate in possessing K. Marryattæ will be delighted with the profusion of flowers it bears during the winter months, provided it is planted out in a house with a temperature ranging between 45° and 50° Fahr. Ghent Azaleas, when brought over in a young state, are generally flat bushy plants; but after attaining a moderate size should receive some sort of training. The cone or pyramidal form is the most accommodating where space is a matter of consideration, and looks as well as any.—*F.*

FILMY FERNS.

IN answer to "A. F. S.'s" enquiry (p. 318) whether it is possible to grow filmy Ferns in an ordinary sitting-room, I submit the following. Some eight or nine years ago I took a great fancy for filmy Ferns, for which I made a Wardian case, and placed it in my sitting-room window. I then obtained the following species, viz.:—*Todea superba*, *T. pellucida*, *T. Wilkesiana*, *Trichomanes radicans*, *T. r. var. dilatata*, *T. trichodeum*, *T. maximum*, *Hymenophyllum demissum*, *H. flexuosum*, *H. pulcherrimum*, and *H. Tunbridgense*.

The three *Todeas* I planted on the top of pieces about 1 ft. long of a dead tree Fern stem, which I had previously split up, and tied together again with stout wire, in order that the pieces might contain more soil. I then placed *Todea pellucida* in the centre of the case, *T. superba* on one side, and *T. Wilkesiana* on the other. At the base of *Todea superba* I planted *Hymenophyllum demissum*, pegging the creeping rhizomes to the old tree Fern stem, and at the base of *T. pellucida* I planted *Trichomanes trichodeum*, the rhizomes being pegged down in the same way. At the base of *Todea Wilkesiana* I planted *Hymenophyllum Tunbridgense*. The other species I planted in a row on either side of the *Todeas*.

The results were in every way satisfactory, except in the case of *Trichomanes maximum*, which never grew much; indeed, to-day it is not much larger than when I got it eight or nine years ago. This species, I fancy, requires more heat to grow it freely than what it enjoyed, especially in the winter months. The *Trichomanes* and *Hymenophyllums* planted against the tree Fern stems soon covered them, and the effect produced was very pleasing. They received no additional heat than the sitting-room afforded, and were not even covered over on cold nights. The consequence was I often found them on a cold winter's morning frozen hard, with drops of water hanging in icicles from the fronds, yet never found any evil results follow such treatment. Only a few days ago, *Todea superba*, which I have removed to a stand covered with a large bell-glass, was frozen hard, as were also the other species growing in the Wardian case. All the species of filmy Ferns are pretty, but the little *Trichomanes trichodeum* is quite a gem among them.

The soil I used for planting consisted of equal parts fibrous peat, chopped sphagnum and broken potsherds, with some silver sand and small pieces of charcoal all mixed together. As they became dry they were freely watered overhead, and the case kept close and shaded from sunshine. During the winter months they require very little water, not receiving any for two or three months sometimes. With the above treatment, *Todea pellucida* has produced itself freely from spores. As yet I have not observed seedlings from any of the others. A great number of other species come up, both native and exotic; among native Ferns are two very remarkable forms of *Scolopendrium vulgare*. One is a small crisped digitately-crested variety, and the other a crested variegated form.—*Devonhurst*.

FERTILITY OF ADIANTUM FARLEYENSE.

THE communication on this subject from your correspondent, Mr. James C. Durno, p. 296, conveys information of great interest. A further enlightenment on the question from him, when the spores he has obtained produce plants, will be looked forward to by many, I have no doubt. I never obtained spores from the plant myself, but when *A. Farleyense* was rare, a number of young plants, said by a very reliable authority to have been raised from spores taken from the true *A. Farleyense*, came into my hands. On maturing, however, they all turned out to be the plant known in gardens as *A. scutum*, which seems to be precisely of the same habit as *A. Farleyense* except that the latter is more ample, on account of its bearing barren fronds.

My own opinion is that none other than the fertile *A. scutum* will ever be obtained from the rarely produced spores of *A. Farleyense*, as the spore-bearing portion is no longer *Farleyense* so far as that part of the plant is concerned, but the plant known as *A. scutum*, from which I have little doubt *A. Farleyense* sprang as a sport. The subject is a very interesting one, however, as such a theory is not altogether favoured by what we already know of the reproduction of abnormal forms of Ferns from spores. Perhaps some of

your correspondents could throw some light on the question by recording their observations in raising crested and garden varieties of Ferns.

With respect to the plant referred to above as being generally known as *Adiantum scutum* in gardens, and which certainly appeared with us soon after *A. Farleyense*, it should be stated that the late Mr. Thomas Moore identified it with *A. Ghiesbreghtii*, but some botanists refer it to *A. tenerum*. Whatever its affinity to *A. tenerum* may be from a botanical point of view, it is totally distinct as a garden plant, and none who had ever grown the true *A. tenerum* would confound with it the broad-fronded *A. Ghiesbreghtii* (*scutum*), which has young fronds, frequently tinged with pink, as in *A. Farleyense*.—*James O'Brien*.

PANSIES IN POTS.

OF all my recollections of the Royal Nursery at Slough, thirty years ago, I think one of the most interesting was the culture of the fine English show Pansies in pots for exhibition. At that time prizes used to be offered at the May exhibition of the Royal Botanic Society for Pansies grown in pots, and in those days classes for them figured in the schedules of prizes of other societies also. I well remember the charming plants we used to produce in 24 and 32 size-pots, plants with five or six main shoots, each bearing one or two large, finely developed and perfectly marked flowers.

The plants were always grown from cuttings struck in July and August. For this purpose cuttings are much better than divided plants or slips. As soon as the cuttings were well rooted they were potted in large thumb pots and placed in a cold frame, and by October they were shifted into large 60 or 48-size pots, according to their size. In selecting cuttings for potting, those are best that promise to put forth some main shoots at the base, and then nice branching specimens result. They were placed in a cold frame all the winter, and air given on all occasions, taking off the lights entirely in fine weather, and allowing the fine autumn rains to fall upon them; when severe frosty weather set in the frame was carefully covered to keep it out. In February or early in March the plants were shifted into the blooming pots, using a rich free compost, good yellow loam, dung that was so friable as to rub to a powder, leaf-soil and some rough sand. As soon as the plants were established in their blooming pots, every encouragement was given; they occupied a frame facing the south, but due precaution was taken that they did not become drawn, and no brown thrips were suffered to gather on them. As soon as the roots reached through to the sides of the pots; some liquid manure was given, but sparingly, overdoses of this stimulant sometimes killing the plants; as the sun gained in strength the frame was shifted to a cooler and moister place, and everything that could be done was done to produce large, stout and finely-laced flowers.

The best liquid manure for Pansies is sheep's dung and cow dung put into a tank with two divisions, the dung in one, and the other for the purpose of running the water from the dung into; two-thirds of clean water should be added to one-third of the liquid manure, and given to the plants in the morning. This is quite strong enough for vigorous growers; in the case of weakly growers it will be better to use it a little more diluted. This is the way to have the fine show Pansies in all their beauty; but how few grow Pansies in this manner. But let an amateur try, and if he is at all successful he will be pleased with the result.—*R. D.*

A BOUQUET OF CHRISTMAS ROSES.

AFTER the long spell of severe weather with which we have been visited, it is gratifying to receive a box of Christmas Roses in full bloom, from plants grown in the open air and fully exposed to the rough weather. This was sent us by Mr. George Stamp, nurseryman, Bishop's Teignton, Devon. Amongst them was a distinct and pleasing variety of the Christmas Rose proper. This is described as *Helleborus niger ruber*, and must show its distinctive character best in the half-expanded state. The sepals, in this condition, are of a lively rose-purple colour externally; but when fully expanded, the inner ones are somewhat paler, while the interior face is white, appearing suffused with a pale blush by transmitted light; but this also varies according to the stand-point of the beholder. A deep

green blotch at the base of each sepal adds considerably to their attractiveness; and the styles are red, as in *H. niger altifolius*, together with the purple-spotted stems of that variety.

The other species and varieties sent belong to those not yet popularly recognised as Christmas Roses; but which, moreover, from their distinctness, ought to be grown in every garden where hardy plants are treated as a speciality, and the gardener takes an interest in this class of plants. About twelve distinct species of *Helleborus* are known, and, with very few exceptions, might be cultivated in gardens to the great advantage of those who desire showy flowers for cutting purposes, either to group by themselves or mix with other ornamental subjects that require either toning down, or brightening up as the case may be. There is ample material for such a purpose amongst the small number of cultivated species of *Hellebore*, and hybridists are yearly augmenting the number or improving their colours.

In this group *H. olympicus* is conspicuous for the size of its white flowers, greatly assisted by a setting of large handsome deeply cut and serrated bracts. This is a feature not possessed by *H. niger*, and one of the recommendations of this class. The ordinary foliage is evergreen, but does not present such a fine fresh, green appearance as the leaves and bracts on the flower stems. The expanded flowers measured over 3 ins. in diameter, and if they had received the protection of a hand-glass would, no doubt, have been greatly improved in purity. A variety of this species named *H. o. Willy Schmidt* is a great improvement on the type, with apparently somewhat smaller flowers. The whole flower has a lighter appearance when in bud than the parent, but as it expands the three inner ones are of a delicate, clean and pure white, with a pale green blotch at the base. A variety named *H. guttatus* Frau Irene Heuermann, has evidently much of the blood in it of that truly grand *Hellebore*, *H. colchicus*. The sepals in bud are of a deep purple, but internally are spotted, or rather closely punctate all over with this colour on a paler ground. The petals, usually green in most species, are tipped with purple, and the whole flower relieved in the centre by a mass of pale yellow stamens. It is a handsome kind, and together with the other forms belonging to *H. colchicus*, should receive the best attention from cultivators. The flowers are distinct, with a deep peculiar shade of purple that is by no means common amongst flowers, especially amongst out-door winter-flowering plants. For this reason they have a telling effect, whether cultivated alone for their own intrinsic beauty, or as a contrast to the late-flowering varieties of *H. niger*, for mixing with white flowers of its own class, or other perfectly distinct subjects.

H. atro-rubens is a distinct species, but there are evidently several forms of it in cultivation, differing chiefly or solely in the intensity of the purple colour. Next to *H. niger* it seems also to be one of the most commonly cultivated *Hellebores* in gardens. There are pale rosy purple forms, with a green blotch at the base of the sepals, but the specimens sent us are of a fine deep purple externally, and this is even intensified on the inner face, while the two inner sepals are very fine. There is no danger of confusing this with *H. colchicus* or any of its varieties, seeing that the latter has flowers of a deep violet-purple, often suffused with a glaucous bloom, especially later on in the season, while the flowers of *H. atro-rubens* are of a reddish purple, more or less intense, according to the variety.

CHRYSANTHEMUM GOLDEN GEM.

THIS is a new Japanese variety, which has been introduced as a valuable late-flowering novelty, and last week was exhibited in such perfectly fresh condition by Mr. Robert Owen, of Maidenhead, as to well deserve the good opinions that have been given of it. It is a decorative variety, of much the same stamp as *Boule de Neige*, being of good habit, free-blooming and naturally late; the flowers when they are open are of a bronze-crimson shade, but soon turn to pure bright yellow. Mr. Owen obtained First Class Certificates for it from the floral committees of both the Royal Horticultural and National Chrysanthemum Societies, with blooms cut from plants in 48-pots, and which, he informed us, had required much heat to get them out for the dates of the meetings. We have enough varieties of *Chrysanthemums* in all conscience, but naturally-late bloomers are a desideratum, and as such we welcome the appearance of *Golden Gem*.

AN HOUR WITH THE CACTI.

At the ninth monthly meeting of the Preston and Fulwood Horticultural Society, held at the "Legs of Man" Hotel, Fishergate, a paper on the above subject was read by Mr. John Atherton, the secretary. The chair was taken by the president, Edward Garlick, Esq., J.P., and at the close of the meeting a vote of thanks was accorded to Mr. Atherton for his instructive paper, from which we extract the following:—Of succulent plants there are 950 species or thereabout of Cacti alone, distributed through thirteen genera. Besides these we have Aloes, Agaves, Yuccas, Echeverias, Sempervivums, Sedums, Gasterias, Mesembryanthemums, and other things of a like nature, which, taken together, make a sum total of 2,000 species or more. The name Cactus was first employed by Theophrastus, and is a very old one, seeing that Theophrastus, who lived to the age of 106 years, died more than 2,000 years ago.

It is true there is more real beauty in an English hamlet, where the great Oaks shelter the cattle and sheep, than in the dusty sunburnt plains, and the vast rolling deserts of sand, where thousands of these strange Cacti bask in the sun like basilisks, and appear weird and ominous in their gauntness and hardness, and their forbidding complexion and impassiveness. In this last character they provoke and exasperate the weary traveller, who finds no rest or relief amidst the monotony of rigid leafless Cacti and roasting plains. Plants of this nature seem quite at home, and delight in the burning sunshine, where Pelargoniums and similar plants would shrivel into dust. The wild horses, to save themselves from dying of thirst, will kick the Cacti to pieces in order to suck the pulp. By the time the rainy season returns the wounds of the injured Cacti have been dried up, and they grow away again vigorously. Such is a brief description of Cacti in their native home.

To illustrate his paper, Mr. Atherton exhibited before the society some fifty species and varieties from his collection, so as to render his explanations more easy. He commenced with the American Agave, and said the generic name was derived from Agavos, admirable, in reference to the stateliness of the flower-stems. *A. Americana* is called by some the century plant, from the popular but erroneous belief, that it only flowers once in 100 years. The time it requires to get strong enough for flowering depends on cultivation; and this state it attains in its native, or other tropical countries, in a few years. The old plant dies after flowering. One of these remarkable plants flowered some years ago at Claughton Hall, and was visited by a great many persons. The main stem runs up to a great height, and gives off lateral branches in a pyramidal fashion, bearing clusters of greenish yellow flowers that keep up a succession for several months. A full-grown leaf weighs about 12 lbs., and continues in health for many years.

The plant has some economical value, and an ardent spirit called pulque is prepared from its juice; a coarse fibre is made from the leaves, and an extract used as soap. He showed the variegated form and said that no plant was more useful for the decoration of terraces and halls.

The true Aloes come chiefly from the Cape, and the Agave from America; the former numbers more than eighty species, and ranges from 4 ins. in diameter to as

clothed with spines on the ribs, and believed that the boundary between Mexico and the United States was formed of several rows of these singular plants, which resemble telegraph posts, and live for hundreds of years. *C. peruvianus* flowered in his collection, and had pale primrose sweet-scented flowers about 5 ins. long. *C. p. monstrosus* he described as a most singular piece of vegetation. *C. Mallinsoni* is a slender-stemmed species, and the exhibitor testified to its free-flowering qualities by having bloomed a specimen with ninety of its rosy pink flowers. The Rat's Tail, *C. flagelliformis*, is often grown in cottage windows.

Echeveria is named after Echeveri, a botanical draughtsman, and the species of this genus are better known and more valuable, as evidenced by the thousands of *E. secunda glauca* used for bedding purposes. *E. agavoides*, *E. scaphylla* and *E. retusa* are useful, especially the latter, for winter-flowering.

The Gasterias, closely allied to the Aloes, were next discussed and illustrated by *G. verrucosa* with long racemes of red and green flowers. The Opuntias are popularly known as Indian Figs, and have flattened, jointed, leaf-like stems. The lava from Mount Etna, is in many places covered with spiny bushes of *O. vulgaris*, whose purple juicy fruits are sold in the neighbouring markets. Mr. J. R. Jackson, of Kew, describes *O. cochinitifera* as deriving its name from the cochineal insect, which feeds upon the plant; this species is now placed in the small genus *Nopalea*. Whole plantations of these Cacti exist in Mexico, New Granada and the Canary Islands. The bulk of the 2,000 tons of the cochineal insects annually imported to this country are obtained from the two latter-named places. They realise about £400 per ton.

In the nurseries, called Nopalerias, where these plants are grown in rows, and not allowed to attain 4 ft. in height, these insects feed by the million, and are known to entomologists as the *Coccus Cacti* of Linnaeus. The female insects are placed on the plants annually about August, the operation being called sowing. They breed rapidly and grow fast, so that the cochineal harvest commences about the end of four months. The in-

sects are brushed into a basket, and afterwards killed by immersion in boiling water, or exposure in heaps to the sun. When dry they are ready for exportation. They are then sent to the London and Paris markets to minister to the luxuries of civilised life. It takes about 70,000 insects to weigh a pound. *O. monacantha* and *O. maxima* were then described. The latter, on being accidentally injured, gradually bleeds to death. *O. cylindrica* has round instead of flat stems, and *O. tunicata* is ribbed. The Haworthias are small interesting plants, closely allied to the Aloes. The species of *Echinopsis* are globular spiny plants, and are believed to have saved the lives of many, both man and beast, from dying of thirst. A plant of *E. formosa*,



CHRYSANTHEMUM GOLDEN GEM.

many feet. It is chiefly noted for the drug of the same name obtained from the juice. The best Aloes of commerce is obtained from *A. Socotrana*. Various methods of obtaining the drug are employed. The leaves are cut off and allowed to drain, or they are cut into pieces and boiled for ten minutes, when the water is evaporated. *A. arborescens* was shown and described as a common window plant; *A. albospina*, *A. glaucescens* and *A. humilis* were also described; *A. inermis* is a free-flowering species; and *A. variegata* is extremely common in cottage windows.

He next called attention to the genus *Cereus*, and described *C. giganteus* as forming enormous cylindrical columns 40 ft. to 50 ft. in height and 2 ft. in diameter,

in the reader's possession for sixteen years, has never bloomed nor given off a new shoot. The Mammillarias are also distinct. The Stapelias are known as the Carrion Flowers of Africa from their foetid smell, which causes insects to lay their eggs on them. Various other things were shown and described, such as Yuccas and Pilocereus senilis. A plant of the latter, shown at Preston, was, unfortunately, so badly used by inquisitive visitors that it died. Numerous Sem-pervivums were exhibited and described, including herbaceous and sub-shrubby species, the latter of which were compared to the Banyan tree, on account of the long roots sent out by the stem.

The cultural requirements of these plants are few. Little or no water is required in the winter season, seeing that their fleshy stems transpire but little, but require protection from frost. They should have all the light and sun possible, and require little or nothing else till spring, when growth recommences. They have brilliant colours in various shades, and flower chiefly during the months of May, June and July. Propagation is very easy, and when offsets are not obtainable they may be struck from cuttings of the upper part of the stem, which have been dried by exposure before insertion. He cultivated the whole of his fifty species in good fibrous loam, mixed with sharp river sand, in well-drained pots; and, after eighteen years' experience, considers this the best all-round compost. He also recommended them to be grown by amateurs having only small greenhouses or even a window at command.

GARDENING MISCELLANY.

Twenty Degrees of Frost, and the wind due south. Such was the outlook here in the neighbourhood of Birmingham at 7 a.m. this morning. I fear, owing to partial but very rapid thaws, it is true of very brief duration, but which here considerably reduced in bulk the protective covering of snow, the crippled state of very many valuable shrubs will be but too evident at the break up of this bitterly severe weather. Rosarians too, will have sufficient cause for anxiety on the prospective loss of very many of their favourites, for a rapid thaw of a few hours' duration only has been, on more than one occasion, succeeded by an intense frost, which, with the wood dripping wet, must have told heavily against them. It is, however, useless to anticipate misfortune, the exact result can only be awaited with anxiety, and those members of our craft who have taken every human precaution, in the way of a good surface-dressing in the autumn, for the former, with an additional covering of dry litter for the latter, can, whatever the effects of the frost may be, console themselves with the thought that nothing has been omitted likely to be conducive to the well-being of the plants in their charge. In our fickle climate it is difficult at all times to know what to do for the best—for several succeeding winters all precautions taken may appear quite superfluous; the result may be about the same had they not been adopted; and one does not care to see blowing about an otherwise tidy place a quantity of loose covering material. Nevertheless, it is the only satisfactory method to adopt, for however unsightly such a system may appear, there is still remaining the inner consciousness that your level best has been done to guard against the inroads of an enemy, the effects of whose presence can be both seen and felt.—*J. H. H., Jan. 17th.*

Ampelopsis japonica.—The *American Gardeners' Monthly* says that some of the English nurserymen are selling the common poison Vine, *Rhus radicans*, under this name, and are being badly punished for their deceit or ignorance. The newspapers report numbers being badly poisoned by handling or cutting it. They will be as sorry for introducing this pest after awhile, as Americans are for importing their sparrows.

Pæonia Moutan for Forcing.—To have flowers of this grand Pæony blooming in mid-winter is no small matter; but that it can be done is evident from the specimens sent to our office by Mr. McLean, Vinter's Park, Maidstone. The delicate beauty of the flowers surpass anything of the kind bloomed in the open ground during April or May. This, of course, arises from their not being subjected to low temperatures, frosty nights, cold blasting winds and other unfavourable contingencies to which they are exposed in the

open; even after taking the precaution of protecting them with some light awning during the night, especially in frosty weather, from the time the buds commence to expand or the shoots begin to grow, till the flowering period is over. The specimens sent us were from plants grown in the open ground, lifted, potted and brought into heat, only about a month ago; so that we have evidence that this Pæony is readily amenable to forcing. The foliage has a clean healthy glaucous green colour, and the petioles furnished with an attractive crimson stripe on the upper side; the flowers diffuse a not disagreeable odour, and the petals are of a delicate rose colour, with a much deeper tint towards the base, and well-formed, numerous, smaller and more deeply coloured towards the centre.

Utricularia Humboldtii.—This grand plant, after repeated attempts, has been successfully imported from the Roraima Mountain by Messrs. F. Sander & Co., of St. Albans. The plant has stout fleshy roots, and bright green leaves borne on long foot-stalks. The handsome flowers, which are carried on stout stems, often a dozen on a stem, are of a rich blue with white centre. They are each $2\frac{1}{2}$ ins. to 3 ins. across, and showier than any blue flower of recent introduction. It was discovered by Schomburgk in 1838.—*J. B.*

Rise v. Fall in Hot-water Pipes.—Your correspondent, "W. P. R.," has not helped to clear the gathering mist from about our present system of heating, viz., as to the rise in the flow-pipes. He takes occasion to refer to what I stated in your issue of November 20th, confusing in a certain degree my remarks. Read carefully, my meaning is clear: "The valves of this house (namely, the highest) had to be left with the least possible openings, increasing the openings as levels fell." This remark substantiates my meaning, that rise is conducive to a quick and ready circulation. Does "W. P. R." mean to advance the theory that water acts on the rules of contrariness; that is, when piping is placed on different levels with valves full open, that the water flows as readily into the low levels as the highest? He does not give variations of levels. He says, in a house 170 ft. from the boiler, some of the pipes are 18 ins. below the flow at their departure from the boiler. It is essential here to state the highest level of pipes in this house in relation to the boiler; also the different levels of houses in relation to each other; and the piping that the water has the greatest tendency to heat. As he made his observations when on a visit, I might add, that I learned what I have stated from years of attention given to the apparatus as stoker. From the various positions of boilers to houses throughout the country, no end of controversy arises; but the question at issue is which is the best, rise or fall. A close observation will, no doubt, in time elicit the true facts, and remove doubts that perplex not a few.—*Alexander Methven, The Gardens, Pelaw House, Chester-le-Street.*

A Cure for Mildew.—The *American Gardeners' Monthly* states that its excellent French correspondent, M. Jean Sisley, says it has been found in that country that about six pounds of salt to 100 quarts of water has been found a complete cure for mildew and other low cryptogamic forms of plant life that bother the cultivator. This is likely to be a very valuable hint. Salt has always been known to be injurious to vegetation, in large quantity, but it has not been known that a smaller quantity will kill fungi, and yet not harm the higher forms of vegetation. It seems to us that even a lesser quantity than that named might be used first with the water.

Should Chrysanthemum Cuttings be Watered?—To me this seems the most absurd question possible to ask, more especially when it comes from practical men, which I have good reason to believe it does. But since Chrysanthemum growing has become so popular with amateurs, such a question would be pardonable from them. Even then it is not a question of yes or no, but one that requires a great deal of judgment. Were the question put to me pointedly by an amateur, I should be inclined to join in Mr. Boyce's recommendation, "to inspect very closely before doing so," but at the same time I should be very sorry to say yes or no as an answer. But if put to me by a professional man, I should consider myself in a fix, and the only answer I could give would be, "use your own judgment." Taking the case from an amateur's point of view, I should strongly recommend them to be very cautious in watering their cuttings; at the same time

being equally so in not letting them suffer from want of it. If the cuttings receive a good soaking after insertion, as they always should do, they will not trouble one again with the watering-pot for, at least, a week or two, and at the first signs of damping, I have found a good remedy in sprinkling a little finely broken charcoal over the foliage. Airing and watering are undoubtedly the main features of success in striking Chrysanthemums, and this, everyone will admit, depends a great deal upon the position in which they are placed. If, as in many instances, this should be a warm corner of a greenhouse under hand-lights, airing should be very limited, and only given when there are signs of damping. But if the position be a cold frame, airing and watering will be found a far more tedious task, simply because one has to watch his opportunity with regard to favourable weather. Drought is undoubtedly ruinous to the Chrysanthemums in any stage of growth, and excessive watering equally so; therefore, I contend that it is not a question of yes or no as regards the requirements of water, but a question of judging for yourself to the best of your ability.—*Propagator.*

The Blenheim Orange Melon.—My name having been incidentally mentioned at p. 281 in connection with the first public appearance of this Melon, allow me to correct a clerical error, and to state that it was exhibited before "the autumn of 1880," viz., both at Oxford and at the Royal Horticultural Society's Gardens, South Kensington, on June 8th, 1880, where it gained first prize in both cases. The judges were very pronounced in their praise of its good qualities, and the whole of the gardening press commented in highly favourable terms thereon. Moreover, the public evidently appreciated the taste of it, for by the end of the second day's show, both the fruit and the seeds had nearly all disappeared, whilst there were over thirty fruit in competition with the above, which were not apparently meddled with. The worst part connected with the light-fingered gentry who helped themselves to the seed, was that they were bold enough to offer for sale that same season Melon seeds asserted to have been grown from the seeds they had plundered. Such reprehensible conduct needs no comment, but new Melon raisers may take a hint. Messrs. Carter purchased the entire true stock, but, doubtless, both they and the Melon's reputation suffered in consequence of these spurious seeds, seeing that the only way to keep Melons true is to grow one kind only. Blenheim Orange was next sent to the Royal Horticultural Society, South Kensington, on September 14th, 1880, and there gained higher honours, viz., First Class Certificate. This fruit was cut from a house with sixteen plants and about seventy fruit, averaging 4 lbs. each. It originated by crossing Hero of Bath and Read's Scarlet Flesh, and partakes of the characters of both parents, having the broad bands of coarse netting of the former with the more delicate and handsome fine netting of the latter; sometimes the fruits are most evenly marked, and at other times one or the other form of markings predominate. At that time orders were received from employers not to grow any other kind, and I may add that similar orders are in force at this place now. Given a good holding loan and generous treatment, the above kind (if true) will not fail to please the most fastidious.—*W. Crump, Madresfield Court.*

Another Good Melon is the Welford Park Seedling, raised by Mr. Charles Ross, of Welford Park, Newbury. Grown in the same pit as Blenheim Orange, it is six to eight days earlier, and it was pronounced to be of better flavour here, which is saying a good deal in its favour.—*John A. Colthorpe, Summerville, Dunmore East, Waterford.*

Cement Wash for the Walls of Hot-houses.—Your correspondent, "B. L.," in last week's issue, p. 314, calls attention to the lime-washing of walls in fruit houses and elsewhere, after the annual scrubbing of woodwork and glass, which is usually carried out at this season of the year, and recommends the addition of some alum boiled and mixed with the lime-wash to increase its adhesiveness. I consider the use of lime-wash, either plain or coloured, rather objectionable in hothouses, more especially on the back walls of lean-to Peach houses; for with the daily syringing the skin soon gets broken, and both foliage and fruit get bespattered with the fragments, which stick tenaciously to the downy skin of the fruit, requiring considerable care in removing it when the fruit is

approaching maturity. A simple wash, which I have found to answer better, is one made of Portland cement, with water added to the consistency of thin paint; this, when dry, is a pleasing shade of colour, and does not wash off when syringing. For the inside walls of potting sheds and out-houses, which are often bare rubble, lime is, perhaps, preferable, and a little copperas, more or less according to the shade of colour required, should be dissolved and added to it. It makes the wash more adhesive and gives a nicer appearance.—*Alex. Laing, The Gardens, Salisbury Green, Edinburgh.*

Butchers' Broom Fruiting.—A fruiting spray of this curious shrubby lilaceous plant has been sent us from Vinter's Park, Maidstone, bearing berries of an unusual size. Some of the largest resemble small Morello Cherries, but are very much flattened instead of round, so that their diameter is considerable. Mr. McLean says that the bushes have fruited regularly in the woods there for the past nine years. The past summer would seem to have been favourable to the fruiting of this, the only British shrubby Monocotyledon, as we have seen it fruiting freely elsewhere, although the berries were not equal in size to those sent us.

Senecio Ghiesbreghtii.—Although this is merely a Ragwort, it may be described as a giant amongst its kind, and never presents a weedy appearance like what we are accustomed to see and expect in the genus. It branches very sparingly, and is usually confined to a single stem, furnished in the upper part—if of any considerable height—with large, oblong, very shallowly cut leaves, so that the whole plant is not very suggestive of a Ragwort, as the name affirms it to be. The size of the foliage, when liberally treated, makes it a useful subject for the sub-tropical garden during the summer months; and it so readily submits to lifting, that at the end of the season it may be transferred to pots, and placed in a greenhouse or conservatory where a sufficiently high temperature is maintained for winter-flowering plants. Under these conditions it will generally throw up an immense umbel of flower-heads, which, in the aggregate, are very attractive amongst other more familiar subjects. Coloured and uncoloured illustrations of the species are given in Regel's *Gartenflora*, 9, 296.

Ruellia Herbstii.—As a winter-flowering subject, this Acanthaceous plant possesses great merit; but, notwithstanding its good qualities in this respect, it is a much neglected plant. It first flowered at Kew in 1859, and was introduced to that establishment from Brazil. It has also been flowering for some weeks past in the Begonia stove there, and may be described as a showy or highly attractive plant when in flower. The corolla has a long, slender, pinkish tube, abruptly bent and widened near the apex, where it is purple with a small spreading white limb. Flowers are freely produced in the axils of the upper leaves, when the plant appears quite gay. It should frequently be renewed by propagation from cuttings, and grown on freely in order to obtain bushy plants well furnished with leaves at the bottom. There is a figure of the plant in the *Botanical Magazine*, t. 5156, under the name of *Dipteracanthus Herbstii*.

Clivia Gardeni.—Although the flowers of this species cannot compare in brilliancy with those of *C. miniata*, especially those of the recently distributed and much improved forms, they nevertheless possess an attraction of their own, and form a striking contrast to those of their more intensely-coloured relative. Some owners of gardens who take a special delight in the occupants of their greenhouses would doubtless prefer the more sober tints of *C. Gardeni* to the deeper shade of *C. miniata*. Another recommendation of this plant is that it will succeed perfectly in either a stove or greenhouse where a temperature is maintained for flowering plants of that class generally. When the drooping umbel first peers above the foliage, the flowers are of a pale yellow tinged more or less with crimson; but as they become fully developed, they assume a more decided crimson hue, with a green tip. The perianth is narrow and tubular, owing to the segments never becoming expanded as they do in *C. miniata*. The plant is not bulbous, but has thick fleshy roots supporting a large quantity of leathery deep green foliage, and being evergreen, should never be allowed to suffer from an insufficiency of water. It flowers freely at this season of the year, and requires no special treatment beyond being potted in a good rich fibrous loam, and freely supplied with water when the foliage is making its growth.—*F. J.*

Libonia floribunda.—Possibly, the greatest fault of this plant is its liability to lose the greater part of its leaves if subjected to some sudden check, such as an insufficiency of water, or too low a temperature. This is a fault common to many species of Acanthaceous subjects, and the best way of getting over the difficulty is to grow on a fresh stock of plants annually from cuttings. These may be struck in March in a temperature of 60° Fahr., and, after they are sufficiently rooted, may be potted singly, and grown on uninterruptedly with liberal treatment, such as is accorded to other members of this large family that are sufficiently ornamental to merit cultivation in our hothouses. Happily, these are receiving more attention now than formerly for winter-flowering purposes; 6-in. or 7-in. pots will be large enough in which to flower them. Keep the plants close to the glass while growing, and, in autumn, transfer them to a warm greenhouse, where they will keep up a display for several months.—*F.*

Echeveria retusa.—Comparatively few succulent plants can lay claim to the serious attention of horticulturists as winter-flowering subjects, but this *Echeveria* may be cultivated in considerable quantity, and will amply repay the little attention it requires in the way of cultural matters. Old plants of this species may be grown on from year to year, but it is much more advantageous to propagate it from cuttings annually. These, if grown on and treated somewhat liberally in the summer time when growth is taking place rapidly, will form nice plants by autumn well furnished with leaves to the base. They will also by this time be furnished with several flowering stems, varying from 12 ins. to 15 ins. in length, bearing terminal panicles of crimson and yellow flowers that last a long time in perfection. At this season the plants will enjoy a moderately high temperature, and must not be kept too wet at the roots, owing to their succulent nature. This species is a native of Mexico, flowers in this country from November to April, and is figured in the *Botanical Register*, 33, 57.

Coccocypselum discolor (C. repens).—The long creeping shoots of this plant render it a suitable subject for basket culture. Although a member of the same family as *Ixoras*, *Gardenias* and other shrubby plants of that class, there is a vast difference in its habit from that of its allies. The slender shoots are perfectly herbaceous and well furnished with foliage, which, when the plant has been well grown and properly exposed to the light, takes on a fine violet tint on the under surface; this, together with the green upper surface, is suggestive of the specific name. The plant would be more valuable for decorative purposes were the colour on the upper surface. The small pale violet flowers are altogether inconspicuous and worthless, but are succeeded by oblong berries about the size of Peas, and these assume a fine deep blue as they approach maturity. They are borne in axillary clusters all along the stems, and under good treatment create a fine display at several periods of the year, but particularly in autumn and winter. The stems attain a length of 12 ins. or more, and hang over the edges of the basket in an elegant manner. It is a native of Brazil, and requires stove treatment.

Magnolia fuscata.—Many of the *Magnolias* have large and magnificent flowers, but the plants as a rule attain the dimensions of large shrubs or trees, so that their cultivation indoors is impracticable or undesirable when they are sufficiently hardy to resist the severity of our winters in the open, or with the protection of a wall. *M. fuscata*, when planted out, will grow to the height of 6 ft. or more, but may readily be cultivated in pots, and will flower sufficiently freely to deserve what little attention they require. The habit is close and bushy, and the branches well furnished with moderate-sized evergreen leaves, while flowers will be freely developed on plants not exceeding 1 ft. or 2 ft. in height if raised from cuttings. The flowers are small, brownish in colour, and individually insignificant, but disseminate such a delicious odour amongst a collection of greenhouse or conservatory plants, that this species deserves the best attention on that account alone. It comes from China, and succeeds perfectly in a cool house. In large houses it may be planted out with advantage. Young plants are easily propagated from cuttings of half-ripened wood, put in small pots of sandy soil and placed in a cool structure till callused, when they may be introduced into a temperature of 50° Fahr., where they will root in the course of the winter.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

FUCHSIAS.—Now will be a good time to look over and finally prune back the whole stock of Fuchsias. All danger of damping is now past, so that the pruning may conduce to the generally-adopted pyramidal form of growing. Unless required for early flowering, water must still be withheld, or they will start into growth, which is undesirable. The varieties adapted for early work must, of course, be previously noted; placing in heat at random will surely result in failure. So far, we know of nothing to equal, for *very* early work, the old and, I may say, now despised *Venus de Medici*, which, under pressure, we have flowered and staged three times in one season. *Souvenir de Chiswick* and *Rose of Castile* are likewise admirably suited for early flowering.

In starting the old plants, water must be withheld from the roots until growth has fairly commenced, when the ball may receive a good soaking preparatory to being turned out and re-potted. The general culture is so well known that I will not dilate upon it, but simply advise that the compost used for the early-flowering plants be even lighter than generally used. For house decoration, Fuchsias are almost useless unless specially placed; but for conservatory work, in vases or grown as standards, they are almost indispensable, and have a pretty effect.

ALLAMANDA NERIIFOLIA.—Another valuable old plant for early decorative work is *Allamanda nerifolia*, which may readily be had in bloom by the middle of February. When used as a single specimen, it is much admired, its deep yellow flowers contrasting conspicuously with its bright foliage. It is most amenable to treatment, forming dense bushes, which may be kept at any desired size; at the same time it is advisable to strike a few cuttings annually to take the place of some of the older stock, which, from the continual pruning back, become somewhat unsightly. It delights in a strong compost, consisting principally of loam and leaf-soil; and requires to be potted rather firmly, so as to conduce to a sturdy growth, because, being of shrubby growth, compactness is desirable.

THE FORCING HOUSE.—We have to-day removed some Azaleas, Deutzias, Lilacs, &c., from the forcing pit to the stages in the intermediate house, where they will keep in flower much better than if placed in a cooler temperature, such as the greenhouse, where, probably, many Heaths, Epacris and other plants requiring a low temperature are staged. Make the main sowing of Cyclamen without delay; and should the stock of Gloxinia bulbs be small, a pan of seed may be placed in heat, the most forward plants from which will be found most useful later on.

THE FORCING HOUSES.

EARLY FIGS.—Where early Figs are required for dessert, it will be necessary to make a start. Generally speaking, plants in pots are preferable for first early work, and greater success can be relied upon with them, as bottom heat can be given at will. In any case the plants must be placed where they are to remain until the fruiting season with them is over.

It will also be advisable to stand the pots on a bed of prepared soil, so that they may root through into it, this will be found to greatly assist the fruit in swelling; the manure round the pots will very greatly assist in preventing evaporation, and as the Fig is so very impatient of drought when growing, this is a consideration. At all times the syringe should be freely used upon the plants, except when the fruit is ripening, when if used cracking will ensue. A temperature of 50° by night, with a rise of 10° by day, will quickly start them into new growth, and will be sufficient for some time to come.

STRAWBERRIES.—Take care that sufficient and frequent batches of Strawberries are introduced both on the shelves in the Peach houses and the vineries where available, removing as growth proceeds into suitable positions for procuring a "set"; it is only by carefully regulating the plants that a full supply can be maintained unless (as ought always to be the case) separate houses are devoted to the culture of this fruit. We have lifted and placed in the Mushroom house a dozen more stools of Rhubarb, and we hope within a few days to make up another Mushroom bed; the one spawned

on the 3rd of December, is showing well all over the surface.

THE KITCHEN GARDEN.

GENERAL WORK.—While the frosts prevail, continue the wheeling out of all necessary material for the dressing of the squares according to the crops which it has been decided shall occupy them. At the same time it will be advisable that the manure be placed in good-sized heaps instead of being spread, so that as much of the ammonia as possible may be retained. With burnt refuse it may be wheeled on, and as digging proceeds it can be spread on the surface, particularly on the squares to be devoted to Potatos.

As soon as the seed hampers arrive, let them be unpacked and placed on the shelves and in the drawers of the store-room. If this precaution be not taken, many—such as Cabbage, Radish, and such-like—will be found badly mildewed when the time comes for sowing. I would also recommend that litter, or better still, if to hand, bracken Fern be placed over the Broccoli in the squares; undoubtedly, many will be killed outright unless precautions are taken.

A sowing of Brussels Sprouts now made inside a frame, from which the lights can be removed at will, will be found preferable to boxes, both for this and Cauliflower, as they are much less liable to damp off.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Phalænopsis aphrodite.—Our correspondent, "B. Q.," p. 317, in reply to "F. R. M.," p. 301, is right in asserting that *P. aphrodite* was the first introduction of the genus, and just such a plant to make cultivators at home long for more of the relatives of those magnificent plants popularly known as Moth Orchids. Unfortunately for science, Lindley—usually a careful man—committed a blunder that has never been rectified since in gardens, nor is it likely to be for many years to come. If science endeavours to press its claims upon the attention of horticulturists in general, it is likely to meet with much stubborn resistance, or reticent complacency, which is equally provoking. Nomenclature in gardening is very conservative; while, on the other hand, science is a rank radical, very persistently changing the classification or the nomenclature of plants, with the professed intention of simplifying these systems, and rendering them more scientifically correct. This may be edifying and instructive if thoroughly grasped, but is productive of much confusion amongst gardeners generally who are unacquainted with synonymy.

The plant under notice here, when first flowered by the Messrs. Rollisson, of Tooting, was misnamed *Phalænopsis amabilis* by Lindley, seeing that *P. amabilis* of Blume is a totally different plant, and now generally known in gardens as *P. grandiflora*. Dr. Reichenbach, in a German publication, was the first to call attention to the mistake, so that *P. amabilis* of gardens should henceforth be known as *P. aphrodite*. It is easily recognised by its large white flowers, is readily distinguishable from the true *P. amabilis* by its comparatively short labellum, and when out of flower, by its broad, rounded or obovate leaves, that have always a darker green hue than those of *P. amabilis*, and are generally suffused with a purple tint on the under surface, or all over in the young and growing condition. Figures of this species are given in the *Botanical Register*, 1838, t. 34, in the *Botanical Magazine*, t. 4297, and in other works; but, of course, under the wrong name.

Cymbidium elegans.—From W. Macdonald, Esq., of Woodlands House, Perth, we have received a grand raceme of this rare and handsome Orchid. The flowers remain in a half-opened condition, after the manner of *C. Mastersii*, but are productive of a fine effect when seen in a mass. The raceme sent us bore little short of fifty flowers, all well formed and in bloom, and the effect of this may be imagined when the whole of this number are so densely arranged as to overlap one another for two-thirds of their length. They are uniformly of a pale yellow colour, excepting the medium ridge or crest of the labellum, which is of a much deeper yellow. The colour very much resembles that of some garden varieties of the Daffodil, and is certainly not very common amongst cultivated Orchids. The labellum, which is usually spotted internally with blood-red, is, in this instance, almost devoid of such

colour. The leaves are narrowly ensiform, or sword-shaped, and spring from a bulbous root-stock. The species well merits cultivation on account of its numerous flowers, and their peculiar and distinct colour. Its usual period of flowering is autumn, and Mr. Macdonald may be congratulated on having flowered it at this dull season. It is a native of some parts of India, particularly of Nepal, and is figured in Lindley's *Sertum Orchidaceæ*, t. 14.

Malformed Cypripedium Lawrencianum.—A flower of this useful species has also reached us from Mr. Macdonald, Woodlands House, Perth, and which is of great size and substance. This is most evident in the standard or upper sepal and the labellum. Both these organs are also highly coloured and normal, excepting the labellum. At the lower end of the pouch is a peculiar laterally compressed triangular process, about $\frac{1}{2}$ in. long, projecting in front from the anterior part, and of the same colour as the rest.

Cypripedium insigne, var Chantinii.—Two large and handsome flowers of this variety—an indication of good cultural treatment—were also sent us by Mr. Macdonald. They were originally bought as distinct varieties, but there is nothing to indicate that they are in any way distinct from each other. The only difference between them and the type may be that the lower sepal is somewhat more distinctly spotted than usual.

Oncidium Phalænopsis.—The flowers of this pretty and interesting Orchid are by no means large, but exceedingly attractive. They are comparable to those of the well-known *Oncidium cucullatum*, and the whole habit of the plant is also similar. A considerable range of variety presented itself amongst a number of specimens flowering in the establishment of Mr. William Bull, at Chelsea, where we saw them the other day. The ground colour of the sepals and petals is white, or of the softest blush, but under the dim light and smoky atmosphere of London at this season, it is often difficult to detect these soft and delicate shades of colour. In some varieties the base of these organs were furnished with a distinct purple blotch, while in others this was broken up into a number of smaller blotches or spots. The labellum is a strong feature of the flower, and serves to give it character. The white ground colour is purer than that of the other parts of the flower, and attractively spotted clear violet-purple near the base, with a yellow disc. It is essentially a cool-house Orchid, and occurs at very high elevations in its native country, Ecuador, and is by no means common in collections at present. The species is figured in the *Illustration Horticole*, 3 ser., t. 3, and in the *Orchid Album*, ii, t. 96.

Goodyera discolor.—When seen in a healthy thriving condition, as we saw it the other day in Messrs. Veitch & Sons' nursery at Chelsea, this Orchid creates a fine effect in the East Indian house at this season. The individual flowers are large for the genus, but small when compared with the generality of popular cultivated Orchids, but when seen in masses have a striking and relieving effect against its own dark bronzy foliage, or if associated with green-leaved Orchids belonging to other genera. The upper velvety side of the leaves is furnished with a pale grey or white band along the centre, while the under side is purplish red. The flowers are of the purest shade of white, excepting a medium-yellow blotch on the labellum, and lasts a long time in perfection during the winter months. The flower-stems attain a height of 8 ins. or 10 ins., and are freely and regularly produced every year. This is one of the few Orchids with ornamental foliage that cultivators allow to develop its flower-stem. The persistent part of the plant is a rhizome, and by division of this with a bud to each piece after the flowering period is over, affords a ready means of propagation. The plant may be grown in a pan or basket with plenty of drainage, and when the surface of the soil is well covered with foliage, this forms a handsome and satisfactory subject for cultivation. A figure of the species was given in the *Botanical Magazine*, t. 2,055.

Ansellia africana.—Amongst the larger-growing kinds, this is one of the most useful from its habit of flowering regularly during the month of January, and lasting a long time in perfection. The upright stems sometimes attain a height of 3 ft. or 4 ft., but will flower with great freedom although not exceeding 2 ft. or 2½ ft. The plant belongs to the *Cymbidium* group, but the drooping panicles are

produced from the apex of the long stems; and if the flowers are only of medium size, their abundance compensates for this deficiency. Taken altogether, it is a noble Orchid, and one of the few epiphytes from Africa that deserve the attention of Orchid growers in general. The sepals and petals are of a bright yellow, beautifully spotted with dark brown. The labellum is more decidedly yellow in general appearance, but is also striped or blotched towards the base. A single panicle will sometimes produce nearly a hundred flowers. Rough fibrous peat, with a quantity of leaf-soil and sand, is a good compost in which *Ansellias* will thrive and flower satisfactorily. They should be grown in the East Indian house, with abundance of moisture when making their growth. There are two or more varieties in cultivation, and the type is figured in the *Botanical Magazine*, t. 4965, and in the *Botanical Register*, 1846, t. 30.—*J. F.*

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

On the afternoon of the 14th inst., the annual general meeting of the members of this institution was held at "Simpson's" 101, Strand, when there was a fair average attendance of officers and subscribers. The chair was taken at 3 p.m. by the treasurer, Mr. Harry J. Veitch. The minutes of the previous annual meeting having been read and confirmed, the secretary, Mr. E. R. Cutler, read the report of the committee of management, which congratulated the subscribers on the continued success and prosperity of the institution. During the past year ten pensioners died, four of whom left widows unprovided for. Three of these, in accordance with rule 7, had been placed on the pension list in succession to their husbands. The collecting cards, issued in the autumn, brought in £185 15s. 9d., after paying all expenses in connection therewith; being £42 8s. 9d. in excess of the collection made in 1885. The resignation of the late treasurer, E. Tidswell, Esq., was announced with much regret, as during his tenure of office he had worked hard to increase the revenue of the institution. The committee had, in the interim, elected Mr. Harry J. Veitch to the office, and it would rest with the subscribers at that meeting to confirm the appointment, or reject the nomination of the committee in favour of some one else. The 43rd Anniversary Festival, which was presided over by Mr. Sherwood, resulted in the largest subscription list that had ever been raised at the annual festivals. The institution was under a debt of gratitude to Mr. Sherwood for the very earnest manner in which he had pressed its claims upon the generosity of the profession. The next annual festival was announced to be held on June 29th, when Baron Ferdinand Rothschild, M.P., would preside. Ten pensioners were to be elected that day, making the total on the books 122, or four in excess of the total in 1886. Six would be placed on the list in accordance with rule 6, and the others elected by votes in the usual way. Although the revenue of the institution had increased, the report stated that the number of candidates had increased also, and in a larger ratio, the number of applicants this year being seventeen, and the committee appealed for further assistance to enable them to meet the pressing claims made upon the institution.

The report of the committee and statement of accounts, given below, were unanimously adopted. The election of Mr. Veitch as treasurer was also unanimously confirmed; and Mr. John Bolton, Regent's Park Terrace, Mr. H. Ballantine, The Dell, Egham, Mr. W. Denning, Combe Lane, Norbiton, Mr. J. Douglas, Great Gearies, Mr. J. Ridout, Woodhatch Lodge, Reigate, and Mr. J. J. Saxby, Spring Gardens, S.W., were elected members of the committee, in the place of Mr. Sherwood, Mr. R. Ker (deceased), Mr. Bruce Findlay, Mr. J. Laing, Mr. J. Roberts, and Mr. A. F. Barron, who retired by rotation; Mr. John Lee, Mr. J. F. Meston, and Mr. Jesse Willard were elected auditors; Mr. H. Bollen, Mr. J. Webber, Mr. E. W. Cathie, Mr. G. Munro, and Mr. W. Richards as arbitrators; and Mr. E. R. Cutler as secretary for the 46th time. It was also resolved that as two deaths had occurred since the voting papers had been sent out, the two next highest on the poll that day be also elected.

At five o'clock the result of the poll was declared, when it was found that the six having the highest number of votes were Mr. W. Wadds (1211), Mrs. Elizabeth Cole (1172), Mrs. Harriett Chapman (1095),

Mr. Samuel Perkins (1053), Mrs. Ruth Hood (904), and Mr. David Day (840).

In the evening a number of the subscribers and friends of the Institution dined together, under the presidency of Mr. Russell Gole. The gathering was a larger one than at any previous annual meeting, and the evening was most agreeably spent by all present. During the after-dinner proceedings, Mr. Sherwood was presented by the committee of management with a handsomely illuminated address, in the following terms:—

“At a meeting of the committee of the Gardeners’ Royal Benevolent Institution, held on the 4th of October, 1886, it was resolved unanimously that the thanks of this meeting be presented to N. N. Sherwood, Esq., for his great kindness in presiding at the forty-third anniversary festival in July last; for the eloquent and able manner in which he advocated the cause of the Institution, and for his liberality and that of his friends on that occasion. Signed, John Lee, chairman; Harry J. Veitch, treasurer; E. R. Cutler, secretary.”

In acknowledging the compliment paid him, Mr. Sherwood stated that for twenty years he had taken great interest in the Institution, and what he had done for it had been done with a great deal of pleasure. He was much gratified with the result of the annual festival, and he hoped, in the future, to be able still further to contribute of his time and worldly goods to the cause of the Institution.

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.

—Jan. 13th.—Mr. Bruce Findlay, the president, in the chair. The president said the subject to be brought before the members that evening—“Fruit Trees, their Selection and Cultivation”—was an important one, for he thought we might look upon it as a national calamity when the Apple and Pear crop failed, and a blessing when the crops of these delicious fruits were good. It was no uncommon thing to go into gardens in the neighbourhood of Manchester and other parts, to see trees that will not bear fruit. This is mainly due to the unsuitable kinds planted, and the non-observance of other important conditions. The members were met together that night to gather some information from Mr. Petch on this subject, upon which he was well posted, and had devoted a considerable amount of time. We knew that the Rose is called the queen of flowers, and he thought we might say that the Apple is the king of fruits. It was pleasing to the eye, useful for food, and we all desired its increase.

Mr. J. R. Petch then read his paper, which dealt with four kinds of hardy fruit, namely, the Apple, Pear, Plum and Cherry. The Apple, he said, was the earliest of all fruits mentioned, and was the most esteemed in all temperate climates. The Apple was indigenous to this and almost every other country in Europe, but in its wild state, he believed, it was not found in America, though many excellent varieties had originated there during the present century. The Apple might be grown in any ordinary soil that was not too wet, but it succeeds best on good loam with a gravelly subsoil. He had seen good Apples grown under very unfavourable circumstances, but great care was required to produce the magnificent fruit that

adorned our exhibition tables. Many of these were grown on single cordons on the Duocin or paradise stock. He could not too strongly recommend his gardening friends to avail themselves of every opportunity of filling up each vacant place on their walls with good cordon Apples or Pears, more particularly the former in our northern climate. There were far too many unsuitable varieties now planted, and it was far better to have five or six good trees of one sort than a large collection of inferior or unsuitable kinds.

Mr. Petch gave a long list of what he considered to be the most suitable kinds of Apples to be grown in this district. With reference to the Pear, he said it is indigenous to most of the European countries, and it required, generally speaking, a warmer climate than ours. It was, therefore, only in the southern and western counties and the Channel Islands, that the Pear obtained the highest state of perfection, but in fine seasons very excellent fruit might be gathered in the northern and midland counties. It was not until the beginning of the present century that the cultivation of the Pear became general in this country, most of the varieties at that time being worthless. It was to Belgian cultivators that we were mainly indebted for some of the finest Pears. Professor Van Mons, of Brussels, alone raised upwards of 80,000 seedlings, and spent the greater part of his life in carrying out his favourite study. Though not the raiser he was the introducer in 1816 of the grand Pear known as Marié Louise. He should very much like to see more orchard houses in this part of the country than there were now, as they would be invaluable to many gardeners. Fine dessert fruit could be produced there even in an unfavourable season. He was surprised to find how much more orchard houses were used in some counties than in others, and generally speaking they were fewest in those places where there ought to be the largest number.

Like the Apple and Pear, the Plum was indigenous to this country, where several of our best sorts had originated, including Coe’s Golden Drop, Prince of Wales, Woolston Black Gage, Victoria and Early Prolific. Scotland had also added to the list of useful varieties, and some of our best cultivated sorts claimed their origin from that country. The Cherry in its cultivated state was first introduced into Britain by the Romans in the second century. In 1415 the fruit was sold in the streets of London. In 1842 the Horticultural Society’s catalogue contained eighty sorts, and many more had since been added to the number. The paper was of a very practical nature, and contained many hints and suggestions for the benefit of gardeners who might feel a desire to cultivate any of these four kinds of hardy fruit. On the table were laid some exceedingly fine specimens of Apples, all of which, said Mr. Petch, might be grown in Lancashire.

Some members present differed with Mr. Petch as to the suitability of all the Apples he had named for cultivation within a radius of some three miles of the Manchester Town Hall, and a suggestion of Mr. Robert Tait on the subject was received with great favour by the meeting. It was that gardeners employed within a radius of five or ten miles of the Town Hall should hand in to the society a list of the Apples which they knew from experience could be cultivated in this locality, and that the president and secretary (Mr. W. B. Upjohn) should select the minimum number of the very best kinds for practical use in the district. A vote of thanks was passed to Mr. Petch for his paper.

STATEMENT OF THE RECEIPTS AND PAYMENTS OF THE GARDENERS’ ROYAL BENEVOLENT INSTITUTION FOR THE YEAR ENDING DECEMBER 31ST, 1886.

Dr.			Cr.		
£	s.	d.	£	s.	d.
To Balance, 1885	...	...	387	5	9
„ Annual Subscriptions... 1,311	2	0			
„ Donations at and in consequence of Annual Dinner	1,486	16 10			
			2,797	18	10
„ Advertisements	49	13 0			
„ Collecting Cards	185	15 9			
			235	8	9
			3,033	7	7
„ Dividends on Stock	633	0 0			
„ Interest on Deposits ...	22	17 3			
			655	17	3
			3,689	4	10
			£4,076	10	7
By Pensions			1,950	0	0
„ Secretary’s Salary			160	0	0
„ Rent of Offices			43	15	0
„ Furniture, Fittings, &c.			26	14	6
„ Printing			130	0	0
„ Advertising			3	19	0
„ Stationery			21	12	7
„ Book of Cheques ..			3	9	2
„ Expense of Annual Dinner			60	14	8
„ Postages, Travelling Expenses, and sundry petty Expenses			96	1	10
			2,496	6	9
„ Amount placed on Deposit			1,200	0	0
			3,696	6	9
„ Balances—					
At Bankers	£368	12 5			
With Secretary	11	11 5			
			380	3	10
			£4,076	10	7

Stock in 3 per cent. Consols, £21,100.

Audited 10th January, 1887. { JOHN LEE
J. F. MESTON
JESSE WILLARD.

QUESTIONS & ANSWERS.

CUPRESSUS NUTKENSIS v. THUJOPSIS BOREALIS.—H. C. C. (p. 317): Cupressus nutkensis is certainly a better name than Thujopsis borealis, of Fischer, and a more correct one. Its nearest relations in gardens is represented by Cupressus Lawsonianus, and this type has a much more distant affinity with the true Thujopsis, represented by T. dolobrata, from Japan. Like many other members of the Conifer family, this species has a very perplexing synonymy. The Genera Plantarum uses two other names, making this plant Thuja (Chamaecyparis) nutkensis; but for garden purposes Cupressus ought to have preference to Thujopsis.—A. G.—This Cypress is generally known in gardens under the name of T. borealis, which is really a synonym of C. nutkensis. It was discovered by Archibald Menzies in 1794, at Nootka Sound, Vancouver’s Island. It was first introduced to European gardens by the late Dr. Fischer, of St. Petersburg, under the name of Thujopsis borealis. It is commonly called the Nootka Sound Cypress.—B. Q.

GOOSEBERRY BUSHES.—H. C. (p. 318): In Scotland, where the climate is cool and comparatively moist, preference is given to the spur system of pruning, which enables the operator to keep the bush open in the centre, favouring the ripening of the fruit. In the south of England, however, where the air is drier and the sun acts much more powerfully, the fruit would be poor in flavour if exposed to so much sunshine. By merely shortening the shoots large bushes can be obtained in a shorter space of time, more fruit during that period, and that of better flavour. This latter mode of pruning seems to be gaining in favour, and certainly might receive a trial, by operating on a few young bushes to see how it answers in any particular locality.—Z.

NEPENTHES.—I shall feel greatly obliged if you will give me information as to the best time for potting Nepenthes; also most suitable soil, and should they be cut back annually?—Pitcher. [The most suitable or convenient time to pot Nepenthes is during the end of February or March, when they are about to start into fresh growth. They should also be headed down about this time, and if the old soil is in a sour or exhausted condition, remove it with the utmost care from the apparently dead, fragile roots, by cautiously loosening and washing it away in a bucket of tepid water. A mixture of good fibrous peat, chopped sphagnum, and potsherds broken to the size of hazel nuts, or smaller, will form an excellent compost in which to grow them. Put in pots with ample drainage, and hang them up close to the glass. They should be cut back annually within 6 ins. or 8 ins. of the base, which induces them to make bushy plants, and form the largest and best-shaped pitchers.]

PEAS.—I find that after William the First, Laxton’s Fillbasket and Harrison’s Glory does best here. Would any correspondent say, from his experience of these varieties, whether they would furnish a good succession for a general and late supply if sown in succession?—Omicron.

FORCING ASPARAGUS.—R. A. S. (p. 318): To form fresh beds with roots that have been forced, would not be very remunerative. If you have other beds that require renovating, the strongest of these forced roots might be inserted when top dressing them in the spring. Where Asparagus is forced annually, new beds are generally formed in the spring for that purpose. With reference to sowing, I prefer sowing the seed about the beginning of April in drills about 1 ft. apart, in ground that has been deeply trenched, and had a heavy dressing of well-rotted manure mixed with the soil. When the seedlings are about 6 ins. high, thin them to 9 ins. apart in the row. Remove them the following April to their permanent quarters.—J.

GREVILLEA ROBUSTA.—W. Glover: Plants of this class are propagated by cuttings under a bell glass, but require nice management. G. robusta is so much easier raised from seeds, that it is not worth the trouble and waste of time to raise them from cuttings. Seedling plants grow into fine shape very quickly, and are fit for general decorative purposes when they are from 12 ins. to 24 ins. high. Sow the seeds early in February in shallow well-drained pans, in a compost of finely sifted peat and sand, scattering them thinly and covering lightly; they will soon germinate in a temperature of 60° Fahr., and should then be kept near the glass till they are firm enough to pot off.

SENECIO PULCHER.—J. T. B. (p. 317): You need not experience any difficulty in raising a stock of this gay and useful late autumn-flowering border plant. It can be readily increased by means of root cuttings in the spring. The cuttings should be made about an inch long, scattering them on the surface of a pan of sandy loam and leaf soil, just covering them with sand. Place them in a cool frame, or on a shelf in a greenhouse. It is figured in the Botanical Magazine, vol. xcviii., t. 5,959, and described as an annual, which description is quite wrong, as it is a hardy perennial.—B. Q.

LILIUM AURATUM.—Should these bulbs have water when planted? Mine so treated last year moulded away. Would they suffer if planted like Hyacinths, without water till growth appears?—Violet. [The bulbs of Lilium auratum should be treated exactly the same as Hyacinths with regard to watering when newly potted. Cover up the bulbs entirely with the soil, and allow them to push a little way before supplying any water whatever. There is, or should be, sufficient moisture in the bulbs themselves to commence growth; and after that they will require an increasing supply of water, as the temperature rises and the plants develop in size.]

ERICAS.—R. S. O.: For winter and spring flowering, the following are useful, well-known and easily-grown Heaths, viz.—Erica hyemalis, E. Wilmoreana, E. melanthera, E. gracilis, E. ventricosa or some of its numerous varieties, and E. cafra. The last named flowers in autumn, E. ventricosa in spring, while the others are flowering now, more or less.

HELIOTROPE.—R. S. O.: We fear you will be unable to procure seed of Heliotrope; the plant is universally propagated by means of cuttings. If, however, you can procure seed, sow them

immediately and grow the seedlings on freely, shifting them as required till planting-out time arrives. They will be later in flowering than plants raised from cuttings, and larger in size.

NASTURTIUM.—*R. S. O.*: There are several double varieties in cultivation; but all that are perfectly double can only be propagated from cuttings. This is very easily done, and with a little bottom-heat the cuttings will be ready to pot off in the course of ten days, if they have been fairly well treated.

GARDENERS' YEAR BOOK.—*J. C. Wilson*: It will not be published again.

NAMES OF PLANTS.—*Reginald Young*: Epidendrum Candollei, very fragrant. The others are ordinary forms of the species named, except Cattleya Walkeriana, which is below the average.

NAMES OF FRUITS.—*J. Harding*: 1, Cox's Orange Pippin; 2, Blenheim Orange.

COMMUNICATIONS RECEIVED.—*A. D. W.*—*M. T.*—*W. K.*—*A. G. A. G. H.*—*J. Cocker.*—*W. B.*—*H. C.*

TRADE CATALOGUES RECEIVED.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham.—New, Rare and Choice Flower Seeds.

THOMAS SIBBALD, Market Place, Bishop Auckland.—Kitchen Garden and Flower Seeds.

GEORGE STAMP, Bishopsteignton, Teignmouth.—Catalogue of Hellebores, and General Nursery Stock.

WILLIAM RUMSEY, Joyning's Nurseries, Waltham Cross, N.—Catalogue of Select Seeds for the Garden and Farm, Seed Potatoes, &c.

AUSTIN & M'ASLAN, Nurserymen, Seedsmen and Seed Merchants, 16, Buchanan Street, Glasgow.—Spring Catalogue of Garden Seeds and Requisites.

CARNO & DARLING, 80, Union Street, Aberdeen.—Select List of Vegetable and Flower Seeds.

JAMES COCKER & SONS, Sunnypark, Aberdeen.—Catalogue of Vegetable and Flower Seeds.

M. CUTHBERTSON, Rothesay, N.B.—Catalogue of Garden and Flower Seeds, Hardy Perennials, &c.

THYNE & PATON, 18 and 20, Union Street, Dundee.—Catalogue of Vegetable and Flower Seeds.

LUCOMBE, PINCE & CO., Exeter.—Vegetable and Flower Seeds.

LONDON SEED TRADE.

January 19th, 1887.

Messrs. **HURST & SON**, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady sale for Agricultural Seeds. Red Clover now finds buyers at an advance on last week's prices. Alsike, White, and Trefoil unchanged. Italian Rye Grass in good request, Perennial Rye Grass firm. Bird Seeds unchanged. Blue Peas sell freely.

COVENT GARDEN MARKET.

January 20th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 6	3 6	Pine-apples, St.	1 6	6 0
Grapes, per lb.	1 0	2 6	Michaels, each	1 6	6 0
Kent Cobbs, 100 lbs.	65 0	70 0	Pine-apples, Eng., lb.	1 0	1 6
Melons, each			Strawberries, per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6	8 8	Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, per lb.	0 3		Onions, per bushel	4 0	5 0
Cabbages, per doz.	2 0	2 6	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	3 0	5 0	Sea Kale, per basket	1 6	2 6
Celery, per bundle	2 0	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatoes, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	8 0	Mignonette, 12 bun...		
Azalea, 12 sprays	0 9	1 6	Parne Violets (French), per bunch	7 0	8 6
Bouvardias, per bun.	1 0	1 6	Pelargoniums, per 12 sprays	1 0	1 6
Camellias, 12 blooms	2 0	4 0	— scarlet, 12 sprays	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 9	1 6
Chrysanthemums, 12 blooms	1 0	2 0	— single, 12 bun.	4 0	6 0
Chrysanthemums, 12 bunches	12 0	24 0	Pyrethrum, 12 bunches		
Cut Tulips, 12 blooms	1 0	2 0	Roses (coloured)	3 0	6 0
Czar Violets (French), per bunch	2 0	3 0	Roses, Tea per dozen	1 6	4 0
Epiphyllum, 12 blms.	0 6	1 0	Roses, red (French), per doz.	2 6	3 6
Eucharis, per dozen	4 0	8 0	— Saffrano (French), per doz.	1 6	2 6
Gardenias, 12 blooms	9 0	24 0	Stephanotis, 12 sprays		
Heliotropes, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Lapageria, red, 12 blooms	1 0	2 0	Tuberose, per dozen	1 0	2 0
Lapageria, white, 12 blooms	2 0	4 0	Violets, 12 bunches	1 6	2 6
Marguerites, 12 bun...	3 0	6 0	White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ferns, in var., doz.	4 0	18 0
Arum Lilies, per doz.	18 0	24 0	Ficus elastica, each	1 6	7 6
Begonias, per dozen	6 0	12 0	Foliage Plants, various, each	2 0	10 6
Bouvardia, per doz.	9 0	12 0	Hyacinths, per doz. pts.	9 0	12 0
Chrysanthemums, doz.			Marguerites, per doz.	6 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.		
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	1 0	24 0	Pelargoniums, doz.		
Epiphyllums, per doz.	18 0	30 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Erica gracilis, per doz.	9 0	12 0	Primulas inensis, p. dz.	4 0	6 0
— hyemalis, per doz.	12 0	24 0	Solanums, per doz.	9 0	12 0
— Regerminans, doz.	9 0	12 0	Tulips, per doz. pots	6 0	8 0
— various, per doz.	8 0	24 0			
Evergreens, in var., per dozen	6 0	24 0			

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tages are offered equal to any house in this country, and surpassed
by none in the United Kingdom. Some of the very "Rare Seeds"
are of my own special harvesting.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S. W.The ANNUAL GENERAL MEETING of the Royal Horti-
cultural Society will be held in the East Crush Room, Royal
Albert Hall, (entrance N.E. Orchard House, Exhibition Road),
on **TUESDAY, February 8th, at 3 p.m.**To receive the Report of the Council and of the Auditors.
To retire from the Society certain Fellows, under the provisions
of Bye-Law 22. To elect candidates for Fellowship, and other
business.N.B.—As this is an important meeting, Fellows are earnestly
requested to attend.**Next Week's Engagements.**

MONDAY, Jan. 31st.—Annual Meeting of the National Chrysan-
themum Society.—Sale of Japanese Lily Bulbs at Stevens'
Rooms.

TUESDAY, Feb. 1st.—Sale of Imported Orchids at Protheroe &
Morris's Rooms; and Clearance Sale of Nursery Stock at
Springfield Nursery, Sunbury.

WEDNESDAY, Feb. 2nd.—Sale of Plants and Shrubs at Stevens'
Rooms.—Sale of Lily Bulbs, Plants, &c., at Protheroe &
Morris's Rooms.

THURSDAY, Feb. 3rd.—Sale of Imported Orchids at Stevens'
Rooms.—Sale of Plants, &c., at The Chestnuts, Lavender
Hill, by Protheroe & Morris.

FRIDAY, Feb. 4th.—Sale of Imported Orchids at Protheroe &
Morris's Rooms.

SATURDAY, Feb. 4th.—Sale of Plants and Shrubs at Protheroe &
Morris's and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—**BACON.**

The Gardening World.

SATURDAY, JANUARY 29, 1887.

MARKET FRUITS.—Out of what crude materials
can a sensational leader in a daily paper be
manufactured! A few lines go the round of
the press to the effect that in Kent some of the
fruit-growers are grubbing up their orchards,
because of the unprofitable prices of fruit; and
forthwith a leader is concocted, which, accept-
ing the purport of this paragraph as gospel,
proceeds to discourse upon what bids fair, in
the estimation of the writer, to be a national
calamity. But even worse follows, for the
thousand and one persons, who have more of
courage if less discretion than angels, forthwith
rush into print, each one having his own pan-
acea for the ills which beset fruit growing, but
all leave us little the wiser.

That there should be some grubbing up of
old orchards even in Kent is probable, and so
far is hopeful; but we may take it for granted,
in spite of the apparent depression which exists
in the fruit-growing trade, that those who grub

up old orchards are not neglecting the requirements of the future, or, indeed of the present; and, whilst having other orchards in fruiting form, have also planted, or are planting, orchards for successional purposes. If we traced the origin of the little paragraph which has so much excited leader-writers, no doubt we should find that some local correspondent of one of the press associations, in his rural perambulations, espied an old orchard in process of demolition, and indited upon that fact—otherwise most uninteresting—an unpretentious paragraph, but a formidable inference. From such trifles sometimes do great causes spring. If all the old and comparatively exhausted orchards in the kingdom were to be grubbed up now, very ample employment would be furnished to a large body of men for some time hence, for the condition of many of those fruit orchards is anything but creditable to our taste or judgment.

On the other hand, there would be a very considerable demand for young trees were all these old exhausted orchards replaced by new ones. Even in the simple matter of rehabilitation very much of good might be done if the saw were put to work in the old and stunted tree heads, and a very liberal thinning given; if the stems were scraped, and dressed with some composition for the eradication of con-ferva, the soil beneath being broken to a moderate depth, and the roots helped with a liberal dressing of manure. Under such conditions even old trees might spring into a new life, and produce more really good crops of useful fruits. But, oddly enough, whilst so much has been made of this apparent decadence of fruit culture amongst us, based upon the assumed grubbing up of a few orchards, nothing is said as to the unquestioned expansion of new orchards in other directions. If this be not the case, then what has become of the tens of thousands—nay, more, hundreds of thousands—of young fruit trees which usually go out from our fruit-tree nurseries? Do these go out of the country? We very much doubt it; and they are not sent out in such exceeding numbers to be faggoted and burnt; of that we may be sure. It follows, then, that they are planted somewhere, and within the borders of the kingdom. How absurd, therefore, does it seem to pen a jeremiad over the grubbing out of a few orchards, when so many new ones are being formed!

Then, how many orchards have in the past been planted in the wrong localities or aspects? Too late has it often been found out that the soil is unsuitable, or the aspect is too cold or too much exposed to fierce winds, or some other objectionable element is discovered. Fruit culture under such adverse conditions is not only disheartening, it is folly, and the sooner it is agreed to root out the trees, and start afresh under better auspices, the better.

There can be no doubt whatever that all through our southern counties there are vast tracts of land that are equal in suitability of aspect and generosity of soil to the best Kent can supply, and where, with shelter, warmth and good cultivation, we ought to be able to produce crops equal to the best Canada or other favoured climes can send us. No doubt the giant obstruction in the form of restrictive land laws and customs and rental and rating exactions stand in the way, and will do so until outer competition has forced a drastic change. If, however, landowners would best study their own interests in the light of passing events, they would see that land can only be valuable as long as it is productive, and to make it productive is the most beneficent form of land management. We may just now be beset with some considerable market difficulties, but it will be a national misfortune when we cease planting fruit trees.

THE Exhibitions of the ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER, for the present year, will take place on the following dates: March 15th and 16th and April 29th, at the Town Hall; and the Whitsuntide Exhibition, at Old Trafford, will open on May 27th. The dates of the Carnation and Chrysanthemum Shows are not yet fixed.

WE are requested to state that the late MR. JOHN F. McELROY was the secretary to the United Horticultural Benefit and Provident Society for the space of fourteen years, and not eight only as stated in the obituary notice which recently appeared in these columns. Mr. E. G. Wheeler, foreman at Birr Castle, Parsonstown, is Mr. McElroy's successor at Moray Lodge.

ON Saturday last, MESSRS. WEBB's clerks, numbering about fifty, had their annual dinner at the Mitre Hotel, Stourbridge, and after full justice had been done to the excellent spread provided, Mr. J. P. Hitchings took the chair, and a varied programme of vocal and instrumental music was gone through in a very creditable style. The toast of the evening, "Success to Messrs. Webb & Sons," was proposed by Mr. Berrington, and honoured with great enthusiasm, which testified to the good feeling existing between Messrs. Webb and their staff. Mr. Hitchings responded on behalf of the firm.

MR. MAUSON, manager of the Golden Acre Nursery, Edinburgh, who has been appointed by the Liverpool Horticultural Co. manager of their Gateacre Nursery, was entertained at dinner by a large company of gardeners and friends in the Peacock Hotel, Newhaven, on Tuesday evening last. Mr. J. Cameron occupied the chair, and Mr. Morris, Hay Lodge, acted as croupier. On proposing the toast of the evening, "Our Guest," the chairman commented in eulogistic terms upon Mr. Mauson's practical knowledge of his profession, and his courteous demeanour towards all; and in the name of the company congratulated him on his new appointment.

THE annual general meeting of the ROYAL HORTICULTURAL SOCIETY will be held at 3 p.m., on Tuesday, February 8th, in the East Crush Room, Royal Albert Hall. The council having entered into preliminary negotiations with the Royal Albert Hall Corporation for the future accommodation of the society, questions of the utmost importance to the well-being of the society will come before the meeting. The council therefore hope there will be a large attendance of the Fellows on the occasion. The retiring members of the council are Mr. A. B. Mitford, C.B., Mr. W. Haughton and the Hon. and Rev. J. T. Boscawen, and the council recommend for election in their place Mr. George Maw, F.L.S., the Rev. W. Wilks and Mr. Arthur W. Sutton.

ABUTILONS FOR WINTER FLOWERING.

THE ease with which the improved garden forms may be flowered during the winter months, should ensure a more general cultivation than they now enjoy. Their distinctness from the general run of flowering plants at this season is another point in their favour which ought to be taken into consideration where variety is a desirability. Their lobed foliage is distinct and handsome, while there are several forms in cultivation whose foliage is so distinctly variegated or variously blotched, as to merit a place in collections for grouping and associating with the flowering forms, or to mix with other stove or greenhouse plants, in groups or singly as may be expedient. Their value in the summer flower garden or in sub-tropical bedding is also well recognised in some places.

For winter-flowering purposes they may be struck some time during the summer months, if small plants are most desirable, and immediately they are rooted should be potted singly. They grow rapidly, and, having a largely developed root system, require frequent shifting into larger pots to induce a continuous growth, as flowers are only produced by plants in an active state of growth. Some cultivators prefer plants confined to a single stem, and the neat cylindrical outline of plants grown in that manner is not devoid of attractiveness. They are well suited for table decoration in that size and form, and, although there is never a profusion of flowers at any one time, the succession produced constitutes a special redeeming feature of this deficiency; so that if the flowers are destroyed in the atmosphere of a room, the plants may be put back in a growing temperature and resuscitated.

A warm greenhouse or conservatory, where a temperature of 50° to 55° Fahr. is maintained, will form an admirable place for their reception, where they should be kept as near the glass as possible, to keep the foliage healthy, and the plants from being drawn. By the end of the winter these will have grown too tall for the purposes mentioned, and may be headed back to obtain cuttings, or planted against pillars or rafters to be trained and treated as climbers. If bushy plants are considered most desirable, they should be pinched back several times as soon as they have taken to the soil and recommenced growing after their transference from the cutting pots. Of course, under such a system of treatment, they will require to be rooted earlier for winter flowering than where they are allowed to run up without any check, and may be treated accordingly.

The undermentioned are flowering in the garden of the Royal Horticultural Society at Chiswick, where they form a pleasing and attractive background to double-flowered forms of the Chinese Primula in a well-lighted house with an intermediate temperature.

BOULE DE NEIGE has always been, and probably will always maintain its position as a useful and freely flowering white kind. The flowers are large and pure white, with the exception of the stamens, which are bright yellow. Some recommend the removal of these, as a blemish to the snowy purity of the flowers, but their absence would cause a void to which all lovers of natural beauty should object. This applies to the flowers in a cut state only, as no valid objection could be made to such colours on the plant, where all shades are well toned down by the ample vine-like foliage.

LA LORRAINE.—By way of contrast, the large brick-red flowers of La Lorraine are well marked and strongly characterised by a branching venation of a deeper tint. This is more or less evident throughout all or most Abutilons of this type; but is more distinctly seen in those varieties whose predominant colours are of some shade of red. In another form of this type—namely,

SOUVENIR DE ST. MAURICE—the flowers are of a different shade of red, and veiny. Reine d'Or is a clear canary-yellow, with deep yellow stamens. The individual flowers are large, freely produced, and have a fine effect contrasted with their own foliage or with the white and red flowers of the other varieties.

CLOCHETON.—The soft red flowers of Clocheton are also distinct, and may be compared to those of Azalea mollis; while another sort has large flowers of a distinct rose colour, shaded with darker veins.

VARIEGATED ABUTILONS.

No less interesting are the sorts whose leading feature is their variegated foliage. A. Thompsoni is valuable in summer flower-bedding, but does not seem to maintain its character for brilliant colouration in winter, owing, probably, to the great deficiency of the light at this season. The flowers are small and of no special merit compared with the numerous and comparatively recent improved forms that have been put into commerce by different cultivators. A double-flowered form of the last also keeps company with the rest, but the blossoms are small and do not seem to open freely, nor possess the desirable vigour required by a winter-flowering subject.

In striking contrast to the two latter sorts, A. Darwini is a picture of robust health, with a brilliant and attractive variegation. The brick-red flowers are of medium size and widely expanded, but the value of the plant, particularly at this season, resides in its leaves being closely and elegantly blotched or spotted with pale and creamy yellow on a deep green ground. The habit of the plant is dwarf, constituting it a valuable subject for the front row of a group either of Abutilons or other conservatory plants.

HELLEBORUS MAXIMUS.

UNLIKE your correspondent of last week (p. 328) from Bishopsteignton, Devon—who was able to send you a collection of Hellebores from the open garden—to have them in flower here by Christmas, we are obliged to have them under glass in November. My practice, which may be interesting to others situated like myself in a locality not so favoured by climate as Devon, is to lift them in October, placing them in 18-in. pans in good turfy soil; a cold Peach house suits them well, as they require no heat to bring them into flower. Plants so treated were in flower by Christmas.

I have produced three or four dozen blooms on each clump. After these plants have finished flowering, the

soil is all washed from the roots; then my rule is to make as many plants as there are leaves, afterwards to plant them out on a deeply-trenched, moist border. After two seasons' growth I lift them again. I grow several varieties, but there are none to equal *H. maximus* for size and freedom of flowering. 100 young plants, treated last year as above described, are bristling with buds, but not one has attempted to show a flower in the open border.

I may add that the washing away of the soil renders the operation of division very easy, as the leaves and roots spring from a creeping, woody stem, which may be separated at every leaf without injuring a single root.—*Wm. Allan, Gunton Park Norwich.*

THE HISTORY AND CULTURE OF THE GRAPE VINE.

A MOST interesting paper on this subject was read by Mr. Petch before a large meeting of the Birmingham Gardeners' Society, on Wednesday evening, January 19. Mr. Petch was well known many years since as a highly successful grower and exhibitor of Grapes, when head gardener at Ringwood Hall, near Chesterfield, and subsequently as head gardener to Sam Mendell, Esq., at the famous Manley Hall Gardens, near Manchester; since then, for several years, Mr. Petch has been one of the representatives of Messrs. Richard Smith & Co., of Worcester. No man is more capable of handling this subject, and the paper was so full of good, sound, practical information, that it met with most cordial appreciation from all present at the meeting.

After tracing the earlier history of the Vine, Mr. Petch gave information as to the construction of early vineries, planting and sorts, and stated that one of the principal causes of failure in inside borders is insufficiency of watering, especially after the Grapes begin to colour, often producing shanking in Grapes; but over-cropping and the Vines being planted in borders made too deep will often cause some varieties to shank. The formation of borders was especially referred to, and the best of soils is a good fibry loam from an old pasture, cut from 4 ins. to 8 ins. deep, with a sprinkling of 1 in. bones, a little wood charcoal (obtaining it from heaps burnt on most large estates; not charcoal that has been used for chemical purposes), some oyster shells, and, if obtainable, good old plaster ceilings from old buildings.

The maladies the Vine is subject to—Phylloxera, mealy bug, thrip, red spider and mildew, were specially explained and remedies recommended, and as a cure for the latter, to keep the house quite close on the hottest day, letting it rise from 150° to 180° and the mildew disappears. Mr. Petch also spoke of a similar remedy for curing mildew on Roses. Defective ventilation was also treated upon, and as producing scalding and warty excrescences. Rust and cracking were spoken of as preventative diseases caused by bad cultivation, and the liability of the Chasselas Musque to cracking can be prevented by shading from the sun's rays, Mr. Petch having adopted this plan so successfully at Ringwood Hall, growing this variety free from cracking, and quoted an extract from the *Cottage Gardener* of Sept. 8th, 1857, written by Mr. Thomas Appleby, one of the earliest and constant contributors to that journal—he wrote—"That variety called Gosling's St. Alban's or Chasselas Musque was here as yellow as gold, and without a cracked berry on it." This was the result of shading from the sun, and keeping the internal atmosphere as dry as possible.

The propagation of the Vine in the old fashioned way from layers, and the more popular manner from eyes were treated in full, and strong ones from old Vines recommended for planting. Inarching and grafting was practically explained, and the good effects resulting from grafting that very fine Grape, Muscat Hamburgh on to the Black Hamburgh was recommended, and references made to places where success had followed. Grafting or inarching black Grapes on to white varieties was a practice to be avoided as much as possible, as also was the use of very strong growing kinds of the larger bunched varieties as stocks, even the Black Alicante not making a good stock. Black Hamburgh was strongly recommended generally.

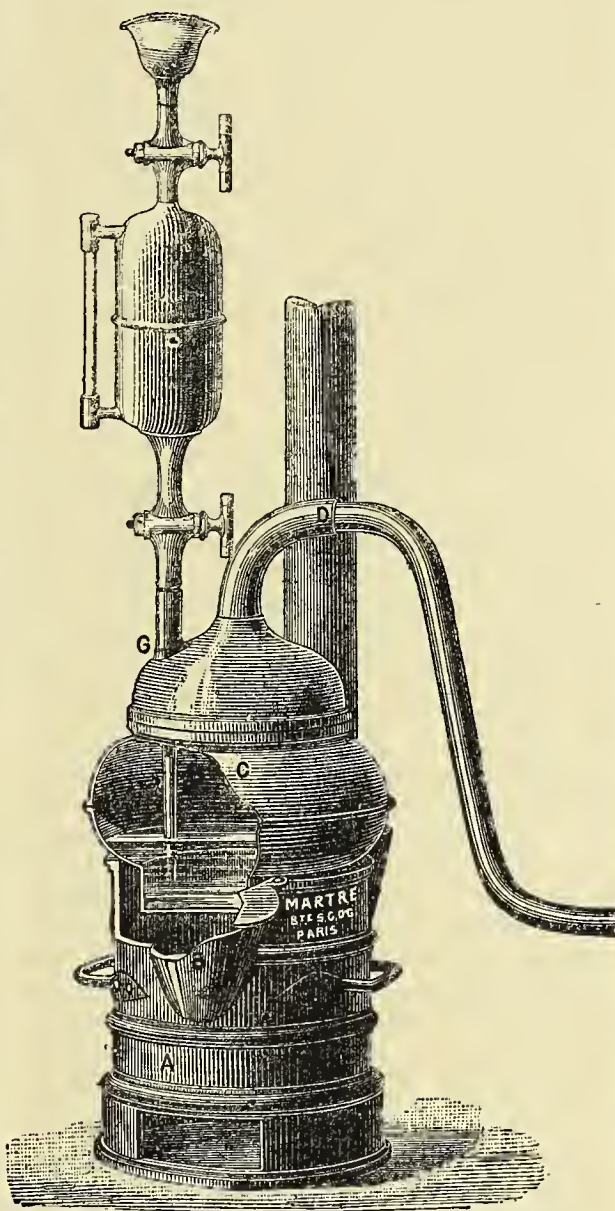
Pruning and temperature was well explained, and most suitable sorts were named for early, late and intermediate vineries. The whole subject was so well handled as to bring forth praise from many old practical gardeners who were present. Several questions were asked and answered, and some of the older members

corroborated various statements Mr. Petch had put forward. The paper is altogether so excellent a treatise that several of the members expressed a wish that it should be published for the benefit of the gardeners in the district.

Mr. Cooper sent, from the Highbury collection of Orchids, a well-done plant of *Odontoglossum coronarium*, rich in colour; also *Primulas* and *Cyclamens*; and Mr. T. B. Thomson, nurseryman and seedsman, Birmingham, *Primula* blooms of fine quality.

THE "THANATOPHORE."

IN our last volume (pp. 509, 556, 668) we directed the attention of our readers to the new method of destroying insects in our plant houses by means of Tobacco vapour, instead of by Tobacco smoke, and at the last quoted page (p. 668) we published an illustration of the new apparatus patented by M. Martre of Paris, for steaming the Tobacco juice. Since we first called attention to the subject, the new method has been well tried in this country, and there can be no



MARTRE'S TOBACCO-VAPORIZER.

doubt whatever but that the discovery of the insect-killing properties of Tobacco juice, by Mr. Boizard, is of the most important and valuable character. Mr. B. S. Williams, of Holloway, who has become sole agent in this country for the sale of the "Thanatophore," has proved it thoroughly, and satisfied himself that the nicotine vapour is a certain insect killer, while it does not injure the most tender flower or foliage. The apparatus, as will be seen in the accompanying illustration, has been improved in one material particular since it was first sent out. We allude to the reservoir with gauge glass, which in the first apparatus had to be lifted off with the hands for charging with Tobacco-juice, and which is obviated by use of the stopcocks fixed to the latest pattern. The Thanatophore is of copper, made in three sizes, the largest being capable of steaming houses of 300 cubic yds., and considering their substantial character are certainly not expensive.

THE ANCIENT SOCIETY OF YORK FLORISTS.

ON Wednesday evening, January 19th, the annual dinner of this ancient society was held, under the presidency of the Lord Mayor of York, at the "White Horse" Hotel, Coppergate, and a large number of members and friends responded to the following quaint invitation:—"Brother,—You are desired to meet the Fraternity of the most Antient Art of Gardening at the annual Feast of the Royal Society of Gardiners and Lovers of a Garden within the City and County of York: kept this Year at Mrs. Marshall's House, in Coppergate the 19th Day of January to dine with them, at Six a Clock: where you will be earnestly expected and kindly received by, Yor. humble Servts, T. E. Abbey, G. Cowper, G. Lamb, Stewards."

There is little doubt, says *The York Herald*, that the Ancient Society of York Florists has a strong claim to the distinction of being one of the oldest societies of the kind that is now in existence in the country. Though its origin is involved in obscurity, it is a well-authenticated fact that in the years long past a company of gentlemen, who had conducted an exhibition of flowers, formed themselves into a society which was named the York Society of Florists, in connection with which the following particulars will be read with great interest. They are taken from a book published in York in 1813, entitled "Rules and Regulations of the York Society of Florists, together with an abstract of the properties of the flowers shewn in the society, and a brief analysis of the manner of cultivating them as adapted to the climate of the city of York." The preamble is as follows:—

"Happiness being the ultimate end proposed by society, it is necessary that all proper, lawful, and effectual means be made use of to procure it. Two points appear essentially necessary to the constituting and supporting of every meeting founded on such a plan—the first showing the pleasure and advantages to be reaped—the second, the evils to be avoided. First, the pleasure that the cultivation of flowers affords sufficiently appears from their being the taste of the curious of all ages and countries; not only from their beautiful forms, lively tints, and grateful odours, wherewith they so highly regale the senses, but also from their real use. Flowers so forcibly strike the eye that they never fail to inspire us with a certain joy; and when we have sufficiently examined the fairest we are sensible they are designed to refresh the sight; the prospect they afford is pleasing, and we experience their power to be so effectual that the greatest number of those arts which are ambitious to please appear most successful when they borrow their assistance. Sculpture imitates them in its softest ornaments. Architecture bestows the embellishment of leaves and flowers on those columns and fronts that would otherwise be too naked. The richest embroideries are little more than foliage and flowers. The most magnificent silks are almost covered with these charming forms, and are thought beautiful in proportion as they resemble the lively tinge of natural flowers; for these reasons, great numbers, both at home and abroad, have employed their leisure hours in the delightful and healthful employment of propagating them with the greatest diligence. And as the taste for flowers and the pleasure of disclosing them to the view of others are almost inseparable, we consider their cultivators as an agreeable band or society who communicate to each other the observations their experience has enabled them to make.

"With these intentions a society assembled at York, on Wednesday, the 20th of April, 1768; and afterwards at a general revision of the rules on Monday, the 8th of February, 1813, which brings us to the second part—namely, the evils to be avoided. In all companies that have been formed to encourage any art or science it has been found absolutely necessary to frame certain orders or rules for the better conducting thereof; and also for the preventing disputes, particular opinions and self-interest; evils that have always utterly destroyed and brought into confusion the best designs, unless prevented by some speedy remedy. We, the present members of this society, having seriously considered these matters, and being truly desirous and, to the best of our power, willing to promote the cultivation of flowers, have, from experience, been sufficiently enabled to draw up, and likewise clearly demonstrate, the necessity and utility of the following rules." Then

follow the rules relative to the election of officers, the concluding one of which states that "any member refusing to take upon him the office of president, steward, secretary, or judge, shall forfeit the sum of half-a-crown, and the next in rotation shall be taken, or a new list shall be made if necessary." Proceeding, the rules set forth that any gentleman desirous of becoming a member must be supported by two-thirds of the members present, and "he shall, after signing his name to these regulations, and paying two shillings and sixpence unto the stock, be deemed a member, and have a copy of these rules delivered unto him." "The admission money, or fine, paid by every member, is one shilling on the Auricula, and sixpence on every other day of the show. The sum of sixpence must be paid by the owner of every flower shown for a prize unto the receiving steward at the time it is entered. There shall be annually five shows. . . . Each member to be allowed to show one flower in every class in each show, and no more, and to weigh one Gooseberry in each colour."

Detailed directions to exhibitors are then given, and in regard to the judging it is stated "every flower shewn to be privately numbered by the receiving steward at each show, and a sealed paper containing the numbers and owner's name of each flower to be delivered by him unto the president, who shall, after all the flowers are adjudged, open it and declare the prizes. Any member claiming a prize, or naming the owner of any flower shown before the president has declared all the prizes, shall be fined two shillings and sixpence, to be immediately paid. The secretary, under the direction of the president, shall nominate six persons at each show, and the members shewing flowers shall chuse three of them for judges." Following this are several rules for protecting the society against offences, such as "any person presuming to find fault," of a winning prize being "fraudulently made up," or of "cutting or clipping any part of a flower shewn for a prize," the penalty in such cases being fines of one shilling, two shillings and sixpence, or deprivation of the privilege of showing a flower for twelve calendar months; while for the more serious offence of "any members using false pods or petals, putting the interior in place of the exterior petals of Tulips, or practising any similar fraud in making up or dressing a flower for show," he should be immediately expelled the society. A *nota bene* states: "The evil consequences of political or religious disputes being self-evident, it is earnestly desired, and indeed presumed, that no member will introduce them, as such a dispute would compel the president to be peremptory in enforcing the above regulation," i.e., in the event of a dispute to impose a fine of one shilling, or to expel the parties from the room.

Then follow instructions to the judges. These stipulate conditions as to pots and phials wherein flowers are shown, and state that "all flowers, which the judges are convinced contain clipped or cut petals, must be delivered unto the president and the cause stated. Should any flower ever come under the inspection of the judges which is artificially made up as being pasted or glued, or containing false leaves or petals, bells, pips, pods or any part thereof, or Tulips with the leaves transposed, or which they are convinced are in any respect fraudulent, such must be also delivered unto the president, and the reason why explained unto him publicly. As it very seldom happens that any flowers are shown which can be considered perfect, the judges will have to decide which approach the nearest unto that state, and will, no doubt, examine strictly, first the form of such as are under their inspection, and, secondly, the colouring; and they will, it is presumed, always decide that those flowers are the best which, along with the best formation, carry the highest and purest colour, and the best distributed according unto the nature of the respective flowers they have to decide upon." Detailed descriptions are given of the properties of the Auricula, the Polyanthus, the double Hyacinth, the Tulip, the Anemone, the Ranunculus, the Pink, the Carnation, the Picotee; and instructions are added for the cultivation of most of the above-named flowers.

LACHENALIAS.—The stock of Lachenalias must now be looked to; a few of the most forward pots may be placed on the shelf in the intermediate house, so that they may precede the main batch. These early pots will be found most useful and lasting for house decoration, keeping fresh for a long time; added to which, the colour of the flowers is of a pleasing hue, and much appreciated. Do not allow them to suffer for want of water, dryness at the roots during the growing season will be fatal to them.

DEUTZIA GRACILIS.

How often do we see this chaste and beautiful plant grievously mismanaged? and that, too, in places where something different might reasonably be expected. The cause, however, is not far to seek. Its adaptability to exist and, to a certain extent, thrive under almost any conditions, renders it peculiarly liable to treatment which would be attended with greater risk if applied to a more intrinsically valuable subject. When well grown, however, *Deutzia gracilis* is worthy of a prominent position in every garden, particularly when in winter and early spring any great quantity of white flowers are required; and even as a specimen there are few more telling objects than a well-furnished plant of the same.

Its culture is exceedingly simple. Cuttings of the young and tender shoots cut clean below a joint, dibbled into sandy soil or cocoa-nut fibre, kept close and shaded for a few days, readily root, and if gradually inured to light and air, potted on as required and given an intermediate temperature, will make nice little plants for blooming the succeeding year. Useful furnishing stuff can then be obtained in one season. It is, however, with established plants, such as no gardener should be without, that I have to deal. These, after flowering, I have seen occasionally placed in the first position available; perhaps laid on their sides underneath a plant-stage, there to perfect that growth from which the following year's flowers are expected. It is useless to say such a method as this seldom, if ever, succeeds, and subsequent excuses are made to account for a poor display. Rational treatment will, however, obviate all this, and remembering that in good wood and plenty of it thoroughly ripened, depend all the elements of future welfare. The careful cultivator, who estimates at its proper value the beautiful subject under notice, will endeavour by judicious management to attain the end he has in view.

The plants being on the move—I allude to the time immediately following its blooming period—all that is required is to see that they are placed in a good light and open position, with a liberal supply of water at the roots; varied occasionally with good doses of weak liquid manure. If also a slight top-dressing of well-decomposed cow-dung and loam in equal proportions be added, the beneficial results will soon be apparent to the most casual observer. A Peach house at this period is, if available, an admirable place in which to grow your plants. The constant syringing, beneficial to the one, will be equally conducive to the welfare of the other. They may here be allowed to complete their growth, provided always that their position in the structure mentioned is sufficiently lighted. Should they exhibit a tendency to "draw," they should immediately be removed to a more airy situation. For the sake of argument, we shall suppose your plants have flowered in February, and the method here advocated has been adopted. By the middle of May the plants in question will be fit for removal to a cold pit or frame, there to remain for about another three weeks previous to being turned out of doors for the summer.

Now do not by any means allow them to receive a check, or very shortly afterwards a second growth will ensue, and this means leaves and unripe wood in September, when the plants, if required for very early forcing, should be at rest. Gradually inure them to any change likely to occur in their position, so that they may be kept steadily moving on to the end. Their deciduous character will then be perfectly apparent, and by the middle of September, the foliage having fallen, the plants will require only a limited supply of water, never, however, allowing them to become dust dry. At the commencement of October the plants may with advantage be placed in any cool dry situation, where they may remain until required for forcing purposes. About the last week in this month, if a few are placed in any structure where the night temperature does not fall below 45°, they will soon be on the move. When this is observed, by gradually increasing the warmth the plants may be hastened, and by the middle of January a quantity of graceful wreaths of flowers will be at your disposal. If a week previous to the complete expansion of their blossoms they be placed in a temperature of about 48°, their duration and beauty will be considerably prolonged to great advantage at this dull period of the year, when flowers are by no means too plentiful. If a few plants are introduced into heat at intervals of

a fortnight and treated as here described, *Deutzia gracilis* may be had at any time readily from the date mentioned till the middle of May. At this time other and more lasting subjects will be at hand to take the place of a plant which is undoubtedly, during the dreary and sunless period of the year, a "gardener's friend."—J. H. H.

WOODHATCH LODGE, REIGATE.

At the above place, within the last few years, a collection of Orchids has been gathered together, which bids fair to figure among the more noted. The owner is T. B. Haywood, Esq., and it must be gratifying to this gentleman to find them succeeding so well. The many grand examples of cultivation which are to be seen in the various departments, show that the treatment they receive is just what they require, and that their management is in the hands of a skilful cultivator. The credit of growing them is due to Mr. Ridout, who is to be congratulated upon the grand results produced.

Amongst those at present in flower are all the leading kinds of *Calanthes* familiar to us at this season of the year, and well done. *Cattleyas* *Holdfordii*, *maxima*, *Warszewiczii*, *Trianae*, &c., are in flower, and from the healthy condition of this class, and the innumerable sheaths showing, there will be a grand treat in store for the future. Many fine *Cypripediums* are also in flower, including varieties of *C. barbatum*, *callosum*, *calurum*, various forms of *insigne*, *Leeanum* in fine variety, *longifolium*, *Lowii*, *Roezii*, *Spicerianum*, and the almost perpetual-flowering *Sedeni*. A few *Deudrobiums* were also in flower, but the magnificent growths upon *D. Wardianum*, *D. thyrsiflorum*, *D. suavissimum*, *D. bigibbum*, *D. nobile* and *D. Devonianum* were very noteworthy. These, coupled with all the most popular varieties, will produce a fine display at the proper time. The lovely winter-flowering *Lælia albida* and *L. autumnalis*, in variety, are well represented; as well as the old favourite *Lycaste Skinneri*, in several forms.

Masdevallias are superbly done, including *M. Chelsoni*, *M. chimæra*, *M. coccinea*, *M. infracta*, *M. ignea*, and *M. superba*; this last was very fine. There were fine forms of *M. Schlimii*, of which one was a first-rate dark variety, with five or six flowers on a spike. *M. tovarensis* made a grand display. There are many fine well-flowered plants in 48-sized pots, several of which have twelve dozen pure fairy-like white flowers. Some of these are flowering for the third season from the same spikes, a fact well worth knowing. Mr. Ridout allows the old spikes to remain, and this is the result of his practice. Fine forms of *M. Veitchii* are also in flower.

The *Odontoglossum* house is a grand sight, containing many extraordinary fine forms of *O. Alexandræ*, from the purest white to the familiar spotted one, well known to us all, and bearing flowers of great size. *O. cirrhosum* was also in fine form; Mr. Ridout grows the latter with *O. Alexandræ*. The house containing them has a very shady aspect; no sun has reached it since October. The impression some people labour under is wrong when they state that *Odontoglossums* will not grow in the shade. The examples of *O. cirrhosum* here are amongst the finest I have ever seen, with fine branching spikes, many of which are showing over four dozen flowers; this, we must admit, is not bad. *O. constrictum*, *O. Londesboroughianum*, *O. odoratum*, *O. Pescatorei*, *O. Rossii majus*, with a glorious dark form of the latter, *O. sceptrum* and *O. tripudians* are nicely arranged, and produce a glorious and interesting sight. *Oncidium unguiculatum*, *O. ornithorrhynchum*, and *O. cucullatum* are also fine; and a few *Saccolabiums* and *Vandas* are also amongst those to be seen. Some very fine forms of *Saccolabium giganteum* are conspicuous, with their sweet-scented spikes. A pan of *Sophranitis grandiflora*, with a dozen bright flowers of a fine variety, is also very showy.

I must not fail to mention the magnificent specimens, *Odontoglossum vexillarium*. Of these there are many of different sizes, including some fine varieties. I have seen in my travels a great many, but never have I beheld such a fine lot of healthy plants as those here. In fact, I had no idea that *O. vexillarium* would grow so strong, and should anyone interested in Orchids visit this place, I think they will agree with me, and be well repaid for any trouble they may experience. Mr. Ridout is certainly to be congratulated upon the

satisfactory result produced, not only in the Orchid departments, but in the various other departments under his charge.—*A. Outram, Victoria and Paradise Nurseries, Upper Holloway.*

LATE-KEEPING APPLES.—II.

CULINARY APPLES.

Apples of this class are generally characterised by a large and imposing appearance, and it is to be regretted that their qualities do not fit them for dessert purposes. Their handsome proportions would have a telling effect on the table, and gain them many admirers. The great size, clear pale yellow colour, and keeping qualities of Golden Noble recommends this variety to the attention of growers in general. It keeps well till February and crops heavily. The Queen is a large, greenish yellow, red-streaked, flattened Apple, also characterised by a fine appearance, and keeps well. Blenheim Orange is well known and needs no recommendation farther than to say that there were 141 exhibits at the Apple Congress of this variety alone. A small Apple, by no means common, but one that merits cultivation, is that known as Hunt's Royal Red. Its bronzy red appearance and late-keeping properties are qualities in its favour, and those at Chiswick are not even ripe yet. Annie Elizabeth is a large, conical and angular sort, of first-rate quality for cooking purposes, crops well, and, up till now, has kept well. It has a fine glossy appearance, of a green colour when collected, but becomes yellow in the fruit room, with a rich red on the exposed side. This is one of the newer kinds, and likely to become popular. Gloria Mundi is a large flattened Apple, having a fine appearance, and on that account a favourite in many gardens. Its greatest fault is that in some soils it is considered a shy cropper, from the comparatively small number of fruits produced on a tree. The great size compensates for this deficiency in a measure, together with its good keeping and cooking properties. The skin is a greenish yellow and of clear appearance, while the flesh is acid, firm and solid, in consequence of which it weighs well. The above are merely a selection of the finest and best keeping sorts, as seen after the past changeable and unfavourable weather we have experienced since Christmas.—*J. F.*

GARDENING NOTES FROM SCOTLAND.

Discovery of a New Fern.—Mr. W. Wilson, Hillock, Terpersie, Alford, Aberdeenshire, has made a very interesting discovery of what has been pronounced to be a new Fern. While visiting the Coreen Hills some four years ago, Mr. Wilson found the Fern in question near a stream, and, being struck with its formation, took it home and watched its development; in 1884 he sent it to Kew Gardens, where it grew and was examined by Mr. J. G. Baker, F.L.S., who reported that the fronds were intermediate between forms of the lady Fern known as *Asplenium Filix-femina rhocticum* and *a. f. b. crispum*. Mr. Wilson also sent fronds of the first garden crop, which retained the same form as when found, to various other eminent authorities; and in reply, he (Mr. Wilson), received intimation that in no case had the same form been seen in the museums to which the fronds were sent. The extreme form of the Fern has just been examined by Mr. Wolleston of Chislehurst, who has made varieties of British Ferns a special study, and this gentleman saw in the Fern an approach to different forms of the varieties of the lady Fern, and declared it to be a thoroughly good and new find, suggesting as a name for the plant, *Athyrium Felix-femina*, var. *acrolodon Wilsoni*.

Vegetables.—It is not uncommon for young beginners, when raising such crops as Leeks and Onions, to make more haste than good speed. It is now becoming very general in northern parts to have a box, pot or pan of Leeks and Onions started now for planting out early in spring. Instead of allowing these very hardy vegetables protection, they are forced on in heat, and allowed to become drawn and weakened, so that when the time of planting arrives the object in view, an early start, is defeated. Therefore, we would advise that during the dull weather the seedlings be kept near the glass, giving plenty of air when the

weather will allow the lights to be pushed off. Prize-takers are alive to all the requirements of these plants, which are impatient of a close warm temperature.

Thick sowing is another irreparable evil, and should be avoided. When seedlings come up matted together they cannot, by any after treatment, be got into strong and compact growth. Early pricking out singly is of great moment. A layer of well-rotted manure or leaf-soil placed at the bottom of the box, and finer soil of free texture laid over, will give them a start into active root action. Water will not be often required; but when that is necessary enough should be allowed to reach all the roots, and render the soil uniformly moist. Surface dribbling is often the ruin of seedlings. The Brassica tribes, Lettuce and others coming through the soil will now require careful attention. Rather than run any risk of washing the seeds out of the pans, the latter may be carefully dipped in a tank of water, and placed on a level surface till the water has soaked downwards.

Peas coming through the soil in pits, frames or boxes might have the surface gently stirred to allow the soil to fall between the stems. Any coming up in the open ground may be sprinkled along the drills by fine charcoal dust, old tan or leaf-soil for protection, as we may yet have severe weather. General sowings may be made, when weather allows, in sheltered places for succession. Small sowings at short intervals is the safest course to pursue in cold districts where a regular supply is required. Tomatos are well described, and the most advanced methods of culture given by qualified writers; but it may not be out of place to remind those in the "far north" that their supplies are longer in coming to maturity than in the "sunny south," and to keep pace with southern compeers it is necessary to begin in good time. Cuttings which were taken off in autumn and grown in pots require plenty of light, and air should be admitted whenever the state of the atmosphere will permit. Orangefield is not the largest Tomato we know, but certainly an early one and a good cropper. Tomato seeds suffer readily from damp, and should be kept in dry quarters; indeed, all seeds should be so treated, and old ones fit for use kept from the new stock.—*Caledonian.*

North of Scotland Horticultural Association.—The usual monthly meeting of this association was held in the Christian Institute, Aberdeen, on Friday evening, the 21st inst. There was a large muster of members, and the president, Mr. Robson, occupied the chair. Before commencing the business of the evening, Mr. Robson presented Mr. Wyllie, the treasurer, with a beautiful clock as a token of the members' respect for him, and to show their appreciation of the good work which he has been doing for the association. Mr. Robson, in the course of his remarks, said that during the last two years Mr. Wyllie had proposed more new candidates than all the other members combined, and he had also done a great deal in cementing together what might be called lapsing members, and gathering in unpaid subscriptions. Mr. Wyllie, in a few well-chosen sentences, returned thanks. The business of the evening then proceeded. Mr. James Henderson, Wellwood, Cults, near Aberdeen, led off with an address on the "Past position and future prospects of horticulture," which was exceedingly well received. There was also on the business card "New flowers," by A. Comfort, Whitehills, Fife; and "New Plants," by T. S. Ware, Tottenham. A very lively discussion, in which many of the members took part, followed; and with votes of thanks to the contributors to the evening's enjoyment, and a similar compliment to the chairman, a very enjoyable and interesting evening was brought to a close.

Natural History Society of Aberdeen.—The usual monthly meeting of this society was held in the Physiology Class Room, Marischal College, Aberdeen, last week. There was a large attendance of members, and the president, Prof. T. W. A. Trail (Aberdeen University), occupied the chair. Prof. McWilliam and Mr. Angus Macgillorey were admitted members of the society. Professor Trail showed specimens of Shetland plants collected by Mr. W. H. Beeby, making comments on each of the specimens. Mr. John Roy, the secretary of the society, read a very interesting and instructive paper, relating to early local discoverers in botany, in the course of which he spoke of such men as D. Cargill, Robert Brown, Rev. John Lightfoot, Dr. David Skene, Mackay and Don, and quoted many

specimens to the discovery of which we are indebted to the above-named botanists. The paper was exceedingly well received, and its author accorded a very hearty vote of thanks. Mr. Robert Gray then read a lengthy paper on a voyage to the arctic regions in 1886. The paper, which was illustrated with several diagrams and an excellent model, was received with evident appreciation, and its author cordially thanked. A similar compliment to the president terminated a most enjoyable evening.

THE AMATEURS' GARDEN.

HOW WE DEFY JACK FROST.—We possess a small glass structure adjoining our house, directly communicating with the rooms in which we enjoy ourselves, ingress and egress being by the customary claret and blue-stained glass doors, the prismatic hues of which we consider superfluous. Certainly their utility is apparent at this season, but in the summer the doors are thrown open, and we command a view of swinging baskets of Ferns and other plants peeping from various points. The possession of a conservatory enables us to boast of such good things, and our garden has its undulating masses of foliage and its diversity of colour. Esconced in a comfortable chair with coffee and the fragrant weed, the whole assembly seems a miniature moveable garden. Should we desire to celebrate the Feast of Lanterns, or arrange a series of concerts from May until September, we have a natural picture which would compare favourably with the scenic artist's best productions; but now is the winter of our discontent, and the problem is how to withstand the invasion of the ice-clad monarch. We have triumphed gloriously and hope to continue our success. We now give a short account of our experience, simplicity and efficiency combined.

By the aid of a small paraffin stove, burning upon an average a pint of oil per day, we have kept the thermometer standing at 40°, or thereabouts, throughout the recent inclement weather. This finishing stroke was effected under aggravated circumstances, for the house roof being minus snow-guards, and that of the conservatory being unprotected (with the exception of wire netting), the avalanches of snow came crashing down to the loss of sundry squares of the brittle substance. Workmen are not very subservient at such periods, so old sacks and boards were temporarily utilized until the damage could be rectified. In fairness, I must say, we have had a fire in the adjoining room, and plenty of light at night, which, no doubt, helped to keep up the temperature. Certainly, *Mesembryanthemum*, *Heliotrope*, *Pelargonium* and *Calceolaria* cuttings, here and there have been pinched, but the majority, including some fine *Fuchsia fulgens*, are quite unharmed.

I have read with much curiosity and amusement the remarks of some of your correspondents on this subject; one discards the spirit lamp on account of its odoriferous peculiarities, while another recommends covering plants with superfluous sheets of paper, old sacks, carpet, matting and so forth. So far so good, but one with an eye to appearance would not adopt this plan. The question is this, whether it is better to spend a few shillings on a lamp and the oil necessary to replenish it, and so endeavour to keep your favourites unscathed, or allow things to take their chance till the approach of genial weather and purchase a new stock? If we were all Rothschilds the answer would soon be forthcoming. My contention is the adoption of the spirit stove, you will then have a stock in hand, which you can plant to greater advantage, and should you wish to augment your display purchase additional plants, and thus furnish your houses and garden with greater variety.—*Albert George Hull, Forest Gate, Essex.*

KITCHEN GARDEN.—The snow has at length quite disappeared, and the soil has again become comparatively dry and workable. On warm borders make sowings of early Peas—such as William the First, American Wonder, or Sutton's Ringleader—to succeed those that have already been sown in pots, boxes or turves; these should be brought on under glass and finally planted out when the weather becomes warm and favourable. In making such sowings, care must be taken to do it on previously well-prepared ground, if possible, so as to obviate the necessity of puddling, if wet. Borders on a southern aspect will be the driest and most suitable for the purpose. Early Long-pod Beans may also be sown, as well as Broad Beans. Early varieties of Potatos can be planted with advantage on dry soils and in warm sheltered situations. Little will be gained, however, by planting so early in wet, cold, or much-exposed places.—*F.*

THE ROYAL HORTICULTURAL SOCIETY.

YOUR remarks anent the Royal Horticultural Society, in your last issue, tempt me to offer a few observations, which, however, from my ignorance of the general state of the affairs of the society, may be irrelevant. Nevertheless, I have my ideas on the subject, and I will briefly state some of them. In the first place, when we note the past influential position, and the present disgraceful condition, of the homeless society, we can come to but one conclusion as to the cause of its degeneration, and that is mismanagement on the part of the council, unbusinesslike conduct of affairs, trusting in the chance of something wonderful turning up, and continuing too heavy an expenditure long after the financial position of the society has ceased to warrant it. In attributing want of business qualities to the council, I do not imply that the blame rests with that body as at present constituted; although the big exhibition planned at Liverpool last year, and which was the most miserable failure ever brought about in the horticultural world, proved it was not unworthy of its predecessors. We know that among the present council there are several gentlemen beyond reproach in every respect; but what assistance they will get from the new members proposed for this year I cannot see, or how far the few good men will be able to control the useless ones I am at a loss to conjecture.

There is one thing in particular I should like to know, and I will put it in the form of a query. If the gardens at Chiswick are not available for exhibitions, &c., and seeing that they have no interest for the subscribing Fellows, why are they and their expenses retained? Another thing I should think would be conducive to the advancement of the society, and that is that one or more nurserymen, and one or more gardeners, should be elected on the council.

Your suggestion that the Fellow's fee should be reduced would, if carried out, no doubt give a wider scope and greater strength to the society, which, whatever its unfortunate position may be, has still the material in it wherewith to found a really useful institution; but not, I am sure, without a fresh start on more popular lines.—V. G.

GROS COLMAR GRAPE.

As the season for starting vineries is at hand, and to my own personal knowledge so great a difference of opinion exists among our leading men as to the time when this Grape is at its best, I venture to ask those readers of THE GARDENING WORLD who may feel so disposed to give their practical experience and opinion. I should much like for the matter to be thoroughly discussed, only, I would ask, that acrimony be suppressed. In the first place it will, perhaps, be wise of me to say that I am exceedingly partial to this Grape, not only on account of its being so taking on the exhibition table, and so readily (when studied) perfectly finished, but also, when well grown, on account of its refreshing piquant flavour.

A short time since, I saw, in a fruiterer's shop, exposed for sale, some miserable bunches of this the most noble of all our Grapes, absolutely of the colour of the grizzly Frontignan, and, of course, quite unfit to eat. These had been grown in a late mixed vinery I was told—a house totally unsuited to this variety. My own experience goes far to prove that a second, or even an early house, where the Grapes are required to be ripe at the end of June or the beginning of July, is the exact place for it. Ripened about that time, it will hang and keep its colour, and be of really good flavour till quite the end of September. So far, I do not attempt to grow it as a late keeper, feeling satisfied that from the thinness of its skin it must have special treatment—that is, grown in a house by itself, with the borders all inside. In this way, and started early in the season, I do not doubt it may be kept and placed on the table in good condition till the beginning of the new year, or even as long as Muscats are expected.

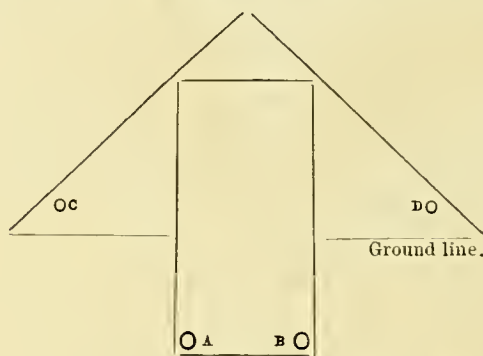
A case once came under my notice at a show where a class was provided for any other black Grape, and in which were staged some first-rate Gros Colmars, and also some very moderate Madresfield Court, in competition, with the result that the last-named were awarded the first prize. One of the judges made use of anything but complimentary remarks upon the man who staged the Gros Colmars, as being out of season; this was the middle of August, the fruit was perfectly

coloured, quite ripe and in every way commendable, and for my part I am quite at a loss to understand why such classes should be made unless to introduce to the show Grapes other than the Black Hamburg. Probably the same judges would highly commend a man who, under favourable and exceptional circumstances, could produce a few bunches of well-coloured Muscats by the middle of June, as I have frequently seen; but, in my opinion, they are even more out of season than the Gros Colmars in August, because, as a rule, the only white Grapes then in season are of the Sweetwater type. Should these few notes tend to some kind of a rule being aimed at for the guidance of Grape growers and exhibitors in general, I shall be much gratified.—*Vitis*.

TOP-HEATING GLASSHOUSES.

APPLIED to houses devoted to the winter-flowering of Pelargoniums, &c., top-heating, in addition to the usual heating arrangement, is, doubtless, an excellent plan, as warm dry air among the flowers in the dull days of winter is most beneficial. But top-heating alone will not answer; we must keep the roots at least as warm as the tops, and heat will not descend to a sufficient extent from pipes fixed near the roof. Mr. Cannell seems to have been the first to adopt this plan, and it, no doubt, greatly assists him in the production of those splendid blooms of Pelargoniums, &c., which he has been for years in the habit of exhibiting at the winter meetings of the Royal Horticultural Society at South Kensington. But not only in the production of flowers in the winter season is the plan desirable.

A very common, because very simple and very useful, form of house for nursery work is roughly indicated below, and a very common mistake is to place the



whole of the piping for heating the same on the floor or pathway, as at A B. Then, in severe weather, unless covering up be resorted to, it is almost impossible to keep the frost out at the points C D. Now, if anyone who has made this mistake will run a 2-in. pipe along each side near the roof at about C D, connecting the 2-in. with the 4-in., or whatever it may be in the pathway, he will find it economical in more ways than one, and beneficial to the plants too.

I visited Mr. Cannell's nursery some two or three years ago, and ever since I have had a notion that it was with the object of remedying a mistake similar to that indicated that he was first led to try the plan, and then, observing its beneficial working in other ways, and being a thoroughly practical man, he made good use of the idea; but in this I may be wrong.—Q. [Mr. Cannell had the plan of top-heating in work at Woolwich some time before he went to Swanley, where he has applied it on a more extensive scale.—ED.]

A VERY ancient proverb runs, "thatch your house with dirt, and you will have more teachers than reachers." This was, no doubt, intended as a sarcastic reference to the abundance of critics who are always more ready to assail some new idea, than to help it into practice. George Stephenson proved that critics were far more ready to pronounce his railway scheme a folly, than to assist in its development, even though he had some tangible evidence of the practicability of his scheme to show them. Just so is it in reference to this suggestion as to the top instead of the bottom-heating of glasshouses, and evidences of the apparent practicability of the plan, now to be seen in some places, are quoted uselessly in its favour.

The critics demand an example of the plan in full operation: I advise them to be brave and try for themselves, using their faculties of common sense and observation in adopting it. If found practically impracticable or unsafe, there is an end to it, but existing partial examples favour its being found eminently successful. If bottom heat be needed in forcing houses

the number of roof flows can be increased; and the returns, concentrated into larger pipes, be made productive of the bottom heat. The plan is, however, chiefly suggested for ordinary plant and fruit houses. Naturally, when all existing heating stock or apparatus is constructed on the old lines, there is little hope that hot-water people will adopt new designs. Some practical amateur, building and heating his own houses, should take the hint and try the plan.—A. D.

THE SNOWDROP TREE.

(HALESIA TETRAPTERA.)

WHEN planted in suitable soil, I know of no shrub that is more gracefully effective than the above. To see a well-grown plant, of say 12 ft. high, during the months of April and May, when covered with its pretty Snowdrop-like blossoms, is a sight that one is not likely to forget. For peat-soil this handsome North American shrub is particularly well adapted, for we have never seen it in finer form, attaining to such a size, or flowering more freely than in a reclaimed boggy soil, and where the situation might be considered as fairly well sheltered.

The pretty white flowers, which remind one of nothing so much as the Snowdrop, are produced in lateral panicles of from eight to a dozen, and hang gracefully down all along the branch tips. The Halesia is readily enough propagated either by division of the root, or from cuttings, but as seed is produced in great abundance in this country, this method is to be preferred as at once getting up a good stock of so beautiful and desirable a shrub.

Sandy peat is the best mixture in which to sow the seeds; but it is well to bear in mind, to avoid disappointment, that but a very few vegetate during the first season, it usually requiring two years to produce a crop from seeds.—A. D. Webster, Llandegai, Bangor.

RUELLIA MACRANTHA.

It is gratifying to learn that this beautiful Acanthad has found its way into cultivation in this country. As recently as 1881, when it was figured in the *Revue Horticole*, p. 410, the botanist, Carriere, states that M. Van Houtte appeared to be the only cultivator who announced the introduction of this plant to European gardens. Considering the numerous forms of this natural order of plants, whose cultivation is annually being extended for winter-flowering purposes, it is rather remarkable that this handsome plant should have been ignored or neglected so long. It is herbaceous, and under certain conditions would attain a height of 4 ft. to 6 ft., but by annual propagation can be flowered in a comparatively small state.

The flowers are solitary, axillary, of a beautiful clear or rosy purple as they appeared in the dim foggy atmosphere of Catherine Street recently, while some continental author describes them as of a beautiful carmine-violet. The individual flowers have a firmer attachment than is usual amongst Ruellias, and are accordingly stated to last about fifteen days, while a succession is kept up for some considerable time during winter. They are about the size of the flower of a Foxglove or unimproved Gloxinia, which is a decided advance over those species already more common in cultivation. It is a native of the shady woods and forests of various parts of Brazil, and does not require a very high temperature in which to flower. Besides the treatment accorded it, in the notes below by "J. F., Dorset," who sent it to our office, it may be grown from cuttings in a prepared soil in the open air, and transferred to a warm greenhouse on the approach of cold weather in autumn after being put in pots.

"Among winter-flowering plants, we find this one of the most useful, being of free growth, floriferous character and of easy culture. It should command more extensive cultivation, and where winter-flowering plants are in such strong request, as is the case with us, I am sure a good batch of the above—propagated and grown under the same conditions as the Poinsettias and Euphorbias—will be found a most valuable acquisition and companion to the same. Their deep rose-purple-tinted, erect, trumpet-shaped flowers are very effective when grouped with other plants, and possess good lasting qualities in a cut state. With us, in an intermediate temperature, it commences flowering in December and continues till February, after which the plants are cut back and retained in heat until a sufficient

quantity of cuttings are produced for the coming winter stock, when the old plants are discarded. By propagating annually, we get plants of stronger constitution, better habit and deeper-coloured flowers. The cuttings strike readily in a compost of peat, loam, leaf-soil and sand, provided with a temperature of about 80° and gentle bottom heat. When well rooted they are gradually hardened in a more airy structure and shifted into 3-in. pots. One stopping will suffice, and by the middle of July they will be ready for their first shift, using the same compost as before described, only in a rougher state.

Six-inch pots will generally be found sufficiently large to produce good-sized plants, with an average of six to seven leading shoots, and should be grown in cool frames or pits with plenty of air and direct sunshine to thoroughly ripen their growth; and if introduced into heat at the beginning of October, a welcome

Animals have lived on plants ever since the Creation; but it is also true that some plants have begun to turn the tables on the animals by entrapping and eating them whenever they can. As you know, Mr. Darwin has proved beyond a doubt that some plants not only entrap, but actually digest, insects or small portions of fresh animal food; but I think it will be a long time ere evolution lands us into an age wherein the plants generally shall enter into a league to eat up all the animals, in the way the Borneans of to-day are trying to eat up all the rats. It is, nevertheless, a fact that there are some few plants found in this and other countries which are all the better for a meat diet now and then.

“Of all decorative arts—of all pleasant pastimes, gardening still remains as one of the most popular to-day; and one reason why it has afforded so much delight, and still remains to us as an attraction, may be found in

if grown in the garden of a queen. When we come to consider the early history of flowers, as used for decoration or personal uses, we find that the wild or native flowers were first employed. Of course all plants are wild somewhere or other in the world, and the most showy of these were at first selected for decorative uses. The Champaca, Jasmine, Nelumbium, and Orchids of various kinds were so used in India from the earliest times, while in the Western tropics the most beautiful of the native wild flowers were also employed, long, long before the woad-painted, skin-clad Briton saw ought to admire in a wild Rosebud, or in flowers of Honeysuckle or of Hawthorn.

“It is very probable that the first plants ever cultivated were grown for use as food or for their medicinal virtues rather than for their beauty; but in the herbarium of the museum at Cairo, also at Kew and the British Museum, may be seen to-day the mummy



RUELLIA MACRANTHA: FLOWERS ROSEY PURPLE.

display of their much appreciated and distinct-coloured flowers will fully compensate for the little trouble bestowed on them.—J. F., Dorset.”

FLOWERS AND GARDENS.

On the 20th inst., Mr. F. W. Burbidge delivered a lecture on this subject in the Litton Hall, Leeson Park, Dublin, and in the course of his remarks, said:—“Once upon a time it was my duty to travel in Borneo, where the natives have a custom of eating rats. An old chief whom I questioned solemnly told me the following story:—‘A long long time ago,’ he said, ‘all our villagers had marvellous crops of Rice. One morning a host of rats appeared, and devoured the grain left in the fields. Then the head man arose and said, ‘The rats have eaten up our Rice, and now we must eat up the rats.’” And it was so. Now, this story you can believe or not; but something of the same kind of philosophy is going on amongst plants to-day.

its ever-changing character. One of the great charms of gardening is the interest it excites, and the amount of pleasure gardeners obtain during their rambles; for I need scarcely say they will be most anxious to see the plants grown in other gardens besides their own. Apart altogether from the decorative or beautiful aspect of flowers and green leaves, such things have a teaching power peculiarly their own, and this is especially so where there are children. One of the best of lessons to instil into the minds of young people is that all flowers are beautiful, for it is these that our greatest poets have most delighted to honour. Daisies, Bluebells, Primroses, Daffodils, Snowdrops, Violets, wild Roses and Woodbine have all been woven into song and story from the time of Chaucer to the days of Tennyson. The one great charm which lingers round our garden blossoms is their beautiful reality. They are essentially genuine. In art and literature generally the poor man must put up with a makeshift, but a Lily, an Iris, or a Pansy in a cottage garden is as real and as beautiful as

wreaths of Egyptian flowers culled by hands and woven by fingers that tingled with the love, warmth, and life-blood of 4,000 or 5,000 years ago. The oldest of dried flowers in herbaria—that is, of flowers especially prepared for scientific purposes—do not date back further than the middle of the sixteenth century, and yet we find that flowers were used in Egyptian ceremonies some 3,000 or 4,000 years ago. About sixty distinct kinds of plants and flowers have been identified, and by placing these in warm water Dr. Schweinfurth, of Cairo, has succeeded in preparing a series of specimens gathered 4,000 years ago. The blue Water Lily, or Lotus, the Poppy, the Larkspur, Flax, Charlock, Knapweed, and other flowers are perfectly preserved, the garlands being woven together with strips of the Nile reed, or papyrus of the ancient scribes. I should like to see a garden of not less than a quarter of an acre around every country cottage or dwelling-house, and more especially is it to be desired that a garden should be attached to all country and suburban public

schools. In France and Germany, and even in Sweden, this is, to some extent, done already, with the best results; and I can only hope the day is not far distant when the same may be said of our own public and national schools.

"Ireland being so peculiarly dependent on land culture for her revenue, I am convinced that elementary horticulture should be more generally made use of as an educational subject of the highest practical or technical value (hear, hear). Nor is this love for cultivated plants and gardens confined to our own country alone; for whoever visits Paris cannot fail to notice the rich profusion of Palms, Dracænas, Cypresses, Ferns, and Daisy bushes or Marguerites with which the windows and apartments there are most tastefully decorated. In Germany, Russia, and also in America, the love for beautiful plants and fragrant window flowers is rapidly increasing. Indeed, the knowledge essential is so easily obtained by observation that we can only wonder why every window and balcony is not gay with ornamental plants and flowers for a considerable portion of the year. Sweet-smelling things, such as Lavender, Wallflowers, Thyme, Carnations, Rosemary and Mignonette, should be around every country house; and it is possible that in years to come some part of every town dwelling will be constructed expressly for the culture of plants and flowers within it. A small conservatory—or, at least, window cases, as fixtures—will be considered as essential as a good kitchen range or a bath-room. At the present time we have a few roof conservatories and gardens; and, doubtless, in time, these and other appliances will become universal, especially in towns where space is valuable. The best evergreen plant for a room is *Aspidistra lurida*, of which there are green and variegated varieties. A specimen here has been grown in a shady window in the Haddington Road for the last four years; and when first brought into the house, it had six small leaves only, and it has never been repotted or manured during that time. No other plant I know does better, and it is an especial favourite in France and Holland, where fresh and healthy evergreen room plants are highly appreciated.

"The Indiarubber (*Ficus*) is another good room plant, as is also the graceful *Grevillea robusta*. Several kinds of green-leaved *Dracænas* are thoroughly reliable, as also are small plants of the Australian Blue Gum or Fever Tree. I have seen a fine plant of this in the window of a drawing-room in Clare Street for the past three or four years. Some small Palms grow well in warm rooms, and none better than the *Corypha australis*. Another favourite, especially at this season, is the Arum Lily, while the Scarborough Lily (*Vallota*) is very attractive when it throws up its cluster of scarlet Lily-like flowers in the autumn months, just before the *Chrysanthemum* comes into bloom. Temperance and good gardening generally go hand in hand. Some, at least, among the audience here to-night will have observed those cosy Fuchsia-clad cottages which nestle here and there on the Powerscourt domain, and from which the occupants get ample supplies of good vegetables and small fruits, as well as flowers. Such gardens must prove great counter-attractions to the public-house or shebeen. Another large landed proprietor told me quite recently that his own experience in the building of cottages had proved to him that the addition of a piece of garden ground had a most beneficial influence on the social, moral, and religious life and welfare of the inmates. Of all modern writers, it is Ruskin, as I believe, who sums up the whole substance of our knowledge of plants with one dip of his pen. This is his estimate of them—'Timber for the builder's yard, corn for the granary or the baker's oven, flowers for the bride's chamber and moss for the grave.' In a word, food, shelter and beauty for all of us, living or dead, is really the sum total of the world's vegetation."

SPARMANNIA AFRICANA.

In this greenhouse or conservatory plant we meet with an old friend that retains a place in many gardens, and is now neglected or again receives a little of that attention which its curious and ornamental flowers deserve, just as the tide of fashion and popularity sways one way or another. Being a woody plant it does not require to be renewed so frequently by cuttings as subjects of an herbaceous character, but will repay the trouble of being grown on and repotted from time to time in order to renew its vigour.

The conspicuous and showy flowers are produced in umbels opposite the leaves, and when fully expanded are more noticeable on account of the stamens than the corolla. The latter, consisting of four petals, is white, and becomes reflexed as do the pale yellowish sepals. The innumerable stamens occupy the whole centre of the flower, forming a semi-globose mass of crimson and yellow. Their curiosity is intensified by many of the outer ones being barren and tuberculated, which gives them a bearded appearance. A couple of leaves and an inflorescence is given in the *Botanical Magazine*, t. 516, where it is stated that at that time (1801) it had only been known to flower at Kew and Messrs. Whitley & Co.'s nursery at Old Brompton. It is flowering freely in an intermediate temperature at Devonhurst, Chiswick, where it is restricted within due bounds by pruning it back closely after the flowering period is over. It may be flowered satisfactorily at a size ranging from 2 ft. to 6 ft. in height.

GARDEN PLANTS ILLUSTRATED.

HEDYCHUM GARDNERIANUM.

Although introduced as early as 1823 from India, this species is not so common in gardens as its beauty and easy culture should warrant. The foliage constitutes a feature in itself, and the herbaceous and annual stems are terminated by a large and handsome inflorescence of pale yellow sweetly fragrant flowers. Fruits are freely produced whether the plant is grown in pots or planted out, and the three-valved capsules are orange internally when they burst, exhibiting intensely scarlet seeds furnished with a lacerated aril. The mass of seeds and their aril resemble a miniature crustacean with its legs folded together.—*Botanical Magazine*, t. 6913.

SOLANUM WENDLANDI.

This is a climbing-habited species, said to be a native of the colder regions of Costa Rica, where it climbs over trees. The stems and petioles of the leaves are spiny, while the leaves themselves are oblong, three-lobed or divided into three leaflets. The flowers are produced in cymes 6 ins. in diameter, terminating in pendulous branches. They are individually about 2½ ins. in diameter, and of a pale lilac blue. It flowered at Kew in August last, and is named after Herr Wendland, Director of the Royal Gardens, Herrenhausen, Hanover.—*Botanical Magazine*, t. 6914.

AMASONIA CALYCINA.

This plant is now tolerably well known in gardens under the name of *A. punicea*. It is said to differ from the latter by its large calyx and different shaped bracts. The plant was introduced a few years ago by Messrs. Veitch & Sons from British Guiana. The pale yellow corolla is pretty in its way, but is rendered more conspicuous by contrast with the large crimson deeply-lobed calyx. The large bracts are crimson, and render the plant a useful decorative subject for several weeks in midwinter. The fruit also contrasts well with the calyx. The genus contains some ten or twelve imperfectly characterised species, all natives of South America.—*Botanical Magazine*, t. 6915.

GARDENING MISCELLANY.

The Gardeners' Royal Benevolent Institution.—This institution would, I feel sure, soon become more popular among gardeners if such applicants for the pension as T. M. Wall, of Cheshire, who subscribed for five years, could be put on the pension list. I see his age is eighty-six, and yet two others are put on the list who have never subscribed one penny to the funds of the institution, and who are only sixty-four and sixty-eight years old respectively. This is what discourages gardeners, as I have found when trying to persuade them to subscribe. It would save the expense of an election if all those who had subscribed the longest were put on after those who are qualified for acceptance are provided for, and then, I think, more gardeners would contribute their guineas. It would be more of an inducement to men getting on in years; for as it is now a man stands but a poor chance unless he joins it when young, as I wish all would do. I feel very sorry for this old gardener, and I think he must feel very much disappointed after having subscribed five guineas.—*Subscriber*. [The point raised by "Subscriber" is well worthy of the attention of the

committee of management; but it should not be forgotten by our correspondent and others that this is a charitable institution, not a benefit society in the ordinary sense; and it rests with the subscribers to say who shall and who shall not be put on the list. Some make it a rule always to vote for those who have been subscribers in preference to those who have not, and in a general way, it is a good rule to follow.—*Ed.*]

The Effects of the late Snowstorm.—On looking round Oakwood Garden to see what damage had been done by the late snowstorm, I found that we had escaped more easily than could have been expected. Some time back I recommended a fence made of rabbit-wire, 6 ft. high, in one piece, we having a quantity of it; this was sufficiently supported for any ordinary strain, but above 70 yds. was blown down, the snow having filled the meshes, and so given the wind purchase. Therefore, it seems desirable when this fence is used, to add to the supports by wires fastened to any trees in the line. Our large Camellias have only one or two small branches broken, but my man beat much of the snow off. A fine head of *Andromeda japonica*, covered with buds, was broken off, and a large *Choisya ternata* had some branches broken; but a large *Photinia serrulata*, close by, was uninjured. Our big *Rhododendrons* in the wood have hardly any branches broken. *Meconopsis Wallichii*, unprotected, looks perfectly fresh and green; seedlings of *Sikkim Rhododendrons*, not above 1 in. high, do not seem to have felt the cold; *Ilex latifolia* is very little touched. The effects of the snow were shown along the road to the garden, by great numbers of branches on the ground at the edge of the Fir woods. A friend, with a beautiful garden at Chislehurst, gave a most saddening account of the breakages of a great number of his trees and shrubs. So far, our coops, with bracken interlaced, seem efficacious as protection for tender plants.—*G. F. Wilson, Heatherbank, Weybridge Heath, January 24th*. [We should be greatly obliged if other readers would communicate their experience of the late severe weather.—*Ed.*]

Rise and Fall in Hot-water Pipes.—I do not think I erred much in reading Mr. Methven's letter on this subject, and the last sentence I quoted is confirmed by the one made by him from the same letter, which is to the effect that he had to screw down the valves in the higher levels so as to allow the least possible openings, in order to force the water to the lower levels. This is tantamount to saying, that without this process the water would not circulate in the lower level. I knew, at the time I read your correspondent's letter, that he was wrong, from my own experience in the heating of a number of houses, in two of which the pipes were below the floor, and the temperature in one had to be kept from 60° to 65° at night in winter. This was effected by means of a circulating box and feeding cistern combined, fixed a few feet above the highest pipe and in one of the warm houses. With hard firing, more or less steam arose from the cistern, but, as it was close to a glass end, it seemed to hug the glass and condense there; it was rarely observed in the body of the house. Mr. Methven asks me if I "mean to advance the theory, that water acts on the rule of contrariness." I advanced nothing, but stated a simple fact that was contrary to your correspondent's experience. I did not make any enquiries about valves being nearly buried off, but I think I may safely say that Mr. Troughton would not do that in all his other houses for the sake of the one to which he refers. I am blamed for not giving variations of levels. I considered that after stating that those in question were 18 ins. below the flow, and still lower than those in the adjacent houses, I had said enough to prove the fallacy of Mr. Methven's conclusions. However, speaking from impressions, I should say that the majority would be from 2 ft. to 4 ft. above the lowest, and some of them 5 ft. or 6 ft., as Mr. Troughton goes in for a little roof heating. I am asked as to the level of pipes in the house alluded to in relation to the boiler. Arranged as they are together, there is only a few inches difference in their level and it cannot affect the point at issue.—*W. P. R.*

Asparagus Kale.—What is this? The question is asked because I have recently received it from two seed houses in London of an entirely different character. I have heard it said that the purple-sprouting Broccoli is identical with *Asparagus Kale*. I know that some of the London houses supply what is known as the Buda or Prussian Borecole or Kale, while others send seed of the Couve Tronchuda or Portugal Cabbage. Messrs.

Vilmorin & Co., in their work on the Vegetable Kingdom, make it to be the Jerusalem Green-curl Kale, which I imagine is the same as the Buda. But who can help to a satisfactory solution of this difficulty?—*A. Perplexed One.*

Propagation of the Lapageria.—An easy and moderately quick method of propagating the Lapageria is practised by Mr. Latham at the Botanical Gardens, Birmingham, and deserves to be generally known. Strong shoots of mature growth, 3 ft. or more in length, are cut away from the plant, and are buried 1 in. or more in depth in paus or boxes of good sandy soil, leaving about half the leaf only out of the soil. The shoots can be coiled so that a moderate-sized seed pan will contain a shoot with a goodly number of eyes. They should be kept in a cool house and have moderate waterings.—*D. W.*

Violets and Iris.—I send you a gathering of the three Violets I cultivate under glass, viz., Marie Louise, Comte Brazza and Neapolitan; and also a few flowers of Iris reticulata, which we grow in pots to come in with the earliest batches of Lily of the Valley. The rich purple and orange of the Iris is very lovely when seen in contrast with the ivory whiteness of the Lilies; and as the Iris, contrary to the Lilies, require so little heat to have them in flower at the same time, the wonder is that they have not been brought in to more general cultivation for the purpose of supplying flowers in the depth of the winter. Our plants are flowering on a shelf in the early Rose house, where the minimum temperature is 45°. On opening the door a delicate perfume pervades the air; a stranger will generally exclaim, "Oh! I can smell Primroses," when it is afterwards discovered to proceed from the Iris.—*Wm. Allan, Gunton Park.*

Australian or Golden Cress.—I often wonder that this salad is not more generally met with in gardens, and especially in those of amateurs. To my mind it makes an excellent salad, to eat as one would Water Cress; but do not let anyone suppose it is a new thing. It was introduced into this country from France by the Royal Horticultural Society some sixty years ago, as will appear from the following extract from a report, published in 1826, of the society's transactions, on "New and Remarkable Esculent Vegetables Cultivated in the Garden of the Society":—"Seeds of this Cress were received from M. Vilmorin, under the name of Cresson Doré. It is at present but little known in this country, but certainly deserves more general cultivation, as it affords a splendid addition to our stock of small salads. In the notice of it in the *Bon Jardinier*, it is treated as a variety of the common Cress, *Lepidium sativum*, but it is probably a distinct species." It would appear that it is not a distinct species, simply a very fine large-leaved variety of the common garden Cress; and there are two forms—the green and the golden-leaved. The flavour is said to be milder than that of the latter. The plant is of dwarf habit, and the seeds should be treated much as one would Parsley, by sowing thinly in drills, and picked singly when the leaves are well developed. The plants should be grown in good soil, so that the growths may be as succulent as possible, and then they suit the palate better. A little seed of the Golden Cress should find a place in the seed order of every amateur.—*R. D.*

Azalea balsamiflora.—To lovers of this class of plants the subject here mentioned will not only prove a highly attractive and valuable decorative kind, but is so distinct from the ordinary Indian and other Azaleas, as to constitute a real novelty. It is a comparatively recent introduction from Japan and will, probably, be as amenable to greenhouse treatment as well as other Azaleas from that part of Asia. We saw it recently in Mr. William Bull's nursery at Chelsea, where it is now flowering in a handsome manner. One thing that strikes the beholder is the size of the flowers compared with that of the leaves, which form a background, and set off the former to best advantage. The leaves are smaller even than those of *A. indica* generally are, and the flowers resemble those of a Camellia-flowered Balsam. They are perfectly formed, with very numerous closely imbricating petals of a beautiful salmon-red colour. This is more akin to the soft red of *A. mollis* than the dull purplish red so prevalent in self-coloured flowers of *A. indica*, but is perfectly distinct from either. The plants in the above establishment were grown in pots, and did not much exceed 1 ft. in height, but were well furnished and gay with flowers.

Azalea Deutsche Perle.—Those in search of a good double white Indian Azalea would do well to grow this variety. Its flowers are of the purest white and very double, and the constitution of the plant is very strong, while it is very free flowering and well adapted for forcing. I saw some plants the other day at Warnham Court; some in 48-size pots, grafted plants full of flowers, likewise some in small 60-size pots, on their own roots; and I thought they were the prettiest objects I ever saw in this way for decorative purposes. Mr. Ducan, who has a lot of this work to do here, finds it very valuable. These small plants had over a dozen fine flowers expanded.—*A. O.*

Crocuses and Croakers.—In the January number of the *Essex Magazine*, Mr. Joseph Clarke, F.S.A., says, in reference to the former cultivation of *Crocus sativus* at Saffron Walden, that the old Saffron farmers used to be called "crocur," and "from the uncertainty of the crop from disease in the bulbs, and the changes in this variable climate in September and October, the profits were very precarious, occasionally ruinous, which gave rise to habits of habitual discontent, and it may be inferred that the word "croaker," now a common appellation for a grumbler, was so derived."

Linum trigynum.—If any greenhouse plant may be said to produce flowers having the florists' property of form, it is the above. I saw it at Gunnersbury Park the other day, finely flowered; its erect, solid, well-formed and rich deep yellow flowers were produced in rare character. If they were only more lasting, it would be one of the most valuable of winter-blooming subjects. Mr. Roberts gives his plants a generous treatment, and they grow and flower freely in consequence. I have known some gardeners starve this plant, under the impression that they, by doing so, were ensuring freedom of bloom; but in many cases the plants became a prey to red spider. Mr. Roberts' more generous treatment is justified by the fact that large well-coloured and stout blossoms are produced in plenty.—*R. D.*

This fine winter-flowering plant is also extensively grown at Warnham Court for the decoration of the conservatory, it having no equal for colour at this dull season of the year; some well-grown plants, with their bright yellow flowers, prove very attractive. Lachenalias in varieties are also well grown here; these for either basket or potwork are very useful and ornamental when in flower.—*A. O.*

Gooseberry Bushes and Bullfinches.—The present time is appropriate for writing a line or two on the above subject, as our extremely pretty—what shall I say? well, for the time being—enemy in his beautiful garb of red, black, white and slate-coloured tints, will soon be busy feasting and banqueting to his infinite delight and enjoyment on our fast-swelling buds. Those of your readers who have the pleasure of residing in the country districts where extensive woodlands prevail, know only too well that at this time of year Mr. Bullfinch arrogates to himself an extraordinary amount of boldness and "cheek" to appease his insatiable appetite for big Gooseberries in an embryo state, and, as a consequence, all sorts of schemes and dodges are resorted to in order to set him at defiance; the most insane and reckless being that of taking a loaded gun, and if there happens to be a few birds at their work of destruction, to deliberately blaze away at them—bushes as well—to see how many of the former can be placed *hors de combat*, altogether forgetting or paying no regard to the fate of the latter, which is certain to show itself sooner or later in the shape of dead or dying branches—a state of things much more deplorable than the loss of half a crop of fruit. Our own practice consists of mixing up a quantity of lime and soot to the consistency of thick paint, which, with the aid of the garden engine, is showered amongst the bushes in all directions. This is quite effectual in keeping our feathered enemies from enjoying their dainty morsels, *i.e.*, so long as it remains dry; in rainy weather the operation should be repeated when necessary. In addition to this we leave the bushes unpruned till the buds are well advanced in swelling, as in the event of a succession of wet days, it is next to impossible by the above means to avoid some loss, and the chances are that if the young wood were cut, fully two-thirds of the buds would be taken. I am quite aware that this late pruning does not meet with acceptance in many quarters, on the ground of it being said

to have a weakening effect on the bushes, and, consequently, the fruit is not so large as it otherwise would be. My own practice, however, leads me to say that the so-called bad effects are more imaginary than real, and I can confidently recommend the plan of lime, soot and late pruning.—*J. Horsefield, Heytesbury.*

Pavetta borbonica.—Several species of this genus are occasionally seen in gardens, and the majority are stove-flowering plants, similar in habit and closely allied in every respect to *Ixoras*. The flowers are mostly, if not always, white, and produced in close terminal cymes that are not devoid of effect in a collection of stove plants. They are readily distinguishable from an *Ixora* when in flower by their long protruding styles, which are included in the tube of the corolla in the latter. The subject of this note, which we saw in handsome condition the other day in Messrs. Veitch & Son's nursery, at Chelsea, if not altogether different in habit from the above, is so distinct as to be serviceable only as a foliage plant. The flowering species are generally of a free branching character; but *P. borbonica* is a strong, robust, woody plant that seldom branches till it attains considerable size. By this time the bottom leaves have fallen away, leaving the stem bare, so that the plant loses its value from a decorative point of view. When this happens it should be cut down, and cuttings made of the eyes to which a leaf is attached; the old stem will also throw out laterals which can be propagated. The cuttings require some considerable time to root, and should be kept in a close, moist, warm atmosphere, and shaded when necessary. The leaves are oblong, 12 ins. to 14 ins. in length, of a deep shining green marbled with pale yellow or grey blotches, and leathery in texture. Plants propagated from cuttings, and grown to a single stem till the lower part becomes bare, form exceedingly handsome decorative subjects.

Early Daffodils.—It may interest some of your readers to know that the Daffodils are already in flower. I have *Pallidus præcox*, *Corbularia citrina*, *Papyraceus*, and *Tazetta* well in bloom, and, should the weather permit, I hope to have my other varieties out in the course of a week or two.—*W. D'Arcy Godolphin Osborne, F.L.S., Villa Louis, Biarritz, Jan. 19th.*

SYRINGING ORCHIDS.

I SHOULD like to know a little more clearly than appears in the numerous articles on the subject of syringing Orchids, how far the condemnation of this practice is to extend; surely not to all species. Partly to elicit information for myself, and partly that others may have the benefit of my experience, I will state what that experience is. I agree in deprecating syringing *Phalæopsis*, and also *Saccolabiums*, *Aërides* and *Vandas*, except *Vanda Cathcarti*, which grows in the spray of waterfalls, and which, I find, benefits by being syringed, and also *Vanda Hookeri*, which requires syringing all the year; *Vanda teres*, too, which must have it when growing. *Cypripediums* and *Odontoglossum Roezlii* also seem to benefit by the leaves being syringed in warm weather.

So much for stove Orchids. As to those requiring a cooler temperature, I have found *Odontoglossum vexillarium* immensely benefited by syringing, and the Mexican *Lælias*, while growing. Again, such plants as have only air roots, for instance: *Epidendrum rhizophorum*, *Reuanthera coccinea* and *Burlingtonias*, absolutely require frequent syringing, as well as *Zygotum Gautei* and *maxillare*. On the other hand, I agree with those who object to syringing *Cattleyas* and *Lælias*, especially those with leaves growing in pairs, which are apt to hold any water that gets into the growths, and to rot. But *Cattleya Acklandiae*, *Schilleriana*, *Regnelli* and *Walkeriana* do not seem to object to water on the leaves, especially when grown, as usual, in floats or rafts, they appearing to rejoice in it in warm weather.

Odontoglossums, such as *Alexandrae* and other cool sorts, do not, I think, require syringing; but in hot weather they seem to freshen, and, as far I have noticed, not to be hurt by it. *Disa grandiflora* should be syringed. When plants are syringed there should be plenty of ventilation, and they must be allowed to dry and not be kept constantly wet. If you or some experienced grower would tell your readers how far you agree with the above observations of my experience, I think it would be useful.—*E. H.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.—The fogs in the neighbourhood of towns, and the dull weather everywhere, have made sad work with the Orchid flowers, crippling numbers, and utterly destroying many more. Now that we may reasonably hope to have done with the bad fogs for this season, the glass of the houses should be washed on the outside where necessary. This can, in many cases, be conveniently done from the sides of the houses by means of a brush fixed on a long handle, the roof being syringed both before and after the brush is used.

Free ventilation, judiciously restricted according to the weather outside, should from henceforth be made a point of, even carrying it so far as to set all the Orchid house doors open 1 in. or 2 ins. for a time in the middle of the day in really genial weather.

Continue the repotting of the cool-house Orchids which require it by attending to all the varieties of *Oncidium cucullatum*, *O. Phalenopsis*, *O. longipes*, *O. cheiroporum*, *O. concolor*, &c. These dwarf cool-house *Oncidiums* do best grown like *Odontoglossum Rossii majus* and *O. Cervantesii*, and are safer in baskets or suspended pans than on the stage. All the *Pleiones* may now be repotted, using fibry peat and sphagnum moss; they also do much better when grown suspended near the roof.

The *Catasetums*, *Mormodes* and *Cynoches*, which should be kept together, must be well looked after, giving them a little water to keep them plump as required, and repotting any seen to be pushing growth strongly; such repotted growing plants to have a steadily-increasing supply of water as their roots appear. These plants are, generally speaking, not well grown; and yet they are easy enough to cultivate if treated, as regards growth and rest, much the same as deciduous *Dendrobiums*.—*James O'Brien*.

Orchid Culture: Experiments with Jensen's Fish Manure.—The value of many species of Orchids precludes any experimental treatment; still, it is advisable to attempt this with some of the cheaper varieties, and the results would doubtless be instructive. It is with regret I have to say our successes are not equal to our failures; but the pleasure of having gained some knowledge, even if it has had to be purchased, is something. In 1885, we commenced giving a selection of *Calanthes* liquid manure—composed of Jensen's fish-bones dissolved in rain-water—in a very diluted form about every ten days, gradually increasing the quantity as the plants grew, and until they had the spikes well advanced. This we did for comparison with some grown in ordinary rich potting material, and from the vigour of the growths made by the selection, we had great hopes of a better display of bloom. This, however, was not the case, as, without exception, the best blooms came from those grown with the ordinary potting material. Continuing the experiment, we have the same result this year as regards the flowers; and, in addition, found it impossible, with some varieties, to keep them from growing. Although the bulbs last made were decidedly more robust in appearance, they commenced, one by one, to rot off. No treatment appeared to dry up the sap from the latest growths, and the experiment must, with me, be pronounced a failure.

In the same year (1885) we adopted a similar treatment with some *Lycastes*, using Jensen's fish-bones in the proportion of one thumb-pot to six gallons of water, always taking great care in using it not to let it touch the young growths. No better result in growth was discernable; and although, in 1885-6, it was thought we had a greater number of blooms from those put under this treatment, it was by no means certain that such was the case. There is no doubt, however, this year; one particular plant with one shoot, which has been carefully watched, and which flowered in the summer and again now, has had eleven flowers, and in the latter case the flowers are much finer and better coloured than before. The bulbs are no larger, but the foliage is more robust, and, together with the bulbs, are of a darker green colour. In addition to this, some are breaking again very freely.

On the whole, this gives sufficient encouragement to continue the experiment. One great drawback is the excessive amount of care required to prevent the moss from being killed; but of this more anon, when I describe other subjects so treated. In next year's

potting we shall mix a slight proportion of the manure with the potting material, and thus try it in a different manner. I may observe that the general treatment is the same in every respect; but in trying such experiments, I should strongly suggest—*Caution*.

Cœlogyne cristata.—There are two varieties of *Cœlogyne cristata* in cultivation, the generally cultivated variety and the Chatsworth variety, the latter being decidedly the best. At the Botanical Gardens, Birmingham, a quantity of plants of each variety may now be seen just coming into bloom, Mr. Latham having obtained the Chatsworth variety direct from Chatsworth. It is a stronger grower, forming larger pseudo-bulbs with larger racemes of flowers, and the young shoots are of a deeper brown colour, so that it can easily be distinguished before the flowers expand. Mr. Thomas also cultivated this last variety extensively at Chatsworth.

Oncidium crispum.—From Admiral Fairfax, Ravenswood, Melrose, part of an inflorescence of *Oncidium crispum* has reached us, having fine large flowers of an intense chocolate-brown colour, with the exception of the labellum, which had a large clear yellow blotch in front of the prominent and much-lobed or toothed crest; all the segments were conspicuously undulated and crisped at the margin. Some handsome specimens of *Sophranitis grandiflora* were also sent, displaying an intense scarlet colour, especially the petals; the flowers measured over 2½ inches across the petals, while the latter were individually an inch in breadth and very conspicuous.

Dendrobium Fytchianum roseum.—Amongst the smaller-flowered species, this is certainly one of the best and also most attractive. The slender upright stems are leafless when in bloom, but lateral racemes of flowers are produced near their apex in mid-winter, when such things are much appreciated. In the typical form, the whole flower is of the purest white, with the exception of a small rosy blotch on the centre and the lateral lobes of the labellum. The above variety is flowering in Mr. B. S. Williams' nursery at Holloway, and is a decided acquisition—worth growing in a collection even where the other exists. The colours of the labellum, which is bearded in the throat, are very much intensified, and the sepals and petals are of a distinct rosy lilac colour. The type is figured in the *Botanical Magazine*, t. 5444.

Zygopetalum Mackayi.—A very fine form of this popular and much-cultivated Orchid has been received from F. G. Tautz, Esq., Studley House, Hammersmith. The specimen sent is either a large-flowering form or the result of good cultivation. The chestnut-brown blotches on the sepals and petals are much larger and of a deeper shade than in the ordinary form of the species. A good and distinct-coloured form of *Odontoglossum maculatum* accompanied the above, where the clear yellow of the petals and labellum contrasted well with the deep brown sepals. The base of the petals, together with the whole surface of the labellum, were evenly blotched with brown.

Calanthes not Flowering.—Most of the *Calanthes* here have failed to flower this season, and I should like to know whether any other of your readers have had a similar experience. Our plants were potted about the usual time, when just starting into growth, and grew vigorously until the end of August, when black spots appeared on the leaves of some plants which were suspended in pots, and in a few weeks they were nearly all affected, more or less, with them on the bulbs then being formed, as well as on the leaves; and though they attained moderate dimensions, nearly all failed to flower. They were grown in the same house, and in a similar compost to that used in previous years, when they proved thoroughly satisfactory.—*W. P.*

Catasetum tridentatum.—The varieties of this Orchid must be rather numerous, judging from recent importations as well as those originally introduced to this country. A form flowering in the gardens at Devonhurst, Chiswick, and imported from the West Indies about 1884, shows a deviation from the normal form, not only in the colour of the labellum, but in the depth and distinctness of the three apical teeth which has given rise to the specific name. The whole flower presents the same conformation and fleshy character of the labellum as in the type; but the colour of all the organs is paler, including the spotting of the petals, which seems to be a constant and prevailing character of the species. In the coloured figures representing this species the labellum is a dark orange-brown; but in the variety under notice it is primarily of a pale yellow, with, perhaps, a greenish tint, especially towards the base of the pouch, afterwards fading to a deeper tint of yellow.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

HERBACEOUS CALCEOLARIAS must now receive a shift from 60's into, say, 32's, which will keep them all right for a long time. Perhaps it will be well to say that before potting begins, it will be advisable to see that the stock is quite free from insect pests. If not, let them be lightly fumigated upon three consecutive nights, and all should then go well. If they can be accommodated for a short time after potting on the stages of the intermediate house, they will start more readily than if placed in a cool house; at the same time, care must be taken that they do not remain in this temperature too long, as they are most impatient of heat. The weaker specimens of the stock can be left over and be placed on a shelf, where in all probability they will make useful stuff for a later batch.

PELARGONIUMS, &c.—Preparation should now also be made for the final potting of the show and fancy *Pelargoniums*. The soil should be mixed without delay, and consist of good fibry loam, leaf-soil and well-rotted cow manure. Let the heap be turned over twice or three times a week, and a careful watch kept for wireworms, which frequently abound in old pastures. Slices of Carrot thrust here and there in the heap are excellent traps. Many of the *Epacris* will now be coming into flower, and may be used most effectively staged in the show house or conservatory; their long graceful spikes of flower give a very pretty effect when staged amongst such heavy masses as *Azaleas* and *Cinerarias*.

SALVIAS.—It will be advisable now to remove the whole of the *Salvias* from the house where they have been staged, selecting one or two stools of each variety, which may be cut back and placed in a slight heat to furnish a supply of cuttings for next season's stock. The old, but beautifully-coloured, *S. patens* may shortly be brought from the cold pits, and started in a gentle heat—that is, if it is necessary to increase the stock; if not, they should be started later on. A good batch of this potted up, and kept growing on, is most valuable for midsummer decorative work.

GESNERIAS AND TYDÆAS are now fast going past their best, and should be gradually dried off by withholding the supply of water in part. They must not, however, be stored away while the foliage remains fresh, or it will be at the expense of the rhizomes, which will not be perfect. Some of the *Tydæas* throw up offsets while the parent continues in bloom. In this case, it is as well to take off sufficient of these for stock, and when the blooming period is over to throw the old plants away.

GARDENIAS.—Let a thorough cleansing be given to the stock of these, which will shortly be starting into flower. We find nothing so good for the purpose as paraffin oil, which effectually destroys mealy bug without damaging the plants. A wine-glassful to a gallon of soft-water is of sufficient strength for all plant cleansing.

THE FORCING HOUSES.

IN THE EARLY PEACH HOUSE disbudding should by this time be completed, and as soon as the growths left have attained a length of 2 ins., they should be carefully tied to the wires. Keep a sharp look-out for aphids, and should any be perceivable fumigate lightly on alternate nights until they are destroyed. The trees should be syringed twice a day, in the morning after the pipes are warmed and again about 3 p.m. on bright days. With the aid of sun-heat, the temperature may be allowed to run as high as 75°, provided there is little or no heat in the pipes. The house, too, must be freely and carefully ventilated, avoiding cold draughts, for it is next to impossible to grow good Peaches without the admission of plenty of air to the structure in which they are growing.

EARLY VINES.—Where the early Vines were started at the beginning of November, they should now be ready for thinning; this must be done very carefully, as the berries are very tender and easily bruised, and the slightest injury now causes an ugly blemish later on. Be extremely careful that no gusts of air are admitted, or rust will assuredly follow. The laterals may be allowed to grow rather freely, stopping at the third or fourth leaf according to the quantity of foliage required. Close stopping of early forced Vines is to be deprecated. We have completed the clearing of late

vineries, and have also dressed and tied the canes into position. The walls have all been washed with quicklime, to which was added a good sprinkling of sulphur.

THE FORCING HOUSE.—Introduce more Roses, Azaleas and all plants and bulbs for forcing as is necessary for the supply. We are now filling the Peach house shelves with Sir Joseph Paxton Strawberries; these will come on slowly, but always give first-rate crops of fruit.

THE KITCHEN GARDEN.

GENERAL WORK.—At length we are enabled to resume digging and general outdoor work. We have made a good sowing of American Wonder and William I. Peas on sheltered south borders; also a sowing of Radishes, which will succeed those on the hot-bed. Should the weather continue fine for a few days, we shall sow the Parsnips; the square having been dug for some time, has, through the action of the frosts, become quite mellow, and in fine condition for the crop. We have also, as advised, made a sowing of Early London and Eclipse Cauliflower, Brussels Sprouts and Cos Lettuce. Take care that the autumn-sown Cauliflowers are kept as hardy as possible by removing the lights whenever the weather will permit. If coddled at all they are almost sure to flower prematurely.

In case of failure, a sowing of one of the small early varieties should at once be made, pricking out the plants under cover as soon as large enough to handle, and leaving a certain quantity to flower; when pricked out in this way much time may be gained. Serve Lettuce in the same manner; any spare lights in the frame-ground will suit admirably. If not already done, prick over the herb-beds, giving to all a good top-dressing of leaf-soil and horse-droppings. In case of new beds of Rhubarb being required, let the square to be occupied be double-dug, and a liberal dressing of good manure applied; when it has settled, mark out and plant divisions from the stools previously selected for the purpose. Fill up blanks in the Cabbage-squares (if any), and plant successions from those pricked out in the autumn.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Liverpool Horticultural Association.—On Saturday evening, 22nd inst., the members of this association met together in the Free Public Library, William Brown Street, to hear papers read by Mr. A. R. Cox, Elm Hall, Wavertree, on the "Cultivation of the Ixora," and by Mr. Ranger, Aigburth Nursery, on the "Clematis." Papers from these two excellent cultivators resulted in a very large gathering of the members. This was expected, for Mr. Cox has undoubtedly grown and shown during the past few years finer specimen Ixoras than, perhaps, any other cultivator. It will be remembered that he staged a number of very great excellence at the Royal Horticultural Society's Provincial Show, held in Liverpool.

Mr. Cox considered the Ixora the king of the stove-flowering plants, and ably pointed out its great beauty, both for home decoration and exhibition purposes. Cuttings could be rooted any time during the year, but he considered February the best time; sturdy shoots, with two pair of leaves of the previous season's wood, being the best. These would strike freely and quickly in sawdust in the propagating case if bottom-heat, ranging from 65° to 90°, could be given. When rooted, he advised the young plants to be placed singly into 3½-in. pots, using soil that has been passed through a sieve; but this should be dispensed with after the first potting. The importance of draining the pots thoroughly and effectually was strongly urged, for this operation was often left to inexperienced persons. The quantity of drainage not being so important as the method of placing it in the pot, 4½ ins. in a 16-in. pot he considered ample, and in similar proportion in those of a smaller size.

Mr. Cox considered fibry peat, sand and a little charcoal the best compost for these plants, but it should always be warmed to the temperature of the structure in which the plants were growing previous to use. After potting the cuttings, they should be returned for a time to the propagating box, and then hardened and placed on a shelf in the stove. In the cultivation of these plants by plunging the pots in bottom heat, Mr. Cox had had no experience, and did not consider this

practice necessary to success; in fact, he condemned the system when growing the plants for exhibition. He also strongly repudiated the method of filling the pots too full of soil, so that they would not hold sufficient water to thoroughly soak the whole mass. It was contended that success or the reverse depended very largely upon the method of watering adopted. The water used should always be 5° warmer than the temperature in which the plants were grown. The supply of water should be liberal during the growing season and the syringe should be freely used twice daily, for the Ixora delights in heat and moisture.

Pinching the shoots should commence after the young plants were established, and again when another pair of leaves had been made, and continued until the plant possessed six shoots. These should then be allowed to extend until they are 1 ft. in length, stopped and tied out to form the base of the then specimen. After this had been attained, Mr. Cox disbelieved in a system of pinching, but preferred to let the plants extend naturally and they would throw up suckers from the base freely.

An annual system of pruning was recommended to insure regularity in the flowering of the plant; by cutting back to a good pair of leaves two shoots would be the result. The best time for this practice depended entirely upon the time the plants were required to bloom. If the plants showed signs of flowering too early they could be pinched back, but it would take eight weeks from pinching to having them again in creditable exhibition condition; two weeks longer would be required in the case of *I. coccinea*, which required longer time than any other variety.

Mr. Cox did not recommend keeping the Ixoras too warm during the winter, a suitable temperature being 60° by night with a rise of 10° by day; during summer it might range from 70° to 115°, the last by sun heat after closing the house. The ventilators were never opened during the winter or on windy occasions, and only at the top in summer; shade was advised during the hottest part of the day. Mr. Cox, in his remarks upon the different varieties, said that *I. Duffi* (macrothyrsa) was a truly noble giant form, but still he considered the old *coccinea* the best of them all, for its flowers would last in perfection considerably longer than any other variety.

The discussion on this, as well as Mr. Ranger's paper, was somewhat limited and brief, owing to two papers being read the same evening. Several members, however, took part in the discussion, which rendered the meeting profitable and interesting to all. Hearty votes of thanks were accorded to Messrs. Cox, Ranger, Bardney, and R. W. Ker. Mr. White, vice-president of the association, occupied the chair, and a vote of thanks for his services brought the meeting to a close.

FLORICULTURE.

AURICULAS.—Now that the snow has gone, and the frost has left the earth, bringing in milder and more genial weather, the Auriculas should be carefully gone over, all decayed leaves removed, and water given to any that need it. My plants were hard frozen for several days, and the house being surrounded with snow, I thought it was best to leave them alone until such time as they could be examined under more favourable circumstances. Being dry at the roots they have come through the ordeal uninjured, and now, having been carefully watered and the surface stirred, they have freshened up considerably. In another month, or less, if the weather should prove warm, they will commence to move, and then such top-dressing as is necessary should be done. I know that some of our leading growers do but little top-dressing, but much depends upon the condition of the soil. I have already prepared a compost for this work—nice yellow loam, leaf soil, some decomposed manure and sand. In taking off the surface soil, care should be taken that the roots are not in any way injured, and the added soil should be pressed firmly down upon them. Plenty of air may be given now that the weather is mild, and young seedlings in stove pots that need more root-room, should be potted off at the time the top-dressing is done. In fact, every encouragement should then be given to the plants, large and small, so that when activity sets in, they may progress in the way that is most satisfactory to the cultivator.—*R. D.*

QUESTIONS & ANSWERS.

BOUVARDIAS.—I should be much obliged if you would tell me the best plan of growing Bouvardias. Those we have are a failure. Should the temperature be hot or cold? and does syringing with paraffin harm them? We used three wine-glassfuls of the oil to a large pot of water, and since then they have been going back, and the foliage drying off.—*G. E.* [For autumn and winter flowering these should be struck from cuttings at the end of the year previous, or as early in the current year as possible. Place them in a temperature of 65° or 70° if you can command it, with a rise by day; maintain a moist atmosphere; you can root them in a lower temperature, but they will require longer time. After the cuttings have rooted, pot them singly and keep in the same genial atmosphere, close to the glass to prevent them from becoming drawn; pinch them several times to make them bushy. When they have attained some size, they may be hardened off by giving them plenty of air, and then transferred, about the end of summer, to a cold frame, where they will derive great benefit from a perfect exposure to the air; transfer them to a stove temperature when the weather becomes cold. If it is not desired to flower them immediately, they should be kept in a cooler house well exposed to the light for a time; they should have, at least, a night temperature of 60°, to insure free growth and bloom. One wine-glassful of paraffin to two gallons of water, well stirred all the time it is being used, will be strong enough for your purpose; it must be used with caution, and the plants well syringed with clean water after the process.]

CALVERY CLOVER.—A friend of mine has some seeds sent him under the name of Calvery Clover, and he asks me whether they are worth growing, and what time to sow them. Can you give me any information about it through the *GARDENING WORLD*?—*J. R. M., Notts.* [We believe the plant called Calvery Clover is *Medicago Echinus*, a native of the Levant, but have no certain knowledge, especially as you give no description of it. The leaves of the species named symbolise a cross, and each leaflet has a dark blotch resembling a wound. The plant has no special beauty, but may be cultivated out of curiosity. It may be treated as an annual, and either sown in pots a little later on and ultimately planted out, or it may be sown in the open border in April.]

PEAS.—*Omicron*.—(p. 333): For general and late crops I do not know of two Peas better adapted and more productive than Laxton's Fillbasket and Harrison's Glory, excepting in the case of very late Peas, when I have proved Laxton's Omega and Ne Plus Ultra to surpass them both for lateness, flavour and quality. I would advise "Omicron," if he has not done so, to give G. F. Wilson and Veitch's Perfection a trial; they are two well-known varieties belonging to the wrinkled marrow class, and rarely fail to give satisfaction. They would answer the purpose desired—a general and late supply, are both excellent croppers, and, without a doubt, two of the best flavoured Peas cultivated.—*B.*

PLANTS INJURED BY WATER.—*N. J. D.*: The leaves are no doubt injured by the water in the new tanks, and, for a time, until the newness wears off, soft water from another source should be used. But why syringe at all at this season, and especially four times a day? It is very bad practice.

CALANTHE VEITCHII.—Last year my plants of this fine Orchid bore spikes of bloom that lasted a long time in perfection and were well coloured. They have never been properly coloured this time and are rapidly shrivelling up. I have given them precisely the same treatment as they got last year. Can anyone say why they behave in this manner?—*A. F. R.*

ENDIVE.—Having no spare sashes or empty frames in which to plant late-sown Endive, I covered it up with mats laid over some supports with the view of preserving it as long as possible. It all rotted away, however, in a very short time. The mats were left on continually. Would I have been more successful had I taken off the mats daily?—*E. A. T.*

GREENFLY.—My Cinerarias are badly infested on the underside of the leaves with green fly. How can I get rid of the pest without spoiling other plants in flower in the greenhouse?—*Amateur.* [By dipping them carefully in tobacco water.]

PEARS.—For the sake of obtaining as much variety as possible, I want to plant a south aspect wall with as many varieties as I can grow in the space. Could any reader suggest what mode of training to adopt, and upon what stock the trees should be grafted?—*Planter.*

MISTLETO ON THE POPLAR.—In answer to "Quo," p. 312, I may say that the White Poplar is the only one on which I have seen Mistleto growing. It would be interesting if more of your readers, who know of any other trees besides those mentioned by me, would kindly name them for me and those interested, through the medium of your valuable pages.—*J. S. T.*

BRITISH FERNS.—I am getting together a collection of British Ferns, for cultivation in a small conservatory. Could any correspondent name a dozen or so of the most ornamental and easily managed varieties?—*Pteris.*

CHRYSANTHEMUM.—Can any one inform me, through the medium of *THE GARDENING WORLD*, of the names of eighteen of the best Chrysanthemums for decorative purposes. To commence with, I should like six Japanese, six incurved, and half a dozen late-flowering ones.—*E. F. A.*

APRICOT TREE.—A fine old specimen of this tree has fruited abundantly with me up to last year, when about half of the tree died after coming into leaf. Can I do anything to renovate this tree? It is very much swollen at the graft.—*R. W.*

YEW TREES.—We have two fine Yew trees, of the Irish variety, which we desire to move to a more conspicuous part of the garden. When is the most convenient time to move them, and what method should we adopt to ensure their safe removal?—*Taxus.*

PRIMULA FLORIBUNDA AND P. OBCONICA.—*J. B.*: Any first-class seedswoman would supply you.

NAMES OF PLANTS.—*J. C.*: *Zygopetalum Mackayi*.

COMMUNICATIONS RECEIVED.—*J. L.*—*F. W. B.*—*J. H. H.*—*J. Cockin*—*W. J. M.*—*W. G.*—*R. O.*—*Saxon*—*B. L.*—*W. J. M.*—*M. T. M.*—*B. S. W.*—*W. G.*—*J. H. H.*—*J. S. T.*

LONDON SEED TRADE.

January 26th, 1887.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a good enquiry for Clover Seeds at rates current last week; supplies of English Red are in excess of demand. English White Clover is offering at very moderate prices. Grass Seeds firm. Canary and Linseed dearer.

COVENT GARDEN MARKET.

January 27th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	2	5	Pine-apples, St.		
Grapes.....per lb.	1	3	Michaels, each	1	6
Kent Cobbs...100 lbs.	65	0	Pine-apples, Eng., lb.	1	0
Melons			Strawberries ..per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0	
Beans, French, per lb.	0	6	0	8	Lettuces . . per dozen	1	6		
Beet, per dozen	2	0	3	0	Mushrooms, p. basket	1	0	2	0
Brussel Sprouts, per lb.	0	3			Onions, per bushel ..	4	0	5	0
Cabbages per doz.	2	0	2	6	Parsley, per bunch ..	0	6		
Carrots, per bunch ..	0	6			Radishes, per dozen ..	1	6		
Cauliflowers, English,					Sea Kale . . . per basket	1	6	2	6
per dozen	3	0	5	0	Small salading, punnet	0	4		
Celery, per bundle ..	2	0	2	6	Spinach, per strike ..	2	0		
Cucumbers, each	0	6	0	9	Tomatos, per lb.	1	0	1	6
Endive, French, doz.	2	6	3	6	Turnips per bun.	0	6		
Herbs, per bunch....	0	2	0	4					

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4	0	6	Parma Violets(French),	
Azalea, 12 sprays	0	9	1	per bunch	7 0 8 6
Bouvardias, per bun.	1	0	1	Pelargoniums, per 12	
Camellias .12 blooms	2	0	4	sprays	1 0 1 6
Carnations, 12 blooms	1	0	3	— scarlet, 12 sprays..	0 6 1 0
Chrysanthemums,				Primula, double, bun.	0 9 1 6
12 bunches	12	0	24	— single 12 bun.	4 0 6 0
Cut Tulips, 12 blooms	0	9	1	Pyrethrum, 12 bnchs.	
Czar Violets (French),				Roses (coloured)	3 0 6 0
per bunch	2	0	3	Roses, Tea per dozen	1 6 4 0
Epiphyllum, 12 blms.	0	6	1	Roses, red (French),	
Eucharis, per dozen..	4	0	6	per doz.	2 0 3 6
Gardenias, 12 blooms.	9	0	24	— Safrano (French),	
Heliotropes, 12 sprays	0	6	1	per doz.	1 0 2 0
Lapageria, red,				Stephanotis, 12 sprays	
12 blooms	1	0	2	Tropæolums	1 0 2 0
Lapageria, white,				Tuberose, per dozen.	1 0 2 0
12 blooms	2	0	4	Violets .12 bunches	1 6 2 6
Marguerites, 12 bun...	3	0	6	White Jasmine, bun.	0 6 0 9
Mignonette, 12 bun...					

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0 18 0	Ferns, in var., doz. . .	4	0 18 0
Arum Lilies, per doz.	18	0 24 0	Ficus elastica, each . .	1	6 7 6
Begonias, per dozen.	6	0 12 0	Foliage Plants, vari-		
Bouvardia, per doz. . .	9	0 12 0	ous, each.	2	0 10 6
Chrysanthemums, doz.			Hyacinths, per doz. pts.	9	0 12 0
Cyperus, per dozen . .	4	0 12 0	Marguerites, per doz.	6	0 12 0
Dracæna term., doz.	30	0 60 0	Mignonette, per doz.		
— viridis, per dozen	1	0 24 0	Palms in variety, each	2	6 21 0
Epiphyllums, per doz.	18	0 30 0	Pelargoniums, doz. . .		
Erica gracilis, per doz.	9	0 12 0	Pelargoniums, scarlet,		
— hyemalis, per doz.	12	0 24 0	per dozen	6	0 9 0
— Regerminans. .doz.	9	0 12 0	Primula sinensis, p.dz.	4	0 6 0
— various . .per doz.	8	0 24 0	Solanums. . . .per doz.	9	0 12 0
Evergreens, in var.,			Tulips . . .per doz. pots	6	0 8 0
per dozen	6	0 24 0			

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ANNUAL GENERAL MEETING at 3 p.m., which Fellows are earnestly requested to attend, in the East Crush Room, Royal Albert Hall.

N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

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Next Week's Engagements.

TUESDAY, Feb. 8th.—Meeting of Fruit and Floral Committees of the Royal Horticultural Society, at 11 a.m.—Annual General Meeting at 3 p.m.

WEDNESDAY, Feb. 9th.—Sale of Lily Bulbs, Roses, &c., at Protheroe & Morris's Rooms; and of Greenhouse Plants from Ghent at Stevens' Rooms.

THURSDAY, Feb. 10th.—Sale of Established Orchids and Japan Lily Bulbs at Stevens' Rooms.

FRIDAY, Feb. 11th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, Feb. 12th.—Sales of Plants, Roses, &c., at Stevens' and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 5, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—Having so recently as the 22nd ult. offered some observations on the present position and future prospects of this once all-powerful and flourishing society, we ought, perhaps, to make some apology to our readers for so soon returning to the subject again. So great, however, is the interest taken in the society—its many shortcomings notwithstanding—and so soon will its fate be decided for better or for worse, if it can be brought to a worse plight than it is in now, that we feel sure such an apology will scarcely be required of us for calling attention to the fact that on Tuesday next the annual general meeting will be held in the East Crush Room of the Royal Albert

Hall, when it is earnestly hoped that every Fellow who has the interests of the society at heart will make a point of being present, for serious business will come on for discussion, and it is most desirable that whatever new arrangements it may be considered necessary to enter into should have the weight which attaches to numbers.

We are indebted to the Secretary for an advance proof of the report of the council and statement of accounts, which will be presented to the Fellows. The balance sheet shows a very serious deficit, as may be gleaned from the following extract from the auditors' report, which report, apart from its interest on financial grounds, will prove of melancholy interest to many of the Fellows, inasmuch as one of the gentlemen who signed it, Mr. James F. West, we grieve to say, died suddenly three days after the audit. The auditors express their "regret that two great disturbing influences have had a serious and depressing effect on the finances of the society in 1886; the first being the taking away of the privilege of transferable tickets of admission and making them personal, which resulted in the resignation of a large number of Fellows, and causing a reduction in the receipts of this most important part of the revenues to the amount of £850. Secondly, the failure of the Liverpool Exhibition, which shows a deficiency over the receipts of £740, which, added to the loss from subscriptions, makes a total loss under these two heads of £1,590, against which there is the asset of £300 for overdue subscriptions." Assuming the asset, rightly, we think, to be of very doubtful value, we have the startling fact that on the year's working the society is £1,500 to the bad.

As regards the future, we can only express our regret that the council, in their annual report, make no proposals for removing from South Kensington, the policy of "hanging on" still prevailing, as will be seen from the following extract:—"The council have been for a long time anxiously considering the arrangements which have now to be entered into, in order to enable the society to carry on the useful work on which it has been engaged during the whole of the present century. While they cannot conceal from themselves that the society's connection with the recent exhibitions, and, indeed, with South Kensington generally, has been gravely disadvantageous to it in the prosecution of its legitimate work—the promotion of scientific and practical horticulture—it is obvious that the society could not establish itself in a new home adequate to its requirements without undertaking a very serious expenditure, for which funds would have to be provided. The council have, therefore, entered into preliminary negotiations with the Royal Albert Hall Corporation, and they are prepared to recommend to the Fellows that they should be empowered to enter into an agreement with that body on the following terms—terms which the council believe will leave the society practically independent, while providing sufficient accommodation for its wants. The Royal Albert Hall Corporation agree to give the Royal Horticultural Society (a) the use of the conservatory for fortnightly and other shows; (b) accommodation for the Lindley Library and the meetings of the scientific, fruit, floral and other committees; (c) accommodation for the society's office and staff; (d) admission to the Royal Horticultural Gardens every day, and to the Royal Albert Hall (unreserved seats) whenever open to the public."

"The Royal Horticultural Society undertake the horticultural (but not the structural) maintenance of the conservatory, and of such limited portions of the gardens as may be occupied by the Royal Albert Hall Corpo-

ration, and to contribute an amount, to be agreed upon, towards the heating of the conservatory. It is distinctly understood that the Royal Horticultural Society will enter into any agreement it may make as an independent body, and that the society will have no connection whatever with the musical or other entertainments contemplated by the Royal Albert Hall Corporation. The latter body have intimated that at present they are not prepared to give the Fellows of the Royal Horticultural Society transferable tickets."

What will be the result of the discussion of these proposals on Tuesday we cannot, of course, foretell, but we have no hesitation in saying that they ought to be rejected, for the reasons (1) that the proposed scheme of the Royal Albert Hall Corporation being of a speculative character, in the case of failure the society would again be liable to eviction as at present; (2) because the amount the society would have to expend in maintenance, under the present proposals, would be better spent on a permanent home; and (3) because the privileges of Fellowship at the present rates of subscription are not sufficiently liberal to warrant any anticipation of an increase in the revenue from that source.

MR. J. R. CHARD, of Clapham, son of Mr. Chard, for many years gardener at Clarendon Park, Salisbury, has removed to the Brunswick Nursery, Stoke Newington, which Mr. Adam Forsyth made so famous for Chrysanthemums about twenty years ago.

MR. LOCK, gardener to B. W. Cleave, Esq., Crediton, Devon, was recently presented by his friends with a handsome testimonial. Mr. Lock is a very successful plant grower and exhibitor, and has, during eight years, won 499 prizes, 359 of which were firsts.

MR. T. SIMPSON, lately foreman to Mr. Hunter at Lambton Castle, Durham, has been engaged as gardener to H. Bramwell, Esq., Crown East Court, Worcester.

THE WIRRAL ROSE SHOW will be held in Birkenhead on Wednesday, July 20th.

WE are happy to record the fact that at the annual meeting of the LIVERPOOL HORTICULTURAL ASSOCIATION held last week, a grant of £5 was voted to the Gardeners' Royal Benevolent Institution. Details will be found in another column.

A curious instance of NATURAL GRAFTING may be seen at Barnstead, New Hampshire. Near the stage road from Pittsfield, there are two Pine trees about 30 ins. in diameter, standing 2½ ft. apart; some 6 ft. from the ground is a branch or limb, about 6 ins. in thickness, connecting the two. It grows with the growth of the trees, and it is impossible to tell from which it grows. A man can pass between the trees under the limb as through an open door.

The committee of the SCOTTISH PANSY SOCIETY appeal for donations in aid of the Prize Fund. The society has been established forty-three years, and the committee trust that all admirers of this beautiful and favourite flower will make a liberal response, so that the next show may be a specially fine one in honour of the Queen's Jubilee. Mr. W. M. Welsh, Waterloo Place, Edinburgh, will be happy to acknowledge subscriptions.

THE schedule of the GRAND YORKSHIRE GALA AND HORTICULTURAL EXHIBITION at York—July 15th, 16th and 17th—is now before us, and in addition to the usual liberal prizes given at York, special Jubilee Orchid prizes have been raised by subscription amongst friends, thus offering for sixteen Orchids, distinct—first prize, £21; second prize, £15 15s.; third prize, £10 10s.; fourth prize, £5 5s. In addition, the society offers £24 in other classes for Orchids; and Messrs. Backhouse & Son offer £6 6s. in prizes for four Orchids. The sum of £80 is allotted to groups of plants; nearly £150 to stove and greenhouse plants, Azaleas, Ferns, and other plants; £105 10s. to Pelargoniums alone in their various classes; £60 to Roses in pots; £61 to cut Roses; £16 5s. for bouquets, &c.; £50 for fruit, including the Veitch Memorial prize of £5 and Medal as first prize for six varieties of fruits; and other prizes for vegetables, &c. A few new classes are added, such as for six double-flowered Ivy-leaf Pelargoniums, and

seventy-two Roses, not more than two of each variety &c. It is an admirable schedule; and although York has always held first-class exhibitions, the Committee, no doubt, feel anxious that the Jubilee year should be recognised by the finest exhibition the society will have held. The Lord Mayor of York is the chairman of the committee; and Mr. John Wilson, 13, New Street, York, is the secretary.

A CORRESPONDENT writes:—"Energy and determination to succeed most frequently leads to success, and, as an example, we have pleasure in referring to Mr. William Jiuku, the head gardener at Wyddrington, Birmingham, who collected from his employer and other gentlemen, and several gardening friends, nearly £12 for the funds of the Gardeners' Benevolent Institution; and he has received a notification from the secretary that, in consequence of his having collected this amount, his name is now added to the roll of life members of the society. It is an excellent example, well worth following. By-the-bye, could not successful horticultural societies celebrate the Jubilee Year by making donations from their funds to this most excellent charity, for in these hard times many an unfortunate gardener would be very thankful to receive help from the institution?"

AN admirably written and very interesting paper on ORCHID LORE, by Mr. Lewis Castle, author of *Orchids: their History and Culture*, was read before the members of the Lee, Blackheath and Lewisham Horticultural Society, at their monthly meeting, held in the Working Men's Institute, Old Road, Lee, on the 28th ult. The author conveyed in a pleasing manner a vast amount of interesting information as to the early history and peculiarities of this curious class of plants; and also good useful cultural hints. A discussion followed, in the course of which, the subjects of heating, fumigating and watering received close attention from the leading local Orchidists.

ON Saturday last the annual general meeting of the HUDDERSFIELD CHRYSANTHEMUM SOCIETY was held at the Queen Hotel. The balance sheet presented showed a healthy condition in the Society's financial affairs; the receipts from all sources being £239 9s. 9d., and the expenses £181 12s. 7d. The balance in hand, £57 17s. 2d., was smaller by £20 than in the previous year, but that was accounted for by an increase in the amount given as prizes. The dates selected for the present year's show are November 11th and 12th, and the officers elected are:—President, J. Vickerman, Esq.; vice-presidents, G. Jarman, Esq., and Dr. Rhodes; treasurer, J. W. Thornton, Esq., and hon. secretary, Mr. John Bell, Luck Lane Marsh.

A GENERAL MEETING of the ST. ANN'S AMATEUR FLORAL AND HORTICULTURAL SOCIETY, was held at the Queen Ann's Inn, Nottingham, on February 1st, Mr. S. Thacker in the chair. This is the twenty-seventh year of the society's existence, but we regret to hear that it is not in a flourishing condition just now. The society has, however, been doing good work during the present winter, by holding monthly shows of plants, flowers, &c., and giving small prizes to encourage the exhibitors. The officers elected for the ensuing year are as follows:—President, S. Thacker, Esq.; vice-presidents, Mr. W. Cotton and Mr. J. Wilson; treasurers, Mr. G. Priestley, sen., Mr. Wm. Ellis and Mr. G. Bunny, who were also elected trustees. A vote of condolence with the family of the late Mr. S. Wardle, a very old member of the society, was passed, and a vote of thanks to the chairman for presiding brought a very pleasant evening to a close.

CANADIAN APPLES.

Compared with our home-grown sorts, it must be admitted that Canadian or American Apples generally present a handsome appearance by their glossy clean skin and telling colours, in which, as is well known, red, or some shade of it—generally intense—plays a predominant part. Their size must also be taken into consideration. They are seldom, however, possessed of those firm and brisk qualities that characterise so many of our British Apples. They are sweet, soft—except in the case of Russets, perhaps—and liable to become mealy or spongy when over-ripened or out of season.

Amongst a number in the fruit-room at Chiswick, Fillbasket presents a truly handsome and imposing appearance, both from its size and striking colours; these consist of a fine mottling and suffusion of red on

a yellow ground. Its shape is oblate, and, in all probability, it is the largest-growing variety amongst the Canadian collection at this date. Northern Spy is a British variety that seems to attain considerable size in Canada. It is a dessert Apple of the best quality, with brisk and sweet white flesh. The skin is streaked and flushed with red on the exposed side, and presents a fine appearance on the table. A small or medium-sized Apple, named Johnstone, presents a fine appearance from its deep shining red colour, and is still quite firm. Another showy variety is that named Wealthy; it is large, and yellow on one side, while the other side is wholly of a deep red colour. Foundling is another large sort, but seemed soft and less desirable at this season; it is, however, a fine-looking Apple, suffused and streaked red on the exposed side on a clear yellow ground colour.—*J. F.*

WEST HAM PARK,

THE favourite resort of East London, although of small pretensions compared with some of our public parks, is a place where one would consider the damages occasioned by a snowstorm, similar to the one lately experienced, would be strikingly apparent. My diurnal perambulation of its limits, and knowledge of each familiar feature, enables me to declare the contrary. The magnificent clumps of Rhododendrons and Azaleas exhibit few indications of injury. Situate in a hollow (the sub-tropical department) the force of the wind was mitigated to a great extent; and now the gardeners have cut out the dead wood, re-tied those branches which had been torn from their supports, and forked over the borders, one would be really puzzled to identify any token of casualties. A very old *Cornus Europæus* (European Dogwood), forming a natural bower over one of the paths, has escaped injury; likewise *Salisburia adiantifolia* (Maidenhair Tree), a favourite of most visitors to the park. *Taxus hibernica*, *T. baccata*, *Thuja elegantissima* and *Araucaria imbricata*, display no signs of mutilation; the same may be said of *Sorbus domestica*, *Fagus sylvatica pendula*, *Rhus typhinus*, *Picea Nordmanniana*, and *Mespilus Germanica*. Shrubs and evergreens, here and there, have had their branches lacerated; and the larger trees (the "brave old Oak" and the "spreading Chestnut"), from the fact of being more exposed, have lost some of their members through the violence of the wind.

On the whole, the general surroundings denote an absence of any material rupture. It may not be generally known, but West Ham Park was formerly the grounds attached to the residence of Samuel and Elizabeth Gurney, near relatives of the celebrated Elizabeth Fry, the great prison reformer. A large stone with inscription to that effect marks the spot where the edifice stood. Purchased by the Corporation of the City of London, the grounds have been converted into a charming rendezvous for the lovers of flowers. Everything is carried out with neatness, and the arrangements and discipline to a nicety, comparing favourably with any of our larger public spaces. And the public do not abuse the great boon conferred; there is an absence of that wanton mischief which, grievous to relate, is carried on in our parks; wilful destruction to the fragile plant and sturdy tree, for no earthly motive. A visit to this pretty spot will substantiate my statements, and prove an interesting and pleasant excursion in the summer.—*Albert G. Hull, Forest Gate, Essex.*

ARAUCARIA EXCELSA.

THIS is one of the finest decorative plants for furnishing either rooms or conservatories, and is especially useful in a small state; medium-sized plants make the best of Christmas trees, but require to be taken care of that they do not suffer when used for this purpose, for if the branches are broken they are disfigured altogether. The bulk of the plants generally in the market are raised from seed, and consequently have a certain length of the stem upwards bare of branches; as the plant increases in size this becomes more apparent, and the plant generally looks as if it would be better to cut it off at about 2 ft. from the top of the pot, then it would make an exceedingly handsome plant; but they can only be had in this state of perfection by obtaining them from cuttings. The little side branches strike easily enough when taken off with a heel, but they never make plants, nor can they ever do as there is no

real lead to them. If a large plant should get too big for its house and become shabby at the bottom, cut the top off at the first joint from the apex (the top does not often root well), this will cause the plant to push up two or three leaders; one of these will generally take the lead, and when this shoot is about 6 in. to 9 in. in length and has become somewhat firm in its wood, it may then be taken off with a heel close to the parent stem.

After this shoot has been taken away from the parent, the other shoots that are left will soon push up, and these as they are fit can be taken off to be rooted. This plant being of a resinous nature, I find it is not well to insert the cuttings immediately they are taken off, but I hang them up with either a piece of matting or string, upside down, to the roof of the house for a couple of days before potting them; this allows the sap in the cutting to become settled, and the wound to somewhat dry up, having a beneficial effect in not losing any of the sap, which if allowed to escape would cause the outer bark on the cutting to shrivel up to a very great extent, and thus the chances of the cuttings rooting would be somewhat impaired. At the end of the two days I pot the cuttings in a mixture of sandy loam in a well-drained pot, placing a stake down by the centre of the cutting, and then carefully tying up the branches that will be partly developed, but will be still very tender. If the soil is moderately damp when the cutting is potted, no water will be required for a considerable time, and the pot or pots should be plunged up to the rim in a cool



ARAUCARIA EXCELSA.

propagating house, and have a bell-glass placed over them. This bell-glass will be better if a small thumb pot or piece of crock is laid on the fibre, and one edge of the bell-glass is allowed to rest upon it; this causes a sufficient circulation of air to work around the cuttings to prevent any very great amount of damp from settling upon them which if allowed to remain would be very injurious.

The bell-glass should be wiped dry every day, and if any great amount of moisture appears, it will be as well to take the glass off first thing in the morning, letting it remain off for a couple of hours till the dew has somewhat disappeared from the cutting; afterwards, wipe the glass, and place again over the cutting. If the cutting is going to root successfully, appearance of a callus will be showing in a couple of months; but, to bring the rooting off successfully, six months time will be required before it can be considered safe, or, in some cases, a longer period. The cuttings may appear to some to be a long time on hand, but, considering the nature of the plant, it is no longer than a great many of our greenhouse hard-wooded plants, and taking into consideration the benefits of having a plant well furnished with branches down to the pot, the time spent in waiting is not altogether wasted. If the fibre in which the cutting is plunged is kept moist, very little water is required to be given to the soil in the pot, but care must be taken that the soil is not allowed to become too dry. When the root-action of the parent plant is kept healthy, a very considerable number of cuttings can be made from an old plant 6 ft. or 8 ft. high; for as each leader is taken away as it becomes fit, fresh ones will keep breaking out, and so keep up the supply. If this matter is carried out

successfully, it will take a number of years to work all the eyes out of an old plant; but the plants thus obtained are in every way superior to seedlings.—*W. G.*

NOTES ON ONIONS.

Is there not a grave danger of our having almost too many new Onions? They multiply with great rapidity, and being sent out in small packets at high prices, they, no doubt, make an excellent and remunerative commercial speculation. I confess to a good deal of scepticism as to the best part of them being actual crosses, though it is represented that they originate in this way. The fact is, they are merely selections. Take a good stock of the old White Spanish or Reading, and grow it against Banbury Improved, Nuneham Park, Walker's Exhibition, Rousham Park and any other new aspirant to favour of the same type, and grow them side by side, and one will need a very clear vision to see much difference between them. The fact is, the seeds of these high-priced new Onions are grown by gardeners, and, as they cultivate their plants well, fine heads of seed vessels are produced; the seeds are large and stout, and, as a consequence, they, if well grown, in their turn produce fine bulbs. This gives an apt illustration of the value of selection.

The Bedfordshire growers of Onions—and the bulk of the supply of White Spanish Onion seed comes from that part of the country—appear to do just the reverse. They sell their finest Onions, and plant the smallest for seed purposes, and so it is inevitable that deterioration follows. They should select some of their very best Onions for seed purposes, and then they would have a fine stock.

Early sowing is necessary to have good Onions, but early sowing is of little value without good ground. The Onion plant produces a number of stout thread-like roots that reach some way into the ground, and they take a good deal of nutriment out of it. Onions are said to be an excellent crop to follow Cabbages; but on the other hand it is well known that the same piece of ground will produce good bulbs year after year. I have heard of a case in which the same piece of ground produced excellent Onions every season for half-a-century.

Growers of Onions for exhibition invariably heavily manure and deeply trench their ground in autumn, and then throw it up rough to be operated upon by the winter frosts. If the soil is a light and friable one, they sow the seeds as early in February as possible; in the case of heavier ground of a more adhesive character, it had better be deferred until March; but early sowing in reason is decidedly advantageous. The soil should be lightly forked over and levelled, beating it fine, and then be trodden down firmly. The seeds should be sown thinly in drills $\frac{1}{4}$ in. deep and 9 ins. apart. The more thinly they are sown the better, because less thinning out is then required, and, consequently, less disturbance at the roots. The seeds need to be covered with fine rich soil, and the whole flattened down with the back of a spade.

When the seedlings will appear above the soil depends very much upon the state of the weather. If it should be bright, sunny and open, the plants will appear in a fortnight; and all that is requisite is to keep weeds from growing among them, and encourage their growth in every possible way. Should the hoe be used between the rows, care should be taken that the soil be not drawn up close to the plant; some water should be given in dry weather. In growing a crop for general use, it is a good plan, at the first thinning, to leave a row of plants 2 ins. apart, later on pulling out each alternate one for use. If some very fine bulbs are required for the exhibition table, the Onions should be at least 6 ins. apart. Top-dressings of fine wood ashes greatly help the crop, and a little guano added occasionally is of assistance also. Wood ashes are said to give a fine hue of colour to the skin, and they prevent the ravages of the Onion maggot.

How to get fine necks to the Onions is a matter of some moment. As soon as the bulbs have pretty well made their growth, the grower should begin to pinch in the necks of the bulbs—say, three times a week—with the result that they will gradually wither, and assume that fine character so much admired. It is a mistake to cut them away—do not do that, but pinch them instead. When the crop is matured, it should be pulled on a dry day, left on the ground, if the weather keeps fine, for a day or two, shading from the sun with a

newspaper or something light, and then be stowed away in a proper place.

I have named the finest of the newer flat Onions of the Spanish type. Of the Globe type there are James's Keeping, Magnum Bonum, Bedfordshire Champion, and the Improved Wroxtton Globe. For autumn sowing in August, use Trebous, Giant Rocca, and Giant White Italian Tripoli. For keeping through the winter, Giant Zittau, Danvers' Yellow, James's Keeping and White Globe. The Trebous, Rocca and White Tripoli are not keepers; but they come in very useful in early summer, and especially for early shows.—*R. D.*

PURPLE-SPROUTING BROCCOLI.

AFTER such severe weather as we had in December and January, it is gratifying to note that the extreme hardness of purple-sprouting Broccoli is more than ever a matter for comment. The severe trial to which it has been subjected has shown that in the neighbourhood of London it is capable of resisting not only snow, rain and frost, but other less known, though not the less real and injurious, influences at work in the smoky atmosphere of large towns. That there is something in this would seem evident from the fact of its passing through the ordeal of the recent severe weather, while in the bulk of suburban gardens the other vegetables of a similar kind have all, or nearly all, come to grief. In contrast to this must be mentioned the huge waggon-loads of the Brassica tribe that wend their way to Covent Garden Market daily from districts removed some distance from the vicinity of London. The Broccoli under notice may be seen in the Royal Horticultural Society's Garden at Chiswick in a healthy vigorous condition, unhurt by the frost. This is difficult to understand apart from mere vigour of constitution and hardness, because although dwarf compared with Brussels Sprouts in the same garden, it must have been wholly exposed during the greater part of the severe weather, even when the snow was only partly thawed. The purple sprouts become green when boiled, and constitute an excellent well-flavoured vegetable. None of the white varieties of Broccoli are hardy enough to compete with the purple sort.

THE GROS COLMAR GRAPE.

I HAVE read with interest the remarks of "Vitis" on this Grape, in your issue of Jan. 29th; but I must say I cannot agree with all he says, and would like to take exception, without "acrimony," to some of his remarks. First of all, he says that "a second or even an early house" is the place for it, and that when so treated and ripened about the "end of June or beginning of July," it will hang and keep its colour well till the end of September. Now, I consider to grow it under these conditions is to place it quite at a disadvantage, because it is not an early Grape; and to have it in a house where it and other kinds are expected to be ripe about the end of June or beginning of July is not giving it such treatment as it likes best. No serious attempts should be made to have Gros Colmar fit for use before September, and from then on till the end of January it may be considered a very valuable Grape, possessing, as it does, a splendid appearance and fair quality.

I must also differ from "Vitis" when he says the skin is so thin; it is not so thick-skinned as Alicante, Gros Maroc, and some other kinds, but it is far from being a thin-skinned Grape. I would advise a long season, plenty of heat and air, and generous treatment in regard to feeding; this combined with judicious cropping, not overloading a willing steed, for Gros Colmar is willing to bear a very heavy crop, and "shows" in abundance. Nothing, however, should tempt anyone to leave too heavy a crop on simply because the number of bunches shown in spring is great and the Vines look vigorous. The knife must be freely plied, and only such bunches left as can be brought to proper perfection without injury to the Vines.

Some people go in for enormous crops and inferior quality, but for a gentleman's table I think it is more satisfactory to have less in numbers and better quality of bunches. Unless there are some very particular rules laid down for showing black Grapes in August and September, I can hardly see why judges should not give to the finest looking and best finished, to all appearance, of the Grapes shown. Until special distinctions are made between such Grapes as are "finished" only in appearance and not in reality, and those which have arrived at their best condition in regard to table

qualities, little fault can be found with judges for awarding prizes to Grapes whose condition is so good that it is plainly evident that given a little more time they will be prime specimens of their class, rather than to other Grapes, which, though in their exact season as regards being in their best condition for table, are yet, in themselves, not such fine specimens of culture as the former. I think in the case mentioned by "Vitis" that the Colmars were badly used and should have been awarded a first place. The question as to which should have been placed first, supposing they had been equal in point of fine bunches, berries and finish, as far as appearance goes, at least, is a difficult one. Some would say in that case, "place them equal," others would say, "place Madresfield Court first because it is a finer Grape as regards flavour and quality." I should say, that in a class of "any other black," general appearance and finish should only be taken into account, as a little more time may be all that is required to make one variety at its best, and that extra time may cause another variety, then at its best, to become too ripe. Unless we go in for largely increasing our classes and making very fine distinctions, I cannot see but that we must leave a great deal to the discretion and common sense of judges; and if in any case such qualities are wanting in those called on to adjudicate, it is a matter for regret. I may say that Muscats have often been seen by me in beautiful condition for eating by the end of July, but not to any extent much earlier; thoroughly coloured and ripened Muscats in June are, I think, few and far between. I hope that in time some more distinct rules may be framed in connection with Grape showing, so that there may be less room for misunderstandings and mistakes than there is at present.—*Scotia.*

THE OPERATION OF POTTING.

POTTING plants of whatever class is a delicate operation at all times, and upon the manner in which this work is done greatly depends the after success of the subject treated. To a great many the work may appear in a very indifferent light; but to the thinking man, and the man who wishes to succeed with his plants, the operation of potting is looked upon as a very serious matter. If the work be done well, and the plants get the proper treatment afterwards, it will soon be apparent to the most casual observer that they are enjoying the benefits of good treatment; but if slipshod work is practised, the evil of the system will not be long in showing itself, even to the ordinary observer. It is known to many of us that the potting of bedding-out plants in the spring of the year has to be pushed along with a pretty sharp, but still experienced hand. Even then he does not hurry his work in order to pot an extra number, when he well knows that at least a third of the plants will have to be emptied out again as failures resulting through carelessness.

In the following remarks I will endeavour to be as explicit as possible to the amateur, who often stands in need of instruction; also to the younger gardeners who do not get that amount of practice at potting which it is desirable they should have, the work often being done by the head gardeners, or, perhaps, his first man. The potting-shed is the proper place for that kind of work, and this structure should in every case be as near the greenhouses as possible. In fact, if it is connected with them so much the better; for by this means tender plants are not exposed to cold draughts, which are at all times very injurious. This structure should also be heated, so that the men can perform their work comfortably. It should also be provided with firm benches for the purposes of potting, and have spaces underneath in which to store the various kinds of soil as they are brought in from the yard.

The shed should have sufficient elevation to allow the potting of large plants without running their heads against the roof. Plenty of light, either from above or from the sides, is also desirable. A corner should be reserved and fitted up for breaking crocks to be used as drainage; the shed should always be large enough to accommodate a hand-barrow, without being inconvenient to the workman or casual visitors. In fact, I prefer a good square shed with potting benches all round, and these benches should be occupied with prepared heaps of soil to suit various kinds of plants, so that any particular plant may be potted without the trouble of mixing a small quantity of soil specially for it.

The pots are the next thing to be considered, and various sizes should always be in the shed or in close proximity to it; these should always be in a clean condition before being used. Preparation for potting lies in having a good supply of broken crocks ready to hand of various sizes. Now comes the first essential of either success or failure, namely, the drainage of the pot. I have said the pot should be perfectly clean; if it is new it should be steeped in water for a short time, to allow the newly burnt clay to absorb the moisture; for, as a rule, new pots without having been previously steeped absorb all the moisture from the soil. This proves very injurious to the plant, and necessitates the giving of more water than is absolutely required.

The pots should also be examined before they are drained, to see that the hole in the bottom is large enough to allow the water to run away freely. If these holes are not sufficiently large they must be made bigger with the hammer. The hole in the bottom of a small pot should be large enough for the end of the finger to go in easily, and in larger pots, from 5 ins. upwards, the hole should be such that you can push a shilling or a five shilling piece through. I find many of our pot manufacturers do not study this matter for horticulturists, but it is a question of vital importance for the issues at stake. The first operation of draining a pot is to get a crock large enough to cover the hole easily; and if it be a hollow crock, let the hollow side be downwards. This admits of water getting away quickly. A few more crocks of a smaller size on the top of this larger one is all that is necessary to complete the drainage, unless the pot should happen to be a large one, under which circumstances the operation would have to be varied somewhat. For instance, over the large crock a good layer of fair-sized ones would have to be placed, and again over these a quantity of smaller ones to complete the drainage.

We have now drained the pot, and will proceed to pot the plant. This will have to be done in various ways, according as the subject is either a rooted cutting, or a plant potted on from a small pot to a larger one. Hard-wooded plants require most care of all in this operation. Whether the plants are in cutting pots, or in small pots to be potted into larger ones, always be careful that they are not suffering from want of water before commencing the operation. All plants should be in a properly moist condition before being potted, neither too wet nor too dry. If the plants are well watered the day previous to their being potted, it will generally answer the purpose—a fact I am trying to impress on the minds of the uninitiated.

If the plants are watered as already explained, they turn out of the pot much easier, and the roots being full of moisture do not suffer from the operation. This is a matter that tells considerably on the foliage of soft-wooded plants, such as Pelargoniums, Fuchsias, &c. We will start at the beginning, and pot off cuttings that have been well rooted, bringing them into the shed on trays large enough to hold about a dozen of 48-sized pots. We have all our 60-sized pots ready prepared as far as the crocks are concerned. Taking the pot of cuttings in the left hand, and placing the two forefingers across its top, we then turn it upside down, and taking hold of the bottom with the right hand, give the edge of the pot a sharp knock on the bench, which brings the pot away from the mass of soil and cuttings. We next take all the crocks from the ball of soil, and shake our cuttings out carefully, placing them on the soil in which they are to be potted. If there is a quantity of one variety, it is advisable to get a good number shaken out before commencing to pot. This obviates the necessity of continually changing your work, and gives you a chance of potting the plants right away without hindrance. After the rooted cuttings are laid on the soil, your pots arranged on one side of the heap and the tray on the other, you commence to pot the plants. This kind of plant should be potted expeditiously. Take the plant in the left hand, and place a little rough soil in the bottom of the pot over the crocks. Let the roots of the cuttings hang straight down into the pot, and with the other hand place sufficient soil round it, about ½ in. above the rim of the pot. Take the pot now in both hands, place the thumbs on the soil, one on each side of the plant, and give the pot about two sharp knocks on the bench. This settles both soil and plant into their proper places, when the pot may be placed on the tray ready for removal as the latter becomes filled.—*W. G.*

(To be continued.)

PEAR CONGRESS REPORT.

PERMIT me, as a member of the committee conducting the Pear Congress of 1885, to inquire as to the probable publication, or otherwise, of the Congress report. That report—compiled by Mr. A. F. Barron, the hon. secretary, with exceeding care, and after much labour—was laid before a meeting of the committee held at South Kensington about the middle of October last; and having been approved of by them, a recommendation was passed that the council of the Royal Horticultural Society should undertake its publication. I believe private offers had been made to take the report and publish it; but it was felt that the association with it of any one trade house or firm was undesirable—although much less an evil, in my estimation, than the non-publication of the report absolutely—and the council were urged to publish it in the interests of horticulture. I have not heard, from any source, of anything being done in relation to the matter since then; and if nothing has been done, or the council have declined the responsibility, so much the more is such result to be deplored. So considerable a period has elapsed since the Pear Congress took place that it is obvious interest in its results is waning. Still, there can be little doubt but that a report of so interesting a kind would be in considerable request. My own opinion favoured the publication of the report at the moderate charge of 1s.; the committee, however, preferred 2s. 6d., as enabling a stouter binding to be provided. Still, it is obvious that in these days we get remarkably good books for 1s. Another matter discussed at the meeting in question has also dropped out of sight. The work undertaken by Mr. Barron in connection with both the Apple and Pear Congresses was not only exceptional but great, entailing labours which fully merit some form of remuneration. Not only did Mr. Barron discharge the duties involved with exceeding ability and courtesy, but he had heavy strain, in both cases, placed upon his domestic hospitality. In neither case has, as far as I am aware, any personal remuneration been granted; and if the council have not yielded to the request of the Congress committee, as instructed to be expressed to that body through the chairman, Mr. John Lee, in the matter, then all who benefited by the Congress should take the subject in hand, and in a generous spirit.—A. D. [The council announce that the report will shortly be issued.—ED.]

GARDEN PLANTS ILLUSTRATED.

PRIMULA EROSA and P. CAPITATA VAR.

Many of the Himalayan Primroses have much the same general aspect. Both these under notice may be regarded as forms of a group having for its centre of type, *P. denticulata*. *P. erosa* differs from the latter by its much more slender habit, and in the absence of meal on the leaves, except in a very young state. The leaves are characterised by being strongly and erosely toothed at the margin, and often having red petioles. The umbels of flowers are loose or dense, according to the strength of the plant, and of a deeper purple than *P. denticulata*. The various forms of *P. capitata* are confined to the Eastern Himalayas, and are distinguished by their mealiness, and the tall mealy scape bearing a dense umbel or head of deep purple-blue flowers. The underside of the leaves are often snowy white with meal.—*Botanical Magazine*, t. 6917.

NYPHÆA FLAVA.

The leaves of this species are often spotted or blotched on the upper surface, and of a bronzy red beneath. The flowers are about 4 ins. in diameter, pale yellow, opening about noon, and remaining in that condition till sunset. The rhizomes of this species are elongated, and the plant has the peculiar habit of sending out long stoloniferous shoots, by which it may be readily propagated or increased. It is a native of Florida, and flowered at Kew for the first time in July, 1882. Mr. Watson, of Kew, says it has been planted out in lakes in Kent, where it seems naturalised, and has produced flowers for several years in succession.—*Botanical Magazine*, t. 6917.

ROSE, COMTE DE PARIS.

The variety here mentioned was put into commerce by Messrs. Leveque & Sons, Rose growers at Ivry-sur-Seine, near Paris. If the illustration is to be trusted, the Rose possesses a fine form when fully expanded, but possesses great attractiveness in the bud or half-opened state. The petals are of an intense crimson and well arranged.—*Bulletino della R. Società Toscana di Orticultura*, 1886, t. 13.

GARDENING NOTES FROM SCOTLAND.

The Weather in Scotland.—It is certainly beyond a doubt that the variability of temperatures in Scotland have been very wide, as indicated by the periodical reports. Both frost and snow has been comparatively nominal in some parts. I have had letters from the south of Scotland and also from the far north, reporting the severity of the weather, also the inconvenience and difficulties experienced by stock farmers from the snow-covered and frost-bound pastures. To have correct data of the readings of thermometers, as Mr. T. W. Glover suggests, from the various districts, would be very interesting as well as instructive. We have only once or twice had over 10° of frost, and only once as high as 15°, but it has been continuous, and the roads have been so encrusted with ice, that traffic has been rendered very difficult. Of snow we have had next to none; large portions of the surrounding fields have remained uncovered all the season. Nothing has been experienced here of the terrible winds which are reported to have wrought such devastation in some of the most beautiful woodlands and pleasure grounds which are known to us—at Heckfield, Hants, for example. Here we are much open to the west and south-west, but have had no wind to break branches or twigs. As an example of the extreme variability of the weather, I may state that I once went to Edinburgh, and was astonished to find men with horses and carts clearing the streets of the snow; business traffic was almost suspended, trains were detained hours beyond their appointed time of arrival, especially those from England, while the country all around here was free from frost or snow—and yet we are only twenty-five miles from the city of Edinburgh. Our locality is by the bank of the dark-winding Carron (referred to by Burns), and about two miles south-west of the river Forth. We have three (proved) thermometers in different positions, and they are examined early in the day, and sometimes as late as midnight.—*M. Temple, Carron House, Larbert.*

Stirling Horticultural Association.—The annual business meeting of this association was held on the 27th ult., when a goodly number of the members met at Dowdy's Temperance Hotel, Stirling, and partook of a substantial tea provided by the host. The chairman, Mr. Ritchie, of Polmaise Gardens, opened the meeting with a few brief but opportune remarks; after which the secretary, Mr. Clarke, at Messrs. Drummond's, gave his annual report, which was of a most satisfactory character, both financially and as regards the practical usefulness of the society. The papers which had been read during the past year at the monthly meetings were of an instructive and useful character; and many enjoyable and profitable evenings were spent. Mr. Clarke next read to the audience a paper on general topics calculated to disseminate knowledge and infuse high moral principles, special care being taken to render the address applicable to young men, several journeymen and apprentice gardeners being present. The advantages of knowledge, the disadvantages of its absence, and personal application were made strong points. Mr. Clarke, whose interest in the welfare of his neighbours—gardeners especially—is very great, was heartily thanked for his very felicitous and instructive paper.—*Caledonian.*

Aberdeen: The Queen's Jubilee.—One of the proposals likely to be inaugurated in the Jubilee year of the Queen, is the formation of a Gardeners' Benevolent Society. Mr. George Bruce, seedsman, Aberdeen, is the mover in this object, and he is at present gathering information about the working of such societies. On the completion of his investigations a meeting will be advertised, so that office-bearers may be elected to further the movement. In other quarters horticulturists are bestirring themselves. The Royal Horticultural Society of Aberdeen have instituted a prize to be competed for at their forthcoming show, and which is to be called "The Jubilee Prize." It is to be of so valuable a nature as will, in all probability, induce horticulturists from all parts of the country to come and compete. The members of the North of Scotland Horticultural Association intend commemorating the year in a suitable manner, but the form it will take has not as yet been decided upon.

THE AMATEURS' GARDEN.

HARDY FRUIT DEPARTMENT.—Pruning that has not already been completed should be prosecuted with great vigour. Peaches, Nectarines and Apricots will now advance rapidly, and where unfinished should be seen to immediately. If left longer, the operation of pruning and tying will entail increased danger of destroying the bloom-buds, owing to their size and prominence. Indoors they will be in a still more advanced condition, but the work has, in all probability, been completed there. Apples and Pears, whether in the open ground in the shape of bushes or standards, or on espaliers and walls, should be pruned without delay, and, in the latter cases, carefully tied or nailed, as the case may be. In pruning these, care must be taken to cut above the bud most favourably situated to grow in the desired direction. This, of course, depends upon the habit of the tree, and the mode of training to which it is subjected. The operator's duty is to make an acquaintance with the habit of every tree coming under his care, so that the operation of pruning may be conducted in an intelligent and methodical manner. Whenever the pruning and nailing of trees on any piece of ground has been completed, the labourer or garden-boy should forthwith rake up the prunings, and convey them to a vacant space of ground, where they may be burnt, and the ashes utilised for manuring purposes. The ground may then be dug immediately. If manure had been wheeled where such is necessary during the recent frosty weather, no delay will now be experienced in spreading it on the ground before digging is commenced.

PLANTING.—Where the transplanting of Peaches and Nectarines is intended, it should now be commenced without delay. The ground is again in workable condition, and advantage of this should be taken before leaf growth becomes active. The longer such work is delayed, the less prepared will the roots be to supply the expanding foliage and the swelling fruit with the necessary food ingredients and moisture when the operation has been completed. This means weakening the whole tree, or so crippling it, that an early completion of growth and ripening of wood is impossible, to say nothing of the maturing of a crop of fruit. The intelligent and conscientious cultivator will, therefore, conduct the transplanting of such early-flowering subjects at the earliest convenience, so that the roots may have time to re-establish themselves to some extent before the flower-buds and foliage expand. Gooseberries and Black Currants that also come into growth early may next receive attention when planting or transplanting has to be done. Apples and Pears may be planted with safety for some weeks yet; but at the same time it is well to bear in mind that transplanting is injurious and weakening if conducted after active growth has commenced.

FLOWER GARDEN.—As the beauty of a flower-garden at this season depends greatly upon its neat and tidy appearance, this matter should be rigorously attended to from time to time as occasion offers. In the immediate vicinity of the mansion this overhauling of lawns and walks should be done at least once a week. All branches or leaves still blowing about (and these are abundant after such a storm as we experienced), should be carefully swept or raked up, so that the whole may bear an aspect of tidiness and quiet. All dead and decaying branches, trees or shrubs, detract from the general appearance, and should forthwith be removed. Lawns and walks will be much more enjoyable if rendered firm by rolling after being thoroughly cleaned. Returfing, or the making up of sunken places or the remodelling of the whole lawn with its beds, may be accomplished at this season, when the weather is open and little growth taking place. Prune Roses on walls, pillars and open borders, except in the case of hybrid perpetuals and tender ones, where the operation will be better deferred until all danger of frost is over. Where there are beds or borders of herbaceous plants, these may be lifted and rearranged where necessary. Where borders exist, and it is undesirable to disturb the whole, they may be gone over to rectify those which the previous season showed to be too near the front, on account of their size, or too far from it. This will be an easier matter if a stick or label was attached to those requiring it the previous summer.—*F.*

KEEPING FLOWERS IN WATER.—Florists have one knack in prolonging the freshness of flowers with which few amateurs seem to be familiar. It is to cut off a bit of the stem with a sharp knife after the flowers have been in the water for a day or more. This has the effect of bringing fresh cells in direct contact with the water, and the flowers, as a result, put on a new brightness.—*Popular Gardening.*

THE ROYAL HORTICULTURAL SOCIETY.

YOUR correspondent "V. G." complains of the choice of the new members of the council proposed for the election of the 8th inst. It is a somewhat invidious task to find fault with gentlemen willing to give their time to the society; but how can the members help it! The council propose the new names, and the Fellows are advised of the same a fortnight before the election. They have no time to concert together as to whom they consider most eligible; and even if time were given, how could they prepare for a poll, considering that no printed list of the members of the society can be obtained? No doubt we want practical men—not scientific men. The latter may vent their theories and proclaim their discoveries at the Linnean Society; at the Horticultural we want amateurs and professional men, who will help us to popularise horticulture.

An objection has been made to nurserymen lest they should keep trade interests exclusively in view. This may be the case, I am not prepared to argue the point; but if a few only of the leading nurserymen were selected there would be no such danger, and the society would derive great benefit from their experience. At the next meeting the council list will be proposed; nobody will feel bold enough to make any remark, and the list will be passed with a good majority.

The *Gardeners' Chronicle* mentions names, and states that Mr. H. J. Veitch has been sounded by the council, but has declined to come forward. He would, undoubtedly, be a popular candidate, and I still hope that he will take a seat on the council if he finds that he is backed by a strong majority. I therefore propose to place his name on my balloting paper, and if those of your readers who think as I do will take the same course, we may yet carry the point in 1888. I am not prepared to follow "V. G." as far as Chiswick; if he has anything to propose, he may do so at the general meeting.—A. F. L.

HARDY ORCHIDS.

THE note of a correspondent on the above subject just brings to my mind that the season for planting both British and Foreign hardy Orchids is now upon us, and should be taken advantage of by those who are in any way interested in these pretty and easily managed plants. To those who have not before gone in for the cultivation of hardy Orchids, I would now strongly advise them to do so, for it is about as pleasant and inexpensive a recreation as can well be imagined. Of our forty species of native Orchids, it has now been proved beyond doubt that all with, perhaps, three or four exceptions, are quite amenable to garden culture, and not only under a good course of treatment become thoroughly established, but increase in numbers as well.

What can be prettier in any herbaceous border than a good-sized clump of, say a couple of dozen, of the early purple Orchis, *O. mascula*? Then we have the spotted Orchis, *O. maculata*, a truly grand and pretty plant that any amateur can as readily grow in his garden as he can a Scilla or a Crocus. Other desirable species of Orchis are *O. fusca*, with its conspicuous reddish-brown flowers; *O. morio*, another easily grown plant; *O. militaris*, *O. ustulata* and *O. pyramidalis*. The latter is a lovely Orchid with dense, pyramidal spikes of pretty prickly rosy flowers. The Butterfly Habenaria, *H. bifolia*, an occupant of rich meadow loam, is easily enough managed, and I know of no prettier sight in the floral line than a clump of half-a-dozen of this plant when in full flower. The various species of Ophrys are of great interest from the resemblance borne by their flowers to the various insects whose names they bear. The Bee Ophrys, *O. apifera*, certainly has a striking resemblance to the common humble bee, while the Spider and Fly Ophrys, *O. aranifera* and *O. muscifera* are curious and interesting, their flowers fancifully appearing like the insects, after which their popular names have been given. They are easily grown by mixing a quantity of lime or chalk with the soil in which they are planted.

Our handsomest native Orchid is, perhaps, the Lady's Slipper, *Cypripedium Calceolus*, a rare and beautiful plant, whose cultivation is simple enough if broken lime and stones are added to the soil in which it is to be grown. The Helleborines are stately bright-flowered Orchids, especially *Epipactis palustris* and

E. ovalis. *Cephalanthera grandiflora*, *C. ensifolia* and *C. rubra* all succeed perfectly well in calcareously-flavoured loam. *Herminium Monorchis*, or the Musk Herminium, as it is commonly called, is a sweetly-scented free-flowering plant of small growth, and one that for years I have grown in a most successful manner.

Amongst foreign hardy Orchids that have been found well suited for our English climate, I may refer particularly to *Orchis undulatifolia*, *O. sambucina* and *O. pallens*. These grow well and increase rapidly in our gardens if planted in good free loam. Then the North American *Cypripediums*, including *C. spectabile*, *C. acaule*, *C. parviflorum* and *C. candidum*, to which we may likewise add *C. pubescens*, flower grandly and increase in strength from year to year if planted in decaying vegetable refuse to which a dash of clean sharp sand has been added. *Orchis spectabilis*, from the same place, is also quite at home in our gardens if planted amongst decaying leaves, and in a shady situation.

In conclusion, I may add that all the above species of hardy Orchids have become fully established in my garden, and may be considered as of easy culture, while fully a score of other kinds are likewise doing well; but their cultivation is not to be recommended for the beginner, for whom these notes are mainly intended.—A. D. Webster, Llandegai.

GALANTHUS ELWESI.

How exquisitely graceful are the snow-white drooping flowers of this Snowdrop! The flowers of *Galanthus Elwesi* are much larger than those of the ordinary form



GALANTHUS ELWESI.

of *G. nivalis*, and much more expanded when in full flower. The outer segments are clawed at the base, and pure white. Owing to the narrowness of the claw the small inner segments are much exposed, showing the intense green blotch at the base of the latter, and the two green spots, one on each side of the bifid tip. Viewed interiorly, these two spots assume the form of stripes or green lines, constituting a lively and attractive feature of the flower. No garden should be without a clump of this large-flowering and handsome Snowdrop. While comparable in size to *G. nivalis* Melvillei, the expanded character of the perianth, together with the green blotches of the inner segments, are features peculiar to this species.

BROWALLIA ELATA.

FOR winter-flowering purposes a batch of this elegant and attractive South American plant would be very effective, and at the same time inexpensive. A packet of seed is easily procurable, from which any quantity of seedlings may be raised without difficulty. A sowing could be made indoors early in spring, treated in the same way as other half-hardy annuals, and planted out when the weather permits in various parts of the summer flower-garden, as fancy or convenience might suggest.

The value of this plant will be more fully recognised, however, for the decoration of the greenhouse and conservatory, where a temperature is maintained for the purpose of keeping up a continuous show of winter flowering or forced subjects. The habit is so different

from such things as Hyacinths, Tulips, Deutzias, &c., and the deep blue flowers so distinct from anything at this season, except, perhaps, *Cinerarias*, or *Agatheæ cœlestis*, that collections of any extent might, with advantage, contain a quantity sown annually at different periods, in order to keep up a succession. For this purpose sowings might be made in July, August and September, in well-drained pans of sandy soil, and placed in a stove or propagating pit to germinate. When this has been completed remove the pans to a more airy structure, where the seedlings can have the benefit of ample ventilation when necessary to prevent drawing. As soon as they have made a few leaves, or even earlier, they may be put in flowering pots immediately, using about three seedlings in a 32-size pot; if considered worth the trouble, single plants might be put in 60's and potted on from time to time to induce a free branching habit. Stopping or pinching may even be done to their advantage, if in any way inclined to throw out rambling shoots or run up with a single stem.

The seedlings may now, when the roots have taken to the fresh soil, be placed in a cool frame close to the glass with ample ventilation. This will induce a healthy appearance and a sturdy habit, obviating any necessity for staking. Grown in this manner they will not exceed 12 ins. to 16 ins. in height, and if given a proper exposure, without that crowding which is detrimental to the health and general appearance of any plant, they branch or ramify in a free manner. If the frame in which they have been growing during summer is unheated, the plants ought to be removed to warmer quarters before the approaching winter, or late autumn cold gives a check to growth. Never, however, allow the plants to become spindly by placing them too far from the glass. A handsome display of their azure-blue flowers will ultimately reward the cultivator's attention.

This species, judging from my acquaintance with it, and its frequent appearance in gardens, is the best of the genus, and was originally introduced so long ago as to be figured in the first volume of the *Botanical Magazine*, t. 34. It belongs to the same natural order as the *Solanum*, but from the peculiar structure and irregularity of the flowers was placed amongst the *Scrophularineæ*. The typical form is of a deep azure-blue with a small white eye, but there are several new named varieties in cultivation known as *Browallia elata cœrulea* and *B. e. alba*. The first named variety is a paler blue than the type with a larger white eye, and is for all practical purposes inferior to that form, and not particularly desirable except for the specialist. The white variety, however, is much more distinct and forms a good contrast for mixing with the blue one, or for massing by itself. A special feature can be made of this, and many other conservatory subjects by massing or grouping a number, of say a dozen or two of each kind, in prominent positions where their characters will be brought out in the most conspicuous and advantageous manner.—J. F.

RHODANTHE MANGLESI.

THIS is a popular and well-known border annual of the easiest cultivation, that may be sown in the open ground at once, or in pans or boxes, and ultimately transferred to their flowering quarters. The variety now illustrated—*alba nana*—is characterised for its dwarfness, which makes it more suitable for cultivation in pots than the ordinary form, and is one of the novelties recently brought out by Messrs. Carter & Co., High Holborn. A dwarf strain of the typical rose-coloured one would make an excellent companion and contrast. As it is, however, many will doubtless prefer this dwarf white variety on account of its shining silvery white colour. For cutting purposes it will be found extremely useful for either immediate use or for various indoor decorative purposes during winter in a dried state. As an everlasting it is one of the most handsome and serviceable. The dwarf compact habit makes it a suitable subject for the greenhouse or conservatory. Whether grown in pots or the open border, one thing the cultivator must bear in mind, and that is, either to sow thinly or weed out the seedlings to proper distances apart, so as to prevent crowding. When annuals are allowed to grow up in dense masses, as they usually are, the season of flowering is greatly curtailed, and half the beauty destroyed for lack of proper room to develop.

HEATING AND VENTILATING.

THE system of ventilation, double glazing, and heating advanced by your correspondent, "W. B. G." is a novel one, which, if it only possessed the two objections pointed out, might supplant, in some measure, the method of heating so generally in vogue. The objections to this system are not only two, but many, which I hope to point out clearly. More faith could have been placed in the mode of heating brought before us if it had been put to the test, for it is only by such a course that advantages and disadvantages can be clearly proved. I am perfectly aware that any innovation from a recognised system is certain to meet with disapproval and condemnation; in this spirit I do not propose to criticise your correspondent, but to deal with his plan in an unbiassed manner.

The first objection is the increased cost of the building. Now this, I contend, is a serious one in these days of depression and strict economy; but principally for the latter the theory appears to have been advanced. If the old system of heating and glazing had failed to prove satisfactory, or is extremely costly in comparison to the return, then any new scheme would be most gladly welcomed. I do not say perfection has been attained in the culture of plants and fruits, neither do I think we may ever hope for the attainment of such results; but very great excellence has been accomplished, and greater strides, it is to be hoped, may yet be made by the system of heating, glazing and ventilating that has become so general.

Does the new system offer advantages that are likely to result in the achievement of greater accomplishments? If it does, then the system, although very costly at first, would, in the end, prove the more economical. It would not do this, for the method of "W. B. G.'s," instead of proving one of economy, would be the very reverse. The extra cost of construction, combined with the keeping of such a structure in repair, would be almost double that of repairing a house built on the ordinary method. The saving of fuel would not cover this cost; and it is, indeed, questionable if the consumption of fuel would not be considerably increased by heating at the top instead of at the base. Such a method would have to be put into practice before it could be proved that the woodwork of the structure would be preserved by heating at the top.

However well houses may be painted, the woodwork of those that are kept hot and moist is certain to become thoroughly saturated, and decay in course of time. Now I am not certain whether the wood would not rot more quickly by the top-heating theory than by that practised in all gardens; the wood would be subjected to greater extremes. Supposing it to be kept dry between the two layers of glass, the internal side would be constantly wet.

If anything should happen to the pipes (the best arranged schemes are liable to fail), the cost of repairs would again be double. But to set this aside, and suppose it happened in winter, both layers of glass would have to be removed, and the cold external atmosphere would be admitted direct to the plants. As far as I can perceive, in case of failure, the whole of the plants would have to be removed.

The question of light has been brought forward as an objection. This is even greater than that of extra cost in construction or failure in the pipes. In a very short time light would be almost totally excluded from the occupants of the house; the glass would soon become so dirty and green, that it would be practically coated in a very short time. Especially would this be the case in the neighbourhood of towns, for in such localities it bothers the keenest observer to discover how the soot and dirt finds an entrance. The system of heating may

be new, but the one of double glazing is not; I know of one structure glazed on that principle, and it proved a perfect failure, and one layer of glass had to be removed.

Heating the house, or supplying the requisite heat to the plants from above is unnatural; and the system generally in vogue more nearly approaches the laws of nature. Does the great source of heat, the sun, warm the air in its passage downwards? I have always been under the impression that the earth and bodies upon it absorbed the sun's heat, and the air was heated by radiation. Instead of the top-heating system proving economical in the consumption of fuel, it would insure greater waste by heating the large volumes of the external air continuously passing over the upper layer of glass.

One of the recommendations of "W. B. G.'s" new theory is, that there would be a minimum of drip by condensation, which would result in a greater volume of light being admitted to the occupants of the house. The glass of heated structures, that is, of houses that are kept at low or intermediate temperatures, say about 50°, except in the case of a conservatory or houses that are extremely high, very rarely become frozen inside. This does take place in houses from which frost only

prove advantageous to the plants or the contrary? To illustrate the impracticability of "W. B. G.'s" system of heating, we must have only span-roofed houses in our gardens. The cooling that would take place in those leaning against walls would be enormous. Double glazing and the heating of these all over the roof, to keep up a given temperature, would result in a greater consumption of fuel than by the method of heating these structures internally. I do not want to anticipate your correspondent, for he may be able to tell us how he would effectually prevent the cooling of such a structure?

Another objection, and by no means the least, is that we should be compelled to have the whole of our houses the same, or nearly the same, size. Even with a number of low span-roofed houses, the difficulty of heating at the top is great; but this would be increased fifty-fold if we had various-sized houses, such as are adapted for Vines, Peaches, plants (large and small), Cucumbers, Melons and other purposes. The pipes would all be on different levels, and how would a uniform degree of heat to the whole be maintained?

It may be said by the regulation of valves. They would require some regulating, and a man constantly in charge, to ensure circulation with certainty. With a difference, perhaps, of many feet in the level of the pipes, a good many valves would be needed to check those on the highest portion of the roof. "W. B. G." may be prepared with a scheme, and to him I leave this matter for explanation.

Air-pipes would be needed in this arrangement as well as the old one. Would they be closed or open? If closed, they alone, in a large arrangement, would entail considerable attention. If open, I wonder who would tolerate a large display of air-pipes sticking above the roofs of their hothouses? Some of these would necessarily be several feet in length, if the houses varied in height, as they do in the majority of gardening establishments. These air-pipes would have the appearance of so many miniature "flag-staffs."

The supply cistern to feed the boiler or boilers, as the case might be, would have to be above the highest pipes, which would prove an objection and a great eyesore in private gardens. If each house, or range of houses, were heated with a separate boiler, the objections would be materially increased over a system of heating from one boiler by the aid of mains. Has "W. B. G." estimated the enormous pressure on the boiler by this method of top-heating? I have a house under my charge 17 ft. 6 ins. high, 70 ft. long, and 40 ft. wide.

How would he heat a house of this description, as well as a number of others varying from 6 ft. to 14 ft. high, from the same boiler, or as evenly and effectually as can be done by the old method?

The objections to "W. B. G.'s" system more than counterbalance any advantages that might result from the method of ventilation recommended. Cold draughts can be avoided by keeping the ventilators close, and the adoption of the close system of treatment, or the method known as non-ventilation.—*Saxon*.

LATE-KEEPING APPLES—I have much pleasure in adding my testimony to the good qualities of Golden Noble, mentioned in the note on late-keeping Apples, by "J. F.," in your last issue. I have a few samples of it left, which are keeping well and retain their firmness and brisk flavour to the last. The tree does not make so much wood as some varieties, but crops fairly well. I should also like to add that useful sort, Hollandbury, to the list, some fruits of which I have, and they look like keeping for weeks. It is a very good grower, crops fairly well and retains its colour and fine flavour to the last.—*E. F. Kemp, Clapton*.



RHODANTHE MANGLESI ALBA NANA.

is excluded; but the coating of ice inside the glass would not shut out so much light as would result from the double glazing system.

It may be argued that although the condensed moisture does not freeze on the glass, it eventually falls on the plants. This is true where provision is not made to prevent it. I venture to predict that in the erection of hothouses for plant and fruit-growing in the future—that is, if the persons entrusted with the work know what they are doing—this provision will be made. The bars or rafters can now be grooved as cheaply, or nearly so, as making a plain bar, and the condensed moisture is carried down them to a small spout at the base, in which the water can be conducted to the tank or out of the house entirely. Horticultural builders might do worse than make a note of this hint, as well as those gardeners who are only familiar with the old plain bar. If we take it for granted that no moisture is condensed on the glass by "W. B. G.'s" plan of heating and glazing, the atmosphere would naturally be cool, and the plants would become coated with water. This would be a natural result, for they would radiate more rapidly than the soil, pots, or the material upon which they are standing. Would such a method

GARDENING MISCELLANY.

The Tuberous Begonia as a Winter-flowering Plant.—The usual treatment of this class of plants, as the winter approaches, is gradually to withhold water, and so let them wither and fall; but my experience this season with one or two plants has led me to imagine that, with proper treatment, these Begonias, or some varieties of them, at least, might be made to bloom far on into the winter. A severe early frost here, either towards the end of October or the beginning of November, cut down in one night all my Begonias in an unheated greenhouse, and I found them in the morning all discoloured, fallen and rotting. Two plants, however, in my dining-room window escaped—one, a fine golden-flowered variety, with large spreading velvety purplish leaves; the other, a white one, with moderate-sized Lily-like flowers. These two I continued daily to give water, in which a little fish-potash manure had been steeping, and, to my surprise, they continued flowering—the golden variety up to the beginning of January, and the white one up to the present time, still putting forth fresh leaves and flower-buds at the top of its two stalks. Now, if this could occur in one case, we are led to ask why should it not in many, or in most? Might it not be worth while to put the question to the test of experiment, by treating the plants with a variety of liquid manures, re-potting, top-dressing with fresh soil, or in such other ways as the experience of horticulturists may devise? Often, when a plant is going out of flower, there are still undeveloped flower-buds, which it has not the requisite strength to bring to perfection; might not some method be devised of imparting the required vigour?—*F. H. Brett, Carsington Rectory, Derby, January 31st.*

Narcissus calathinus.—This long-lost kind of reflexed Daffodil, or Ajax, is now flowering in a cool greenhouse in Trinity College Botanical Gardens, Dublin, to which it was introduced, last year, by A. W. Tait, Esq., of Oporto. It is not a showy species, but is most interesting botanically, its appearance and its structure being different to that of any other Daffodil whatever. The plant, although never before flowered in Great Britain or Ireland, was long ago known on the Continent, being figured in *Jardin du Roy* (1,623), and in *Theatrum Floræ* (1,631).

White Hyacinth Paix de l'Europe.—This is a good general decorative sort, and is one of my favourites amongst single whites. Its pure white bells, of medium size, are thickly set around a stout spike of good length and well proportioned. The proper selection of sorts in this class of bulbs is a most important matter, as on it largely depends a good show. The bud of the future flower-spike being already formed, moisture, air and warmth alone will develop and bring it to perfection, as testified by their culture in Hyacinth glasses that we see yearly.—*B. L.*

Potato Abundance.—So much has been published of late respecting Potatos, that it may appear a waste of space to add more notes or more names to the columns of THE GARDENING WORLD, but the one above named I found to be really good at all points last season, when I grew it for the first time. The question is not infrequently being asked, "Have we any Potatos as good, from a cooking point of view, as Regents?" I say we have, and to my taste, better. In Abundance you can have all the dry mealy properties of that good old Potato. With me, in this place, the crop is three times more abundant than that of Regents; and I have had Abundance on my table frequently since lifting time, and I think it equal to that high-flavoured kind, Woodstock Kidney, which is so subject to disease; it is handsome and has no deep eyes, as the Regent type has. Last spring we planted forty-four sets of Abundance in one row beside several other sorts, in rows 3 ft. apart, and at lifting time we had close on four bushels of as grand a lot as could be wished; and I now have some that would be no disgrace to an exhibition collection. Last season we grew from twenty to thirty sorts, but this was the best.—*Con.*

Lime-washed Walls.—Mr. A. Laing's recipe for cement wash, is a very simple and, no doubt, a good one, both as to colour and adhesiveness, especially for plant houses; but your correspondent's worst fault in using it, is not exactly the look, but the bespattering of fruit growing against such walls when plying the

syringe. This is why I recommended the addition of alum as a preventative of the evil to which I allude. Mr. A. Laing does not say whether alum was the cause of fragments flying off or for the want of it, but I have used it and seen it used in range after range against walls, just as adhesive at the end of the year as when first applied; the walls being carefully brushed and washed down with the hose or syringe before commencing, fragments are not so liable to fall off. Lime-wash answers a twofold purpose; it is one of our best deodorisers, and a coating over the walls and in the crevices arrests and kills the germs of vegetable and insect life, absorbing and decomposing them ere they spring into life ready to vitiate the air of our houses or destroy our plants. Doctors have again and again asserted that we should hear less of their bills and taste less of physic were we to use it more freely upon the walls of our houses. But, ah! there is still the same objectionable look compared with the gilt and flowery wall papers; yet behind that gilding and flowers, perchance may be lurking the germs of disease, suffering and death. We are apt to despise it, but what wonders the application of a pail of lime-wash will sometimes do! However, I am glad your correspondent has given us another, for our motto is, or ought to be, stick to the best whatever it is till we can get a better.—*B. L.*

Narcissus monophyllus.—This beautiful Narcissus deserves the best attention of all who require good white flowers from November to the end of February. I send you some blooms.—*Con.*

English-grown Lily of the Valley.—I wish to bear testimony to the high excellence and suitability for very early forcing of the crowns of this Lily, as grown and supplied by Mr. Jannoch, of the Lily Nursery, Dersingham, King's Lynn, Norfolk; and to assure gardeners who annually have to supply flowers of this lovely Lily that they may overcome the difficulty and disappointment so often experienced by their crowns going blind instead of throwing up spikes of bloom, by purchasing them in future of that celebrated grower. Last season, I was advised by a friend acquainted with his nursery to give his crowns a trial, which I did, the result being that I had splendid batches of blooms throughout the month of January, and I counted on some stems as many as thirteen flowers. This season I again patronised him, and had 1,000 crowns for forcing, receiving them towards the close of November, and placing 300 immediately in a strong bottom-heat of 90° or 95°, covering them with inverted pots, and finally with leaves. By the middle of December I was rewarded with a magnificent lot of flowers, which were used as button-holes on the occasion of the Nottingham Ball. Had the crowns not been well grown and thoroughly matured, they would have failed under such early and high pressure. My next batch consisted of 100 crowns, which came into flower this month (January), every crown producing a bold waxy spike. I find the crowns to be nearly double the size of those obtained from Berlin; they are, moreover, very firm in texture, and of a russety brown colour. If those of my brother gardeners who require more this season will give the English-grown roots a trial, they will, I am sure, have no cause for regret.—*John Crawford, Coddington Hall Gardens, Newark-on-Trent.*

Chrysanthemum La Favorite.—Mr. G. Bolas, Hopton, Wirksworth, sends us some fine fresh blooms of this pretty Pompon. The flowers are of good depth, reflexed, and bright rose-pink in colour. Our correspondent gives it an excellent character as a late bloomer.

Notes from a Derbyshire Garden.—The snow, frost and ice are fast leaving us here in north Derbyshire, and I am happy to say without leaving many traces of their ill effects. A wall, 100 yds. long, covered with a good collection of plants looks well; Ceanothus Veitchii is loaded with buds; Jasminum nudiflorum will soon be a mass of golden blossoms; and the variegated Euonymus that suffered badly last year on walls is looking perfectly fresh. Escallonias that flowered late look scorched. Thuja pyramidalis again suffered from the snow and frost more than any other evergreen plant; T. gigantea, 20 ft. to 30 ft. high, is one of the most rapid-growing species. Cupressus Lawsoniana, C. L. argentea (Smith's silvery), a very compact sturdy plant, throws off the snow well, with C. L. lutea, a beautiful hardy Cypress. Fine specimens of Thujopsis borealis, T. dolabrata, &c., have not

suffered the least injury. To day I forked up a bed of Gladiolus that could not be done before the frost set in, and every bulb turned up perfectly sound, while some were making fresh roots, though near to the surface. Calceolaria cuttings under hand glasses, without the slightest protection, are not the least affected. A flat of Sutton's Late Queen Broccoli remains intact. All Lettuces killed out of five varieties, stated to be hardy in catalogues, except Hardy Hammersmith, though all had the same treatment.—*George Bolas, Hopton.*

Chrysanthemum La Belle Blonde.—Can any of your readers inform me of the whereabouts of the old Chrysanthemum La Belle Blonde? It is an incurved flower, white shaded with rose or pink, and beautifully violet scented, even more so than Progne. I lost it about ten years ago and have not been able to obtain it since. This variety is easily distinguished from Blonde Beauty by its beautiful perfume. Any information will greatly oblige.—*E. F. Kemp, 6, Avenue Road, Clapton.*

Daphne odora.—This useful and old-fashioned winter-flowering shrub is generally known in nurseries and private establishments under the name of D. indica, and is another instance of the conservatism of nomenclature in gardens. It was pointed out, many years ago, that the true D. indica was a very different thing with much smaller flowers, and has probably never been introduced alive to this country. This is the less desirable, seeing it is a much inferior plant to D. odora in every way, and would require a much higher temperature to grow it. On the other hand, D. odora will flourish in a greenhouse temperature all the year round, or even in a frame where frost is merely kept out. Hundreds of gardens throughout the country can boast of it; but in small establishments its merits seem to be better recognised even than where the collection is larger or special in its kind. From the latter it is apt to be ousted by newer, though often less serviceable, introductions. The flowers are white faintly suffused with a blush colour; but a much deeper tint of purplish red in the variety D. o. rubra. Fine, bushy serviceable plants are grown in a greenhouse at Homefield, Ealing, where Mr. Baird, by putting it in an intermediate temperature, gets it to flower freely by Christmas. The delicious odour of this species is particularly strong, diffusing itself through the whole house in which the plant is growing. There is a figure of the species in the *Botanical Magazine*, t. 1587. Its introduction dates from 1771.

Gooseberry Bushes and Bullfinches.—Residing in an extensive woodland district, I find it a first-rate plan to tie each bush tightly round, early in December, with a Willow twig, and to leave them so tied until the buds burst. When tied up in this way, it is impossible for the bullfinches to injure the crop; and when untied, I find that those injured are what, on my system of pruning, would otherwise have to be dispensed with. It is also better for manuring and digging amongst the bushes.—*E. B., Frant, Sussex.*

Asparagus Kale.—This is a pale green smooth-leaved variety, with a thick white-fleshed mid-rib, quite hardy and of dwarf habit; so called from the flavour being somewhat similar to that of Asparagus. Couve tronchuda is sometimes substituted for it, but it will not stand the winter, although the flavour is equally good. Buda Kale is a purplish one, and not so good in flavour, but is useful in northern climates. Your correspondent, "A Perplexed One," should try the three varieties to ascertain which he prefers.—*Watchman.*

Daffodils: Early Blooming.—I see a notice in your issue of last week about the early blooming of Daffodils at Biarritz. I fancy that except, perhaps, in one winter out of ten, the bloom in the South of Ireland is just as early. I have at present the following plants in full bloom:—Narcissus pallidus præcox, since January 10th; paper-white Narcissus, a few ordinary Tazettas, single Snowdrops, since the first week in January; Galanthus Imperator and plicatus, double Snowdrops, Dean's Hybrid Primroses, in great abundance; different sorts of Polyanthus and double Primroses, Christmas Roses, in great quantity inside and outside (what are within doors in tubs have been magnificent); Megasea cordifolia and crassifolia; these can be forced in gentle heat, and if in partial shade come white like lilac; they are beautifully scented like Hawthorn, or, probably, nearer to the perfume of Choisya ternata. Grown in tubs like Christmas Roses,

and treated well during summer, a quantity of thick crowns giving dense blooms can be had at Christmas. I send you a few blooms of Daffodil Ard-Righ or Irish King; you can judge for yourself as to its value at Christmas from bulbs potted up in August. *Erica carnea* is beautiful. We have had very little frost and no snow up to date.—*W. Baylor Hartland, Cork.*

Wych Hazels.—Mr. W. E. Gumbleton, Belgrove, Queenstown, Cork, sends us two forms of *Hamamelis*, popularly known as Wych Hazels. The few species known resemble each other strongly, and are all comparable to the older and better known *H. virginica*. A finely-flowered spray of *H. arborea* was one of those sent us, and the flowers are certainly both singular and beautiful. The petals resemble long twisted and crisp strips of deep yellow paper cut up for the purpose of making artificial flowers, and if not equal to some of the dragon-flowered Japanese *Chrysanthemums*, the shrub is, nevertheless, worthy of cultivation in the shrubbery, where it is perfectly hardy. The inner face of the sepals is deep purple, affording a fine contrast to the petals, and herein is one of the chief distinctions between this species and *H. virginica*. A flowering spray of *H. Zuccariniana* accompanied the other, having lemon-coloured petals, with the inner face of the sepals greenish yellow. All the species or forms seem to be hardy, and flower as the weather permits from October to February.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

GENERAL WORK.—With the present mild weather a higher temperature will naturally prevail, and many things will rapidly start into growth, so that much care is necessary. Any of the Orchids that have for some time past been kept on the dry side will, probably, require attention in this respect, as when new growth is made fresh roots are emitted, and the compost should be in a proper condition for them to enter. The stock of *Gloxinias* must also be overhauled, and those making a start can be placed in leaf-soil in boxes or pans according to quantity. If kept moistened by the use of the syringe, such treatment will quickly prepare them for potting. After potting they should not be watered until growth has fairly commenced, or they are apt to become soddened, in which case re-potting is absolutely a necessary if success in their cultivation is the object; in fact, the same remark applies to all kinds of stove bulbs.

We are busy with the potting of stove plants, which we hope to complete without much further delay. With so many operations on hand, however, it is impossible to make very rapid progress. Those plants of large proportions, such as Palms, Cycads, *Dracenas* and the like, which for want of room cannot be potted on, will receive a good deep surfacing of rich compost, which will carry them on for another season, by the aid of some kind of fertiliser, when they may be discarded as others get large enough to take their place. The *Dracena* eyes which were put in last autumn are making nice growth, and will at once be potted off singly.

In the case of the propagation as before advised, do not use eyes, but cut off the head of those plants which have become "leggy," and unfit for use; and as the breaks from the stem become large enough take off with a heel, and insert singly in small 60's. They strike very readily, and are frequently most useful even in such small pots. Potted on they are indispensable where much in-door work has to be done; but we never keep them after the 32-sized pot has been reached. We have sown the main lot of *Cyclamen*, some *Gloxinia* and *Impatiens Sultani*. The last named, if sown frequently, is indeed a valuable decorative plant; its flowers are of a most pleasing shade, and the habit of the plant is all that can be desired.

Where it is desirable or intended to save seed of the *Primulas*, the best should be at once selected and placed on some favourable shelf, where every attention should be paid to them in the way of giving manure water and the maintaining of a growing atmosphere, or but very little seed will be found in the pods when harvesting.

THE FORCING HOUSES.

In this department we are all activity; each day brings its work, but, as the season advances, so much more is required from each structure, that our abilities

are somewhat taxed, and unless precautions are taken failures cause an immensity of trouble later on.

Let a good sowing of some kind of Tomato be made, if not already done; we find Hackwood Park a very reliable variety, but later on we always rely upon Dedham Favourite, one of the very best and most useful yet introduced. A successional batch of both Cucumbers and Melons have been sown and plunged in bottom heat to encourage rapid germination, so necessary with these seeds. The previous sowings are making good progress, and we shall shortly plant out the most forward; they have been shifted on into 32's, and are good stuff. The oldest set of Cucumber plants hold out signals of distress, and will be replaced with Melons as soon as ready; meanwhile, they will be encouraged, so that all the fruit possible may be cut from them.

Where Lily of the Valley abound, roots dug up and boxed in leaf-soil, covered lightly with moss and placed in moderate heat, will afford lots of bloom, most useful for cutting and always acceptable. We are, to-day, making up another Mushroom bed, which should carry us on well through the season; the next we hope to make up in the cellar, admirably suited for summer crop. We have introduced a further batch of Asparagus, and also of Sea Kale and Rhubarb, and as these come on more rapidly it will be found necessary to introduce them more frequently. We have closed the Muscatinery preparatory to starting next week. A goodly batch of Roses, both standards and dwarfs, have also been placed in the succession vineries, the temperature of which is admirably suited to start them, in conjunction with a free use of the syringe.

THE KITCHEN GARDEN.

All possible progress must be made in this department, the frosty weather having occasioned considerable delay. We are making good headway with digging; pruning is also nearly completed, with the exception of Gooseberries, some of which, however, being rather in the way, have been cut back. As a rule, birds do not harm them much in this place. We shall begin the double-digging of some squares as soon as the more urgent work is completed. I cannot too strongly urge upon all the necessity for deep tilling, more particularly if the subsoil is at all retentive.

If not already done, lose no time in thoroughly preparing the square or border to be devoted to seed-beds. To our knowledge much mischief arises from this not being done in good time; and, unless a good bed is prepared for the reception of seeds, how can good plants be expected? By a good plant I do not mean plenty of them, but a healthy stock, and one that will do good service in the season for which it is prepared.

The Cauliflower, Lettuce and Brussels Sprouts sown last week have been removed to a cold frame, from which the lights can be drawn as required; and we hope very shortly to complete the planting of all fruit trees for this season. When introducing Sea Kale for forcing, all thongs may be removed at the time of lifting, and carefully laid aside preparatory to making a new plantation. This is not advisable with the earliest batches, the thongs from which can be taken off when exhausted. A dusting of soot to the Cabbage square will be found very beneficial preparatory to hoeing or earthing up.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—Plants of *Disa grandiflora* which are in too small pots or pans should now be given a shift into larger ones, care being taken not to break the ball, or otherwise the brittle rhizomes will be broken. This fine plant is grown to perfection by Mr. F. W. Moore, at the Royal Botanic Gardens, Glasnevin, Dublin; and he considers a great point in ensuring success is to be made by re-potting in October, or not later than the end of that month, as from that time throughout the winter they make root and rhizomes preparatory to pushing up the strong growths which have to bear the bloom. Good fibry peat and living sphagnum moss is the best material to use for re-potting; and for situation, a shelf over a doorway, or in any other airy position near the glass in a cold house, is the most suitable. *Disa grandiflora* requires to be kept moist all the year round, abundance of rain-water being given from now until the buds are visible.

The varieties of *Laelia anceps*, *L. autumnalis*, and *L. albida*, as they pass out of bloom, should be placed in a light, cool and airy position, and only be watered occasionally to keep them plump until growing time comes round again, a free admission of pure air to them being meanwhile of the highest importance. With the *Cattleya Trianae* and rapidly-increasing number of other things in flower, it is well, where convenient, to set up a division for plants in bloom, where they may be kept a little cooler and drier than in the growing house; otherwise, the plants in bloom should be, as far as possible, arranged near each other in a cool part of their respective houses, and out of the way of drip overhead by any chance.

Cypripediums, as they pass out of bloom, should be re-potted, equal parts of peat, sphagnum moss and loam-fibre being a good compost; and some think the plants improved by having a layer of crushed bones placed over the crocks. The various other odd plants which are found to be growing and rooting should now, if requiring it, be re-potted or basketed.

THE TEMPERATURES FOR THE MONTH of February should be:—Warm or East Indian house, 65° to 70° by day, 60° at night; *Cattleya* or intermediate house, 60° to 65° by day, 55° at night; Cool or *Odontoglossum* house, 50° to 55° by day, 45° at night; the fires being slackened and sun-heat made available as much as possible.—*James O'Brien.*

Well-grown Calanthes.—We often meet with well-grown examples of these useful Orchids, and I thought I had grown them well myself in past seasons, but I must say that I was surprised when I saw some plants growing at Dedlington Hall, Norfolk, and which were much the best I have ever seen. They were growing in the Amherstia house (which contains a nice plant of the rarely seen *Amherstia nobilis*) on a shelf in the west section of the house, and about 6 ft. from the ground. The house is not shaded except just a very thin dash of lime-wash over the *Calanthes* to prevent them from scalding in the afternoon in very hot weather. They are grown in 6-in. pots; three bulbs of *Veitchii*, and five or six of *Vestita lutea* and *V. rosea* in a pot. The potting material was old Mushroom-bed manure, loam and a little peat-moss litter with a sprinkling of rough sand. When in full growth they received three applications of Standen's manure, which had a wonderful effect on them. I measured the bulbs, which in the case of *Veitchii* were over 9 ins. long, and the leaves 2 ft. long; when in bloom the *Veitchii* bulbs had two spikes to each bulb, and each spike was 4 ft. long, with from forty to fifty blooms on a spike; the *Vestitas* were equally good. The temperature of this house is never allowed to go lower than 65° at night in winter, rising to 75° or 80° by day in summer, and 70° by night, shutting up at 85° and allowing it to rise 10° or 15° more; the plants are rested in a stove close by. It is clear by this that *Calanthes* are in their glory when grown with plenty of light, heat and moisture, and a good rich diet; they do not need half the shade many people think they do. We never had *Vestita rosea* half so good as this year by growing it in wire baskets close to the glass without any shade, but with plenty of moisture and heat.—*Con.*

Saccolabium giganteum illustre.—At this dull, sunless season of the year, when *Cattleyas*, *Phalenopsis* and *Angraecums* lose their colour and shrivel up, it is gratifying to witness the handsome flowers of this grand winter-flowering species unaffected by the fog. The flowers also last several weeks in perfection, and are deliciously scented. We recently saw it in fine order in Messrs. Veitch & Son's nursery at Chelsea, and had the pleasure of comparing it with the typical *S. giganteum*. The leaves are longer and broader than in the latter, and the flowers are altogether larger and better coloured. A particular fine variety, however, was conspicuous amongst the rest on account of its much richer and more intense colouration. The sepals and petals are white, spotted with rich amethyst purple, while the blotches on the tips of those organs are unusually large. The terminal lobe of the labellum is of a fine mauve-violet colour, that is distinctly richer in tint than the ordinary form, constituting it a valuable variety. For the adornment of the East Indian house, nothing more desirable of its class could be had at this season. Add to this its fragrance, and long lasting qualities, which are strong features in its favour. It is a native of Cochin-China, and is figured in the *Illustration Horticole*, 3rd series, t. 517.

Phalænopsis.—"F. R. M." (p. 301): Two very sweet-scented species of *Phalænopsis* were first sent to England by Colonel Berkeley (now Major-General Berkeley), viz., *Phalænopsis tetraspis* and *P. speciosa*. They were first flowered in India by that officer, and subsequently flowered in his Orchid houses in England. A fine plant of *P. speciosa* was exhibited by Colonel Berkeley at Regent's Park, on June 13th, 1883, and received a First Class Certificate. The sweet scent of these two species makes them very desirable. *P. tetraspis* is very delicate, but the flowers being pure white it is worthy of the care required to grow it. *P. speciosa* is very robust and grows well, but it is a very rare plant.—*Guernsey, January 20th.*

Oncidium cebolleta.—Amongst the numerous species of *Oncidium* now in cultivation, it is surprising, or even matter for regret, that more of this type are not grown in collections for contrast with the broad-leaved kinds. *O. cebolleta* belongs to the section *Teretifolia* of the *Genera Plantarum*, and is as distinct for the cultivator's purpose as *O. Jonesianum*, yet it will never be able to oust the latter from gardens. Although belonging to the same section, both are sufficiently distinct to deserve cultivation on their own merits. The ground-colour of *O. Jonesianum* is white, or, in poor varieties, stained with green; but in the species under notice it is of a bright yellow. The sepals and petals are beautifully spotted with a dull red, while the labellum is almost of a clear yellow and unspotted. Both the flower-stem and the solitary leaf are rigid and erect, unlike those of *O. Jonesianum*, especially the leaf, which, according to cultivators, naturally grows downwards, like that of *Scuticaria*, when allowed to take its own way. The leaf, too, is better calculated to stand erect, owing to its rigidity and its much greater thickness in the middle. Pot-culture seems also to suit its requirements, judging from a specimen at Devonhurst, Chiswick, which has increased greatly in strength under such treatment. The species is figured in the *Botanical Magazine*, t. 3,568.

Miltonia Clowesii.—Mr. J. C. Cowley, gardener to F. G. Tautz, Esq., Studley House, Goldhawk Road, sends us the beautiful *Miltonia Clowesii*. The sepals are of a fine yellow, heavily banded on the upper part with deep chestnut-brown. The petals are similar but have their yellow ground colour closely suffused with brown. The basal part of the pandurate labellum is violet-purple, while the upper part, usually white, was in this instance suffused with pale rose. This latter feature, however, might possibly be the result of age. The species is one of the most handsome, and certainly merits good attention.

Calanthes Not Flowering.—Our plants have been affected in the manner described by your correspondent, "W. P.," at p. 348, and on examining our stock of bulbs the other day I found that some were being devoured by small mites of some kind. On making enquiries as to the condition of my neighbour's plants, I learnt that he has also found insects amongst his *Calanthe* bulbs. I enclose you a bulb containing a quantity of the little mites, and shall be glad to know if any more of your readers have been troubled by this pest.—*J. W., Sheffield.*

Calanthe Veitchii with a spike of flowers has stood well in a room for over a month, only losing four bottom flowers and developing the top ones.—*G. Bolus, Hopton.*

FLORICULTURE.

A FEW GOOD DOUBLE AND SINGLE PYRETHRUMS.—The double varieties are Capt. Nares, bright crimson; Imbricatum, purple-carmine tipped with white; La Vestal, delicate blush, extra fine; Mons. Barral, deep rich crimson, extra fine; Mont Blanc, pure white; Nemesis, carmine-rose tipped with crimson; and White Aster, pure white. Single varieties: Coccinea, rich reddish purple; Hamlet, rich pink; Sherlock, vivid crimson-scarlet; Florida, rich rosy pink and white; George Wallace, vermilion and purple-lake; Mathilda, pure white; Mr. Bateman Brown, carmine-lake, large size; Neville Goodman, rosy cerise, a novel shade of colour; and the Rev. W. Cuff, rich deep pink. The last six varieties are new, and, therefore, higher in price than those which head the list. Plants should be had in pots in March and April, and planted out in good soil in an open spot of ground, and they will be certain to greatly please whoever undertakes their culture.—*R. D.*

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.

—*Jan. 27th.*—At this meeting, over which Mr. E. Griffiths Hughes presided, Mr. W. Birkenhead, of the Fern Nurseries, Sale, read a paper on "Ferns and their Culture." The great characteristic of Ferns he described as modesty, seeking shade and retirement. They were mostly remarkable for a soft and gentle aspect, abounding in beautiful shades of delicate colour, and fairy-like grace of form. Especially were they useful in furnishing a foil to the brighter colour of leaf and flower, characteristic of the other great divisions of plants. The number of varieties was infinite. The mode of reproduction was different from ordinary seeds, particularly in this respect that the sexual intercourse actually took place when the seed was in an apparent state of growth, and after both male and female spores had left the parent frond, whereas in an ordinary seed the germ was perfected before the seed parted from the parent plant. The reader next strongly protested against the wholesale destruction of our native Ferns, and expressed a wish that legislation might do something to remedy this evil.

Practical remarks followed as to the best means of forming and furnishing an artificial rockery and Fernery. The speaker said he had a general objection to too much of the cave and overhanging archway style, and suggesting, as better for plant life and display, a system of raised terraces—irregular, of course, but the general contour following an angle of 45°. The great feature must be to follow nature as closely as possible, and to make as much variety in outline as circumstances would permit. He recommended planting large groups of one variety that the effect might be more marked, bold and effective. In selecting position great heed must be given to the nature of the plant, some being well fitted to stand a comparatively dry atmosphere, while others could only succeed in complete shade and constant moisture. In this respect the whole class of filmy Ferns required great attention. When possible, water was a very telling feature in a Fernery, either as a trickling rill, a small cascade, or irregular pools. Blocks of virgin cork were also spoken of as very useful in finishing off the rockwork of the Fernery, and supplying a fitting resting-place for some varieties of Ferns. The glass-covered Fernery was next alluded to, and a few suggestions thrown out as to varieties. Strong objection was raised against the practice of introducing single specimens of bright flowering plants.

Liverpool Horticultural Association.

The annual meeting of this society was held on the evening of the 29th ult., in the Free Public Library, William Brown Street. The report presented and adopted by the members, showed the society to be in a thoroughly sound financial position. The result of the year's working was a balance of £41 15s. 8d., which added to the amount standing to the credit of the society at the bank, makes the handsome sum of £549 16s. 4d. with which to commence the present year's work. Out of this sum the committee were empowered to pay a donation of £5 to the Gardeners' Royal Benevolent Institution. It was proposed to do this annually, but the members thought it best to vote the sum at each annual meeting if the position of the society warranted such a step being taken, for it was argued that the society might not always be in the prosperous condition it was at the present time. It was also proposed that the society should grant a similar amount to Mr. Wm. Minshull, the sub-treasurer of the association for the past four years, who had been compelled to retire through illness. It may be remarked that Mr. Minshull was compelled to resign his situation in March last, and instead of gaining strength, has gradually grown weaker and weaker. The general opinion of the meeting was to the effect that he had filled his office in a highly satisfactory manner. This resulted in the members unanimously granting him a donation of £10.

The outlook at the present time is most hopeful, for the membership has steadily and gradually increased from the beginning up to the present time. It now amounts to the large number of 1,280, who are subscribing from 2s. 6d. up to £5 5s. Under-gardeners only are enrolled members for the lowest sum, and about 130 have now joined the association. The total amount of the subscription list for the past year amounts to the large sum of £591 4s., and there is every reason to believe that this amount will be increased another year. This—combined with the fact that 1,169 more persons visited the spring and autumn exhibitions held by the society than was the case at the corresponding exhibitions of the previous year—does not show that horticulture in the neighbourhood is not liberally supported, or that the public in and about this great city are not interested in horticultural matters. Another hopeful sign of future prosperity is the fact that a much larger number than usual of special prizes are given by local nurserymen and others. These, however, need not be particularised here, for they are all printed in the schedule.

It was also resolved that an annual dinner in connection with the association should be inaugurated,

which was referred to the committee for further consideration and to be carried into effect. For the consideration of the committee and members during the year, it was suggested that a gardener's library be established in connection with the association; it was believed by those who brought this matter forward, that if once started and a special appeal were made, that it would meet with liberal support. The intention, however, was, that after it had once started, to make it as far as possible self-supporting by those who availed themselves of its advantages.

His worship, the Mayor of Liverpool, was elected president of the association; Fletcher Rogers, Esq., Woodend, Grassendale, hon. treasurer; Mr. Blackmore, sub-treasurer; Messrs. Kelly and Peers, auditors, and Mr. Bridge, secretary, for the third time. Great credit is due to him for the able and satisfactory manner in which he has carried out the work of the association. Congratulations and votes of thanks were accorded the committee and other officials for their services during the year. A vote of thanks to Mr. White (vice-president) for presiding concluded the business of the evening.

National Chrysanthemum.

—*Jan. 31st.*—The annual general meeting of this society was held on Monday evening last, under the presidency of Mr. Ballantine, who took the chair in the absence—through indisposition—of the president, Mr. E. Sanderson. There was a good attendance of members. The committee, in their annual report, recorded with pleasure the fact of the past year having been one of unqualified success in the annals of the Society. For the first time three shows have been held, and each in its way has fully justified the new departure. The September show was a source of great interest, not only to growers of Chrysanthemums, who thus had an opportunity for the first time of comparing the merits of the best of the early-flowering varieties, but also on account of the excellent show of Dahlias and Gladioli, which were exceptionally fine, and the committee hope that this year the show will assume still larger proportions. The November fête excelled that of any previous year; and the January show, in spite of the severity of the season, brought visitors and exhibits from all parts of England; and it was generally conceded that in promoting this exhibition the society was doing a most useful work, as it clearly proved that the season for Chrysanthemums could be satisfactorily prolonged during mid-winter.

Allusion was also made to the publication of the new catalogue, which had been well received in all quarters, and the thanks of the society were accorded to Messrs. Addison, Davis, Payne and Springbett for the time and care they devoted to its production. The Floral Committee had met regularly, and no less than 287 varieties had been submitted for the committee's judgment, and forty-four Certificates had been awarded. Arrangements have been made with the Royal Aquarium Company for again holding three shows. This entails a severe strain upon the resources of the society, and the committee trust to the liberality of all lovers of the Chrysanthemum to subscribe to the prize fund or to become members, as it is only by continued and united effort that the usefulness of the society can be maintained. The balance sheet showed the total receipts from all sources to have been £594 19s. 4d., and the expenditure £587 15s. 3d., leaving a balance of £7 4s. 1d. to be carried to the reserve fund. The amount awarded in prize money at the three shows was £327 18s. 6d., exclusive of Medals. The adoption of the report was moved by the chairman, seconded by Mr. R. Dean, and carried unanimously. The treasurer, Mr. Starling, urged the desirability of increasing the reserve fund, which at present was very small for such an important society. After some other business of a routine character had been disposed of, the officers for the year were elected as follows:—President, E. Sanderson, Esq.; vice-president, R. Ballantine, Esq.; treasurer, J. Starling, Esq.; hon. secretary, Mr. W. Holmes; auditors, Messrs. Crane and Drain, jun.; and a General Committee of thirty-six members. The method of electing the general committee not being considered satisfactory, it was moved by Mr. Holmes, and carried unanimously, "That in future one-third of the members of the committee shall retire annually, and that the twelve lowest on the poll that evening shall be the first to vacate their seats." Letters were read from several donors of special prizes, and these, with the preparation of the schedule, were referred to a sub-committee. A vote of thanks to the chairman brought the proceedings to a close.

Obituary.

WE regret to record the death, on the 30th ult., at Northallerton, Yorkshire, of Mr. JAMES F. WEST, late of Lynmouth Lodge, Reigate; Lynmouth Cottage, Bonchurch; and 11, St. Thomas's Street, Borough, S.E., in his 65th year. Some years ago Mr. West was a member of the fruit committee, and for many years was one of the auditors of the Royal Horticultural Society. On January 26th he was at South Kensington with Mr. John Lee and Mr. Richards examining the accounts, and appeared to be in his usual health. The cause of death was heart disease.

QUESTIONS & ANSWERS.

CHRYSANTHEMUMS.—"E. F. A." (p. 349) will find the following varieties among the best, viz.—Six Japanese, Source d'Or, bright orange shaded gold; Lady Selborne, white; Margot, rose-chamois; Mdle. Lacroix, white; La Nymphet, bright peach; Peter the Great, lemon-yellow. Six incurved, Mrs. Rundle, white; Mr. G. Glenny, bright primrose-yellow; Golden G. Glenny, bright rich yellow; Dr. Rozas, bright crimson-purple; Lady Talfourd, silvery purple; Mrs. Sharp, rosy pink. Six late-flowering, Mrs. C. Carey, white; Moonlight, white; Ethel, white; Princess of Teck, white; Mdle. Moulis, creamy white; Grandiflora, bright yellow.—A. W. D. "E. F. A." will find the following useful varieties for the purpose required, and which will give a good variety of colour, viz., six Japanese, Elaine, Lady Selborne, James Salter, To Kio, Mdle. Lacroix (this can be had early or late), and L'ile des Plaisirs. Six incurved, Mrs. G. Rundle or White Beverley, George Glenny or Mr. Bunn, General Bainbridge, St. Patrick, Rifleman and Dupont de L'Eure. Six late-flowering, Cullingfordii, Julie Lagravere, Ethel, and its yellow sport Mrs. H. Jones, Princess Teck, and its yellow sport Mrs. Norman Davis.—W. E. Boyce.

ENDIVE.—E. A. T.—(p. 349): If your intention was not to blanch your Endive, but merely to keep it covered for protection, the plants should have been uncovered when the weather permitted. To keep them continually covered, excluding the light, would cause them to blanch, in which condition Endive keeps good only a short time. Moreover, it would create a dampness which proves destructive to Endive in winter. For winter use Endive is a plant that requires a dry situation. A good plan, and one frequently adopted, is to form a raised bed, placing a good layer of rough stuff in the bottom, and putting about 1 ft. to 18 ins. of rich light sandy soil on top. A bed of this description will suit the requirements of the plant exactly. In blanching, the plants should be perfectly dry. There are various ways adopted for doing it, and one of the best is tying up the leaves with matting and inverting a flower-pot over each plant, according to the demand. A temporary frauework should be erected around the bed, so that mats could readily be laid over in severe weather, removing them when circumstances permit. The variety that I have found to be the hardest and best adapted for winter use, is the Green Curled, which is of good quality, and blanches readily.—B.

BRITISH FERNS.—"Pteris" (p. 349) will find the twelve following varieties among the best of the British Ferns:—*Athyrium filix-femina* var. *Victoria*, A. f. f. plumosum, A. f. f. Applebyanum, *Lastrea filix-mas* var. *cristata*, L. f. m. var. *cristata angustata*, L. dilatata var. *cristata gracilis*, *Osmunda regalis* var. *cristata*, *Scolopendrium vulgare* var. *crispum*, S. vulgare var. *crispum cristatum*, *Polystichum angulare* var. *plumosum*, P. angulare var. *cristata* Jonesii, *Polypodium vulgare* var. *canbriacum*. In making a selection of British Ferns there is a great wealth of varieties to choose from, but the above may be taken as forming a good representative collection of what may be termed the large-growing varieties; but anyone getting up a collection of the British Ferns should not overlook the smaller-growing species and varieties, such as *Asplenium fontanum*, A. septentrionale, A. marinum and the crested varieties of A. trichomanes and A. viride; also *Adiantum Capillus-veneris* and its lovely varieties. The Scale Fern (*Ceterach officinarum*) and the Parsley Fern (*Allosorus crispus*) should not be forgotten, as they lend charm and give effect to the larger-growing species.—A. W. D.

FUCHSIAS.—I have two very good Fuchsias, but they are in small pots and beginning to sprout. Would you mind telling me if it is now the proper time to put them in large pots.—An Ignorant One. [You can now pot your Fuchsias with safety. Stake them out carefully before growth has advanced too far, taking away all the soil if you like. Pot them in a size larger, using a compost of lumpy fibrous loam, enriched with well-rotted cow manure, and rendered porous by a good sprinkling of sharp river sand. If the soil is moist when you pot them, do not give any water till the plants have made a little growth or to prevent the soil becoming dust dry.]

INDIAN AZALEAS.—G. D.: The damage done to your Azaleas in the autumn of 1885 has had no influence whatever on the present condition of the plants. From the specimens sent us we can only suggest that frost has got into the house containing the Azaleas during the recent severe weather. The buds would not show any damage in many instances till growth commenced, when they would fall gradually away. Plants on shelves or near the glass often get frozen, in severe frost, when the temperature in the middle of a house is several degrees above freezing point. If there is any deficiency in the heating power at your command, plants near the glass should be removed at nights to a warmer part of the house or covered up with some light dry material. Azaleas do not require frequent potting so long as they show vigour in their growth. By no means pinch the leaf-buds either before, during or after flowering.

APRICOT TREE.—R. W.—(p. 349): Stone fruits of all kinds, and Apricots especially are liable to lose large branches at any time after they attain some size. This may be accounted for in various ways, but in your case the most probable cause is the swollen graft you mention. The only thing you can do for the tree is to distribute the branches as evenly as possible in the space at command if there is a good show of bloom; otherwise the tree had better be removed and a young one put in its place. The swollen graft prevents the proper downward distribution of the sap.—A. B.

YEW TREES.—Tarus.—(p. 349): There is no difficulty attached to the removal of Yew Trees as a rule, on account of their matted fibrous roots. It is a safe rule, however, if your trees are large, to move them carefully with a large ball of soil. If time is no object it would be advisable to dig out a trench about 3 ft. deep around half of the tree one year, and round the other half the next year, cutting through all the large roots, which will now produce short fibrous young ones. In the third spring the trees may be removed with their ball of soil intact.

Give a good watering to settle the soil immediately after planting, and never allow the roots to suffer from drought till the tree has somewhat re-established itself. The best time to perform the operation would be towards the end of March or the beginning of April, when growth is re-commencing.—Pica.

TYAS'S POPULAR FLOWERS.—Has any reader of THE GARDENING WORLD a copy of this work to part with. It is the first series that is wanted, that was published in 1845 at 6d. each part.—P.

PLANTING POTATOS.—J. B. T., Glastonbury: The best plan is to cut them as near to the time of planting as you can make convenient, say the same day or the day before.

ERRATUM.—At p. 341, in Mr. Petch's paper on the Grape Vine, for "Gosling's St. Alban's" read "Josling's St. Alban's."

"BOTANICAL MAGAZINE."—J. R. Weeks, Chicago: It is published monthly by Lovell Reeve & Co., Henrietta Street, Covent Garden, London. Price, 3s. 6d.

FOREIGN FRUIT.—H. Richardson: The fruit of *Nephelium Litchi*, commonly called Litchi, Lichi, or Leechie, a native of China.

NAMES OF PLANTS.—Reginald Young: 1, *Erides Lecanum*; 2, 3 and 4, excellent examples of *Lycaste Skinneri*; 5, *Cattleya Trianae delicata*; 6, *Warszewiczii delicata* of some, and a very pretty variety. 6, *Catasetum longifolium*; 7, *Phajus Wallichii*; 8, *Coclogyne flaccida*, not *C. ocellata*.

COMMUNICATIONS RECEIVED.—J. C. (many thanks).—T. W. S.—W. B.—W. R.—F. W. F.—W. G.—A. Methven.—J. S. F.—S. J. P.—E. J.—J. H. R.—D. D.—G. B.—J. C. & Co.—B. L.—M. J. M.—J. B.—S. Ryder (many thanks).—W. B. G.—J. Atherton.—Joe Edwards.—F. L. Cory.—J. M.—W. M.—A. D.

TRADE CATALOGUES RECEIVED.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.—Catalogue of Select Flower and Vegetable Seeds.

W. P. LAIRD & SINCLAIR, 73, Nethergate, Dundee.—Catalogue of Vegetable and Flower Seeds.

WILLIAM REID, 8, Hadden Street, Aberdeen.—Catalogue of Garden and Flower Seeds, &c.

VILMORIN ANDRIEUX ET CIE, 4, Quai de la Megisserie, Paris.—General Catalogue of Seeds, Bulbs, Strawberries, &c.

ED. PYNAERT VAN GEERT, Ghent, Belgium.—New and rare plants, &c.

M. DE REYDELLET, Valence, Drôme, France.—Chrysanthemums.

CHARLES TOOPE & Co., Stepney Square, Stepney Green, London, E.—Illustrated Catalogue of Patent Hot-water Heaters for Small Houses.

LONDON SEED TRADE.

February 2nd, 1887.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady demand for Clover Seeds. French and American Red realise 1s. per cwt. advance. White Alsike and Trefoil unchanged. Rye Grasses remain firm. Bird Seeds and Blue Peas neglected.

COVENT GARDEN MARKET.

February 3rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	<i>s.d.</i>	<i>s.d.</i>		<i>s.d.</i>	<i>s.d.</i>
Apples, $\frac{1}{2}$ sieve	2	0	5	Pine-apples, St.	
Grapes.....per lb.	1	0	3	Michaels, each	1 6 6 0
Kent Cobbs...100 lbs.	65	0	70	Pine-apples, Eng., lb.	1 0 1 6
Melons each				Strawberries ..per lb.	

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0	
Beans, French, per lb.	0	6	0	Lettuces .. per dozen	1	6			
Beet, per dozen	2	0	3	Mushrooms, p. basket	1	0	2	0	
Brussel Sprouts, per lb.	0	3		Onions, per bushel ..	4	0	5	0	
Cabbages per doz.	2	0	2	6	Parsley, per bunch ..	0	6		
Carrots, per bunch ..	0	6		6	Radishes, per dozen ..	1	6		
Cauliflowers, English,					Sea Kale .. per basket	1	6	2	6
per dozen	3	0	5	0	Small salading, punnet	0	4		
Celery, per bundle ..	2	0	2	6	Spinach, per strike ..	2	0		
Cucumbers, each	0	6	0	9	Tomatos, per lb.	1	0	1	6
Endive, French, doz.	2	6	3	6	Turnips per bun.	0	6		
Herbs, per bunch	0	2	0	4					

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champsions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Arum Lilies, 12 blms.	4	0	6	Mignonette, 12 bun...	4	0	6		
Azalea, 12 sprays	0	6	1	0	Parma Violets(French),				
Bouvardias, per bun.	1	0	1	6	per bunch	3	6	7	6
Camellias ..12 blooms	2	0	4	0	Pelargoniums, per 12				
Carnations, 12 blooms	1	0	3	0	sprays	1	0	1	6
Cut Tulips, 12 blooms	0	9	1	3	— scarlet, 12 sprays ..	0	6	1	0
Czar Violets (French),					Primula, double, bun.	0	9	1	6
per bunch	1	6	2	0	— single	12	4	0	6
Daffodils ..12 blooms	1	0	2	0	Roses (coloured)	3	0	6	0
Epiphyllum, 12 blms.	0	6	1	0	Roses, Tea per dozen	1	6	4	0
Eucharis, per dozen ..	3	0	6	0	Roses, red (French),				
Gardenias, 12 blooms.	3	0	24	0	per doz.	2	0	3	6
Heliotropes, 12 sprays	0	6	1	0	— Saffiano (French),				
Lapageria, red,					per doz.	1	0	2	0
12 blooms	1	0	2	0	Stephanotis, 12 sprays				
Lapageria, white,					Tropaeolums	1	0	2	0
12 blooms	2	0	4	0	Tuberose, per dozen.	2	0	4	0
Lilies of the Valley					Violets ..12 bunches	1	6	2	6
12 sprays	0	9	1	6	White Jasmine, bun.	0	6	0	9
Marguerites, 12 bun...	3	0	6	0	Xmas. Roses, 12blooms	4	0	9	0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Aralia Sieboldi, doz.	6	0	18	0	Ferns, in var., doz.	4	0	18	0
Arum Lilies, per doz.	18	0	24	0	Ficus elastica, each	1	6	7	6
Begonias, per dozen	6	0	12	0	Foliage Plants, vari-				
Bouvardia, per doz.	9	0	12	0	ous, each	2	0	10	6
Cyperus, per dozen	4	0	12	0	Hyacinths, per doz. pts.	6	0	9	0
Daffodils . . . 12 pots	8	0	10	0	Lily of the Valley,				
Dracena term., doz.	30	0	60	0	12 pots	12	0	24	0
— viridis, per dozen	1	0	24	0	Marguerites, per doz.	6	0	12	0
Epiphyllums, per doz.	18	0	30	0	Mignonette, per doz.				
Erica gracilis, per doz.					Palms in variety, each	2	6	21	0
— hyemalis, per doz.	12	0	24	0	Pelargoniums, scarlet,				
— Regerminans . doz.	9	0	12	0	per dozen	6	0	9	0
— various . . per doz.	8	0	24	0	Primula sinensis, p. dz.	4	0	6	0
Evergreens, in var.,					Solanums . . . per doz.	9	0	12	0
per dozen	6	0	24	0	Tulips . . per doz. pots	6	0	8	0

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Registered "TESTED" Trade Mark.

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And is sent free by
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The Royal Mail box, price 10s. 6d., contains
30 Varieties of Vegetable Seeds and
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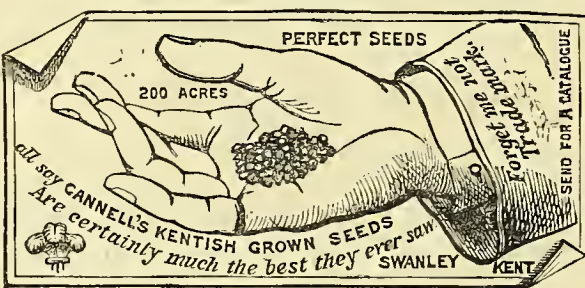
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17, CATHERINE STREET, STRAND, W.C.

Next Week's Engagements.

MONDAY, Feb. 14th.—Annual Meeting of the United Horticultural Provident and Benefit Society, at the Caledonian Hotel, Adelphi.—Meeting of the General Committee of the National Chrysanthemum Society, at 7.30 p. m.

TUESDAY, Feb. 15th.—Sale of Established Orchids at Protheroe & Morris's Rooms.—Sale of Nursery Stock at Lowfield Nurseries, Crawley, by Protheroe & Morris.

WEDNESDAY, Feb. 16th.—Sale of Orchids in Flower at Stevens' Rooms.—Sale of Lilies, Iris, Roses, &c. at Protheroe & Morris's Rooms.

THURSDAY, Feb. 17th.—Sale of Imported Orchids at Stevens' Rooms.

FRIDAY, Feb. 18th.—Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, Feb. 19th.—Sale of Roses, Lilies and Greenhouse Plants at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, FEBRUARY 12, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—We publish elsewhere a brief report of the proceedings at the recent annual meeting of the Fellows of this society—a gathering looked forward to with unusual anticipation, but, unhappily, productive of so little that is practical or satisfactory. Whilst much valuable time was expended in referring to and discussing the past, the primary thought in the minds of the majority present was as to the future. We may deplore the unsound financial position of the society; the distressing pecuniary feature of the Great Liverpool Exhibition; the serious falling off in the number of Fellows; the large amount of money in the form of debentures and life subscriptions sunk at South Kensington, and out of the products of which the society has, year by year, been so audaciously elbowed by the autocratic Commissioners of 1851. All that and much more may be diseussed again and again, *ad nauseum*, but absolutely no benefit can result from such unsatisfactory criticism.

The only thing to remember and diseuss now in relation to the society is this:—that it has an illustrious name, and a not less illustrious horticultural reputation, and that both name and reputation will be absorbed and lost in the general wreck if something be not soon done to rescue the society from its present unhappy position. Too much like Mr. Micawber, the Council seem ever to have been waiting for something to turn up, and even now, when a grave crisis in the existence of the society is reached, nothing better seems

to be propounded. Without doubt, the Council is unwilling to give up all claim to what once was its legal and rightful property, and still has some sentimental fondness for its long—if anything but fortunate habitation. Certainly there were some few years during which prosperity seemed to reign, but these were passing few indeed, whilst far too numerous have been the years of depression and of comparative failure. On the whole, the South Kensington association has been an unfortunate one, and ever provocative of trouble and disputation. There seems little left to cling to after all; indeed, it would almost seem as if prosperity or usefulness would never come to the society at South Kensington, whilst it is fair to hope that, removed from the emasculating atmosphere of that soul-killing and energy-wasting spot to some more invigorating and purer air, a new life might open out to the society, and with that life would come back all that usefulness which makes name and reputation so worthy to be prized.

The past failures put on one side, the great cry of the assembled Fellows was, "A new Home," and nothing less than a new home, absolutely, will satisfy the society's supporters. Really, it would seem as if the majority were willing to clear out from South Kensington at any cost, so long as the evacuation was accomplished. Very likely, if the society had a suitable new home into which to remove, less difficulty would be shown in the matter by the Council. It is obvious, however, that whatever is done, the society must not be rendered absolutely homeless by precipitate action, and the new love must be found before the old one is cast off. The society's belongings could soon be removed—to Chiswick, if need be—but for the Lindley Library, in which it is largely interested, accommodation cannot so readily be found. With the best of motives, a committee of five gentlemen—all able men—elected from outside the Council has been appointed to confer with, and, if possible, co-operate with the Council in its efforts to come to some satisfactory settlement with Her Majesty's Commissioners, or find a new habitation elsewhere. Only very sanguine persons will derive much encouragement from that appointment; it comes in its inception so near akin to the common practice of Governments, of appointing Commissions of enquiry into unpleasant subjects, and which renders it so easy to defer action. We do not imagine that the Council were aware of the proposed Fellows' Committee, but so readily did that body accept the proposal—regarding it, probably, as satisfying the Fellows for a time, and not of a nature to create alarm—that it was obvious the proposition came in the nature of a welcome red-herring to throw across the scent and check the persistence of the hunt—for a short time at least. Whether the committee will be able to do much good, will depend entirely upon the tact and vigorous action it may bring to bear on the subject; but, at any rate, some little breathing time is gained—that is something, and in a few weeks something more may turn up, if the society, in the meantime, does not have to turn out.

It may seem harsh to express so much, and yet, if the Gordian knot were thus severed, it would forever settle the difficulty so far as the past is concerned, whilst it might still leave the future for a time in doubt. Once, however, assured that a habitation at South Kensington is no longer possible, and then something may be done worthy of the occasion. That the present location is dominated, more or less, by two bodies—the Commissioners of 1851 and the Royal Albert Hall Corporation—renders decision in any direction difficult, if not impossible.

The unhappy lapsis on the part of the Council, in not being provided with suitable candidates for election to the Council in the place of those retiring, in time to enable the balloting papers to be issued as legally required, had the effect at once of quashing any proposed change in the composition of the council for the present year, and at the same time of creating an appreciable want of confidence in the business capacity of that body. We do not assume that any limited change in the *personnel* of the Council would have altered its policy, or given to it renewed life and vigour; and probably nothing has been lost by the retention of the retiring members for another year. But there was much about the proceeding that was unbusiness-like, undignified, and created discontent. Even the compilation of the report—the blame for which was chivalrously appropriated by the genial and able President, Sir Trevor Lawrence, Bart., M.P.—gave too much room for adverse criticism, whilst it added force to the demand set up by so sharp a critic as Mr. Elwes for the securing of a really able and efficient paid secretary. No doubt very much indeed is to be said in favour of such an official, if first he can be obtained, and second, will be allowed a free hand; but the previous work of the Council in appointing paid assistant-secretaries leaves little to hope for in this direction. Their appointments have been anything but a success; indeed, whether the gentlemen selected had military or orchidic reputations, as officials, all have been failures, and one wonders to this day what influence secured their appointments. But we have had enough of recrimination. We want now only practical suggestions, and, following that, earnest action. The Society is near and dear to us all. Horticulturists universally are watching its fortunes and anxious for its welfare, and a practical solution of the problem will afford widespread satisfaction.

WE have received from Messrs. James Veitch & Sons a copy of Part I, *Odontoglossums*, of their *NEW MANUAL OF ORCHIDACEOUS PLANTS*, to which we shall more fully allude in an early issue.

THIS Saturday evening Mr. R. Dean will read a paper on *THE FLORISTS' TULIP AND ITS CHARACTERISTICS*, illustrated by diagrams, at a meeting of the Ealing Microscopical and Natural History Society.

At a meeting of the Linnæan Society at Burlington House, on the 3rd inst., Surgeon-Major Aitchison, who acted as naturalist for the Delimitation Commission of Afghanistan, read a most interesting paper on the *FLORA AND FAUNA OF AFGHANISTAN*. The subject was admirably handled, and well illustrated with maps and specimens of plants and animals.

ONE of the most charming of the Himalaya Primulas, *PRIMULA FLORIBUNDA*, is now in bloom at the Botanical Gardens, Birmingham, and its lovely bright yellow flowers are of a most pleasing shade of colour. Really, the various species and varieties of herbaceous Primulas are most deserving of attention for early conservatory work.

WHAT is known as the spring show of the *READING HORTICULTURAL SOCIETY* will this year take place a fortnight later than usual. No doubt, owing to this being Jubilee year, it will extend over two days, and be held on Wednesday, June 22nd, and Thursday, June 23rd. The usual August summer show is fixed for the 25th of that month.

A DEPLORABLE misadventure is reported from Trentham. It seems that between three and four o'clock on the morning of February 4th, Mrs. STEVENS, widow of the late head gardener at Trentham Hall, asked her little daughter to give her some medicine; instead of giving her mother the medicine bottle, the little girl, unhappily, handed her a bottle containing an embrocation of Belladonna and soap liniment. Mrs. Stevens at once became ill, and though medical assistance was summoned, the unfortunate lady died in the afternoon of the same day.

We have received some more flowers of the fine late-flowering *CHRYSANTHEMUM GOLDEN GEM* from Mr. R. Owen, and which are as bright, fresh and pure in colour as if opened in November. Mr. Owen states that it will open the whole of its buds, and is not very much improved by disbudding, except for exhibition purposes.

ON Friday, the 4th inst., Mr. Walter Rouse read an instructive paper on *ORCHID CULTURE, THEIR REQUIREMENTS AND MISMANAGEMENT* before a well-attended meeting of the Chiswick Gardeners' Mutual Improvement Association. He dwelt chiefly on *Odontoglossums*, *Masdevallias*, *Cattleyas* and *Phalænopsis*. A lively discussion followed on the use of the syringe, whether warm or cold water should be used, and on manurial stimulants for Orchids.

Mr. JOHN HUGHES, hon. sec. of the *BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION*, was on Wednesday evening, February 2nd, presented by Mr. W. B. Latham—acting on behalf of ninety-six members of the association—with a very valuable gold English lever watch, bearing an appropriate inscription. Mr. Hughes feelingly acknowledged the gift, alluding, in the course of his remarks, to the rapid strides made by the society during the past year, and predicting confidently a continuance of the same for the future.

At a meeting of the St. Peter's, Hammersmith, Horticultural Society, held on Thursday, February 3rd, a very interesting paper was read by Mr. Alex. Wright, Devonhurst, on *FERNS* from a spore to a tree. After delineating the life history of a Fern, the essayist concluded with cultural notes on Ferns generally. The paper was illustrated by numerous mounted specimens and sections of fructification under the microscope. The meeting was well attended, and the audience was both attentive and appreciative.

THE *SHROPSHIRE HORTICULTURAL SOCIETY*, which for several years past has devoted large sums from its handsome balances in improving the beautiful Quarry, in which the Society's exhibitions are annually held, has decided to devote out of last year's profits, £250 for enlarging the band-stand, so that two bands can be accommodated; £100 for erecting movable iron railings, to facilitate an increase in the number of turnstiles on show days; and £50 for new movable lavatories. Besides making these improvements, the society also devotes £100 to the purchase of books for the new free public library. Bravo Salop!

Mr. CYPHER, writes:—"You may be interested to know that I have had three *TWIN-FLOWERED SPIKES* OF *LYCASTE SKINNERI* this season; also several twin-flowered spikes of *Cypripedium insigne* and the variety *punctatum violaceum*; and one of *C. Boxallii*. I may also add, that I have one bulb of *Lycaste Skinneri* with fourteen flowers, which I consider a very unusual occurrence."

THE HOLLY-LEAVED PRUNUS.

THE hardy evergreen Californian shrub here noticed, *Prunus ilicifolius*, is generally described under the name of *Cerasus*, but all the stone fruits, even including the Peach, are now included under the name of *Prunus*. It was introduced by the Horticultural Society of London, probably through the medium of their collector, Hartweg, who states that the fruit is like a small Cherry. The stiff spiny toothed leaves very much resemble those of the Holly, hence the specific name. A good-sized specimen has outlived the recent severe weather on an open wall at Kew.

The accompanying illustration gives a true conception of the general appearance of the plant, although less perfectly developed than native grown specimens sometimes are. In specimens collected by Mr. Lobb in 1857, the erect racemes are longer than the leaves, and bear from eighteen to twenty-four flowers on each. The fruit even in a dried state on some of Freemout's specimens is about the size of a large Cherry or even small Plum. Even although this state of perfection cannot be attained in our country, the shrub would be a beautiful and serviceable one for covering walls or other objects whose naked appearance is undesirable. The growth in the open shrubbery would undoubtedly be slower than on a wall, but its utility there might be tested. There is a figure of the species in Paxton's *Flower Garden*, III., 44, f. 254.

THE NURSERY AND SEED TRADE ASSOCIATION, LIMITED.

THE annual meeting of this association was held at the offices of the association, 25, Old Jewry, on Monday last, Mr. N. N. Sherwood, the president, in the chair. From the report of the committee of management, which was read and adopted, it appeared that there had been collected in respect of debts which had been treated by the members as bad, and handed to the association for collection, £2,419, as against £1,276 in 1885, and that the number of applications made by the members for information as to the status of intending customers had considerably increased. In addition to this it was also stated that several failures in the trade, which had occurred during the year, had been investigated by the secretary on behalf of such members as were creditors, and their interests protected. The balance sheet compared favourably with that of the previous year, and showed a marked increase in the receipts. The number of members has steadily increased, and the interest in the association has grown proportionately.

At the suggestion of the president, Mr. Sherwood, a committee was appointed for the purpose of considering any questions which might arise affecting nurserymen and seedsmen, with a view to taking combined action thereon, and the members were invited to communicate with the secretary whenever any such question arose.

In the evening the annual dinner took place at the Guildhall Tavern, when the president again presided, and, in responding to the toast of "Success to the Nursery and Seed Trade Association," said that although the report that day adopted was the tenth annual report, he was responsible only for two, and of those the second one showed that the operations of the association had during the past year increased two-fold over those of the first—an indication that the association was recognised by its members to be of use to them; and he believed that when its advantages became more widely known, many more would become members. Mr. Johnson, in proposing the health of the officers and committee, said that from personal experience he could say that nurserymen and seedsmen in the country were only waiting to see if the affairs of the association continued, as they had begun, to prosper, before becoming members of it, and he thought that the report showed that the association had during the past year made rapid strides.

Mr. Harry Veitch (Messrs. Veitch & Sons, Chelsea), Mr. John Laing (Messrs. Laing & Son, Forest Hill), Mr. C. A. Hooper (Messrs. Hooper & Co., Limited, Covent Garden), Mr. Watkins (Messrs. Watkins & Simpson, Exeter Street, Strand), Mr. Manning (Messrs. J. Veitch & Sons), and several other prominent members of the trade were present, and took part in the proceedings.

GALANTHUS NIVALIS PRÆCOX.

LITTLE need be said in favour of the Snowdrop, which gladdens the eye of every beholder as it peers from under the hedges, or from out-of-the-way corners where its existence had altogether been forgotten. This sudden advent upon our attention is productive of the liveliest interest, independent of its modest unassuming beauty. Its hardiness is also a special point in its favour. Open weather induces the bulbs to throw up their leaves and flowers early in the season, and should a snowstorm afterwards intervene, the flowers remain a long time in great perfection unhurt by either frost or snow. As the varietal name

signifies, the form under notice starts into growth and flowers much earlier than the ordinary form. It may now be seen coming into flower on the rockery in the Royal Horticultural Society's Gardens at Chiswick, a month or six weeks later than in mild open seasons. Occasionally a good show is produced by Christmas, but the lateness of the season is demonstrated by Crocus, Hellebores and other allied subjects besides Snowdrops. The flowers are smaller than in good examples of the typical form, but their earliness should act as a plea specially in their favour. Several forms are now in cultivation, and any that serves to prolong the season should be turned to account by every lover of hardy plants. Single flowers are always preferable to double ones, because more graceful. The early variety might be tried for forcing purposes, as few succeed well with the forcing of Snowdrops.

LILY OF THE VALLEY.

No doubt the majority of the readers of THE GARDENING WORLD would prefer growing their own roots for forcing; and with a very little trouble they may soon work up a stock equal, if not superior, to imported clumps. Well-trenched ground incorporated with plenty of good rotten manure is the great point, and a border on the east side of a wall I find a suitable aspect. Roots now forced are gradually hardened off,



PRUNUS ILICIFOLIUS.

pulled in pieces, and planted 1 ft. apart at the end of April, and in two seasons will be a mass of good crowns if a good mulching be given them in autumn. This we have practised many years with the greatest success; two dozen 6-in. pots, from which the first flowers were cut on New Year's day, have been a charm up to the present time. A bank of them arranged in the conservatory, and with the door open at all times during the day, except in severe frost, is still quite fresh, and the greatest heat to which they were subjected in the forcing pit was 70°. All through the winter the fires were made up at dusk till 6 a.m. the next morning. Setting apart the pleasure of growing your own roots, added to their lasting properties, and the little expense incurred, they have their charm. The roots in question first came from a dear old friend's garden near Trentham, and always bring to mind the fine stock of well-grown hardy plants cultivated there at that time.

I have also a select stock given by that great lover of his garden, the Rev. Thomas Staniforth, Storrs Hall, Windermere, and a stock I purchased at the sale of the Rev. T. O'Grady's, a most enthusiastic grower of hardy plants in his day, with his skilful gardener, Mr. Walker, now doing good work at the gardens, Waltham Hall. "When every plant tells its own

history with its annual beauty, we have a store of pleasure in hand." A few flowers from the plants in question were partially developed a month back. This treatment of temperature alludes to forced Azaleas, large old plants of *Deutzia gracilis*, one sheet of flower, standing close to the door of the conservatory. A nice lot of White Italian Hyacinths, pots of which contained five bulbs producing thirteen spikes, and lasting a long time, were treated in the same way. These ultimately change to a very delicate pink. It is the first time I have grown these in conjunction with the Roman Hyacinth, but it will not be the last.—*George Bolas, Hopton.*

ALTHOUGH Mr. Crawford, in what he has written in your last issue respecting the capacity of home-growers to produce high-class forcing crowns of Lilies of the Valley, is but echoing, as it were, a truism; yet the difficulty to be encountered is to make customers believe what is told them. Germany has a reputation for Lilies of the Valley, and in trade parlance "the run," hence it needs superhuman powers of persuasion to induce our home-traders to refrain from going to Berlin, and purchasing at home; in fact, if the truth must be told, home-growing trade may go to the deuce for all they care provided their own interests are not affected.

Anyone who has visited Messrs. Hawkins & Bennett's establishment at Twickenham, where Lilies of the Valley are so superbly grown, and in an area so limited that the same ground has to be re-employed in the making of the beds from year to year, can there see ample evidence of the capacity of home-growers to produce fine forcing crowns. It is true that this firm do not force what they grow as foreign roots are forced, but there they are all the same, and their flowers are in the proper season unequalled in the market. What can be done in such a case can be done even better if it be possible to do so, where there is ample ground to enable a constant change of soil to be available. The firm to which I allude do not grow crowns for forcing and sale, therefore, I do not know that it would be of any use to apply to them for any; but, certainly, if intending purchasers would take Mr. Crawford's advice and try home-raised crowns, I have no doubt they will find they are not only well furnished, but have also done a home-grower for once a fair turn.—*A. D.*

NARCISSUS CYCLAMINEUS.

FLOWERING specimens of the rare and interesting *N. calathinus cyclamineus* were exhibited by Mr. George Maw, F.L.S., at a meeting of the Linnean Society, at Burlington House, on the 3rd inst. They were collected and distributed by A. W. Tait, Esq., Oporto, Portugal, in the neighbourhood of which they grow wild. The whole plant does not much exceed a height of 6 ins., including the bulbs, which are about the size of a small Scilla. The scape is slightly shorter than the leaves, bearing a solitary yellow flower. The perianth segments are closely reflexed, showing off the cylindrical, somewhat deeper yellow corona to advantage. The latter is the most conspicuous feature of the flower, and is undulated and slightly spreading at the mouth. The stamens are equal in length, slightly shorter than the style, and included in the corona. The leaves are channelled on the upper surface with a broad channelled keel beneath, and of a deep green colour. Among the smaller-growing species it is certainly an interesting and valuable addition to those which we now possess, and we hope its constitutional vigour is such as to withstand our variable and changeable climate. Mr.

Maw said that it had been lost to cultivation for more than 200 years. *Narcissus calathinus*, figured in *The Narcissus, its History and Culture*, by Burbidge and Baker, t. 14, has a short and wide corona; but that of Redouté and the *Revue Horticole*, 1870, p. 89, has a long narrow or cylindrical corona, intermediate between the first quoted and the variety cyclamineus, where the corona is somewhat widened at the mouth.

ANEMONE FULGENS.

THIS is in its way the most conspicuous plant in the spring garden, and may well be styled "the glare of the garden." The fiery scarlet of its flowers and the numbers which are produced from strong clumps, make it one of the most striking plants of spring. It is of easy culture, takes readily to the majority of soils, giving preference to those of a light loamy character however, and may be had in flower for several months of the year, by planting successional batches of its rhizomes. By planting it at various times from September to the end of March, flowers may be had from the very dawn of spring till midsummer, and it is no less welcome at the latter date than the former; for even then it comes before the scarlet *Pelargonium* has begun its annual round of flowering. One word more I may say about it, namely, that it is a vigorous-growing plant about 6 ins. to 12 ins. high, and should be in every collection of hardy plants. On some soils, and particularly those which are cold and clayey, it is apt to deteriorate and sometimes perish. To remedy this evil, it should be lifted annually and receive a prolonged drying off, unless the soil can be lightened by mixing it with sharp sandy grit or peat and leaf soil. It is in reality not suited for cold retentive soils, and requires a little more attention in such cases. Still, it is such an indispensable plant that it merits any special treatment to make it a success. Finally, never discard any shrivelled roots, for it is simply surprising how quickly they plump up and resume an active growth.—E. J.

SYRINGING ORCHIDS.

THIS practice, which is causing some discussion in your columns, is one which is well worth working out in theory, and also carefully watching for results. Like everything else, in Orchid-growing there is much to be said on both sides; and the only way to arrive at a satisfactory conclusion is by the careful experience of several seasons. Our summers differ so much in the amount of sunshine or dull rainy days, that what answers one year may result in much evil the next. In an article of ordinary length, it will be impossible to exhaust the subject, so that it will be better to notice a few plants which have been mentioned generally. Several of your correspondents object especially to *Aërides*, *Vandas*, *Saccolabiums*, &c., being syringed at all. For years I have been in the habit of syringing these twice a-day during the summer, providing the day was fine, and, so far, have not seen plants which surpassed in health those so treated; at the same time, the syringe was not allowed to be used by careless or inexperienced hands.

In early spring, when young roots began to push, the treatment was commenced, on bright days, soon after noon, when the house was closed, the water used being of the same temperature as the atmosphere. A nozzle-syringe was held as far as convenient amongst the plants, the finger being pressed close in order to direct the water in a very fine spray upwards among the leaves, sufficient to leave moisture on each leaf, but not so much as to cause it to run down into the heart of the plant. As summer advanced, with more air admitted and longer days, the practice was commenced early in the morning, and repeated again about four in the afternoon, allowing the house to become rather dry during the middle of the day. *Vandas* were always grown in the cooler and more airy *Cattleya* house; *Dendrobiums* I have grown under both systems, with as nearly as possible the same results.

Where syringing is practised, the house should have less shading and more air than where damping floors and staging alone is the rule. Until the young growths are a few inches high, it is by far the safest plan not to syringe; but afterwards it may be done on fine days.

Where very thin tiffany shading is used, or the glass is whitened permanently in ordinary stoves, *Dendrobium nobile* and *D. Wardianum* grow well under

this treatment, in the hands, sometimes, of men who do not even know the names of such plants. In passing, I may say that the finest plant of *Cattleya Harrisoni* I have ever seen has been under this treatment for a great number of years in the same pot in which it started, but of which it has long ago become independent so far as the inside and compost are concerned; the outside is covered with roots which increase in number annually. Cool Orchids have been grown successfully under the syringe with more air and light, but I never was satisfied with them when, as an experiment, one part of the house has been syringed and the whole treated as if no difference was made.

Mexican *Lælias* and *Epidendrums* delight in a good bath on bright days with little or no shade and an abundance of air. *Vanda teres* and *V. Hookeri* are treated similarly. *Dendrobium Jamesianum* and nearly all the nigro-hirsute section will bear any amount of water, but require more shading than others. There are many Orchids which I have grown successfully under the syringing treatment, a list of which I shall be pleased to give at a future time if it will assist anyone interested in this question.—IV. Baxter, Shackleford, Woking.

OLD v. NEW POTATOS.

I HAVE, on more than one occasion, sung the praises of my especial favourite Potato, Wormleighton Seedling; but have always been answered that it was identical with *Magnum Bonum*. Only yesterday we opened the hill of Wormleighton's; and so that *Magnum Bonum* should have a fair and impartial trial, we took out from an adjoining hill a few of the latter for testing. When served at table, the Wormleighton's were dry, floury and of the best flavour; while the *Magnums* were somewhat close, not in comparison so far as flavour goes, and also lacking the fine white and floury appearance of the former. I have heard from many good judges that The Colonel and Village Blacksmith would undoubtedly come to the front. These two varieties I have grown this season, and carefully tested with the following result. The Colonel is, indeed, a noble tuber, and as good as it is handsome. I cannot praise it more than by saying that it equals Wormleighton Seedling itself; but Village Blacksmith should be put in the same category as International Kidney—not edible. Seven of them were cooked for trial, every one of which proved to be hollow, this extending nearly through the whole tuber.

I may now notice Sutton's Reading Russet, which is good in every form and shape; the lightness of the flesh when boiled is remarkable, and the flavour first-rate. Sharp's Victor is also a very excellent variety, and well worth cultivating. Paterson's Victoria is also an especial favourite here, but the disease thins the crop wonderfully; still, as a late keeper it has few equals. Sutton's Reading Hero grows here wonderfully strong and good; not one diseased tuber have I ever seen of it, and I look upon it as well worth growing. Prime Minister is a really fine variety, large in size, smooth in outline, an abundant cropper, and first-rate in flavour.—R. Gilbert, Burghley.

NEW PLANTS CERTIFICATED

By the Floral Committee of the R.H.S.

February 8th, 1887.

ODONTOGLOSSUM CRISPUM LEOPARDINUM.

The sepals of this grand variety are boldly blotched with deep chestnut-brown on a white ground; the petals are similarly marked, and otherwise characterised by the margin being irregularly and more or less deeply cut. The markings of the finely fringed labellum are also well sustained, while the basal part has the usual complement of yellow. The flowers on the plant shown were both numerous and large, so that we have in this fine novelty another valuable addition to the already numerous list of cold-house *Odontoglossums*. Exhibited by H. M. Pollett, Esq., Fernside, Bickley.

PACHYSTOMA THOMSONIANA.

The radical scapes of this tropical West African epiphyte bear from two to four comparatively large and conspicuous, showy flowers. The sepals and petals are lanceolate, acuminate and pure white, while the three-lobed labellum is a rich intense purple, with paler lines along the basal and lower half, and the lateral

lobes more or less stained green. The middle lobe is drawn out to a great length and reflexed, and, together with the green-purple-spotted column, constitutes the most conspicuous feature of the flower. It is the only representative of the genus from Africa, and the best for cultivation. Exhibited by W. Vanner, Esq., Camden Wood, Chislehurst.

LYCASTE PLANA MEASURESIANA.

The special beauty of this variety resides in the petals and labellum, which are pure white, closely spotted all over with deep reddish purple. These organs also stand erect, with revolute tips, and form at once the central and strongest feature of the flower, contrasting strongly with the large spreading sepals, which are brown tinged with green. A number of flowers are produced from the base of a single pseudo-bulb. Exhibited by Mr. B. S. Williams, Victoria and Paradise Nursery, Upper Holloway.

PRIMULA SINENSIS, SNOWFLAKE.

The flowers of this variety are large, flat and well fimbriated. They are also well thrown up above the foliage, over which they form a compact mass of snowy whiteness until fading with age. The large angled yellow eye forms a fine contrast to the rest of the corolla. The fern-leaved foliage is ample, and constitutes another good feature of the plant when well grown. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

PRIMULA SINENSIS, PURITY.

In this form we have another to the list of good whites that will in time oust the others now in cultivation from gardens. The truss of bloom is well thrown up above the foliage, while the individual flowers are of great size and purity. As in the other forms, the large yellow eye is well defined; the foliage is also of the fern-leaved type. Exhibited by Mr. J. James, Woodside, Farnham Royal, Slough.

PRIMULA SINENSIS, CANNEL'S WHITE PERFECTION.

The foliage of this grand variety is of the fern-leaved type and very robust, with the individual leaves assuming an ascending or semi-erect condition, forming a huge rosette, from the centre of which the bold flower spike bears the flowers well up. The latter are large, pure white, much fimbriated and flat, with a large angular yellow eye; a very fine novelty indeed. Exhibited by Messrs. H. Cannell & Sons, Swanley.

PRIMULA SINENSIS, BRIGHTNESS.

The foliage of this form is of the ordinary plain-leaved type, and, as is usual in dark-flowered forms, the foliage is tinted in a similar manner. The flowers are medium-sized, semi-double and of an intense red colour. It appears to be floriferous, and is welcome for its bright colours. Exhibited by Messrs. Caunell & Sons, Swanley.

THE OPERATION OF POTTING.

(Concluded from p. 358.)

THE directions given at p. 358 may seem rather tedious to some, but if followed out will not be found so. The plants, when potted, should be placed in a warm house and kept moist, when they will soon take fresh root. If they require to be shifted into larger pots, a few weeks of this treatment will suffice, when they will be ready to be brought back to the shed to have a shift, as it is generally termed. This operation is easily performed with soft-wooded plants by taking the 60-sized pot in the hand, as before recommended, and giving it a sharp knock on the bench. The little ball of soil readily slips out, and, taking the crocks away, it is placed in the larger pot and filled up, as before advised. In addition to the sharp knocks to settle the soil, a little more pressure from the thumbs is necessary to make the soil firm round the ball of roots. This is needful, seeing that the plant, as it acquires strength, requires something firmer into which the roots may work. If the plants require further potting, the soil should be made firmer at every shift. As the shift becomes larger, so must the soil that is placed over the crocks be made proportionately firm.

HARD-WOODED PLANTS.—Plants of firmer texture also require a firmer soil in which to grow. For all plants such as *Heaths*, *Epacris*, *Pimelias*, and the general run of greenhouse subjects, a very different plan must be adopted. In the first place, the rooted cutting must be potted firmer, and the more so at every shift. Greater care should be exercised in turning out the plant, and in placing the soil round the ball. Be more careful that the soil is properly pressed equally all round the pot. A few words of caution as to the

general operation of potting greenhouse plants may not be out of place. In the first instance, these plants should not be potted unless the roots are in a healthy condition. If robust at the roots, they will show it in their general appearance, and in the uniform healthy green colour of the foliage. The next thing is to be careful that they do not get overpotted at any time. A space in which the fingers can be pushed down between the ball of soil and the new pot, is ample for this class of plants. In the drainage of their pots greater care must be exercised, and after the crocks are properly placed in a pot, a layer of fibry peat should be carefully laid over the crocks. This should be made firm, as well as the soil that covers the rough peat placed in the pot before the latter is ready to receive the plant.

Good firm potting must be practised with all greenhouse plants of the type mentioned above. Always bear in mind that it is requisite that sufficient space should be left on the surface to contain as much water as will moisten the whole ball. This is the great secret of success in keeping plants healthy, with the usual ventilation given this class. If hard-wooded plants are not healthy, it requires a person with some experience to handle them properly, for in many cases they invariably die if their roots are molested whilst in bad condition. Something must be done, however, to bring them back to a healthy condition. This something is often a matter of kill or cure. If the soil should have become sour, and the roots, to a certain extent, dead, it will be safest to take a sharp-pointed stick and gradually pick a lot of the sour soil away so as to reduce the ball to such an extent that it will again go into the same sized pot or even smaller. After this operation the plants will require to be kept closer for a few weeks, and great care exercised in watering them. At the end of this time they will either show signs of starting afresh or of dwindling away altogether. Should the latter be the case, it will be as well to throw them away immediately, for nothing spoils the look of a greenhouse more than plants standing about in a half dead condition.

I should advise all amateurs and beginners at this kind of work to have a fair amount of patience when they are about to commence work of this nature, and to study carefully the nature of the subjects in hand. They will find it to their advantage in the end to possess plants enjoying good cultivation. They will also find the pleasure of attending to a greenhouse greatly enhanced, especially when friends visit them, and they can point with pride to their skilful management. Casual observers walking into a potting-shed, and seeing men busy at the operation of potting, may think it an easy matter; but observers must understand that these are men who have been educated to the profession from youth, and have given it special attention. In many cases they are as well qualified to do this work in a quick and workman-like manner as a competent bricklayer is to use his trowel and lay bricks at so many hundreds per day. The principle required to obtain the necessary knowledge to pot successfully, is quick comprehension of matters in general, a sharp eye, and active hands. One possessed of these can soon surmount difficulties.—*W. G.*

GARDENING NOTES FROM SCOTLAND.

Scottish Horticultural Association.—The usual monthly meeting of this society was held on February 1st—Mr. Milne, president, in the chair. There was a good attendance of members. Two papers were on the programme—the one by Mr. G. Nicholson, curator of the Royal Gardens, Kew, on “Hollies”; and the other by Dr. Drinkwater, on “The Chemistry of Leaves.” Neither of these gentlemen, however, was able to be present to fulfil his engagements. Mr. A. Mackenzie read a report on the Chrysanthemum show held a short time ago in Edinburgh. It was stated that the show was the most successful ever held in Scotland, and particular reference was made to the great improvement which had been effected in the culture of the flower within the last twenty years. A financial statement proved the income of the show to have been £59 19s. 6d., and the expenditure £53 3s. 9d. On the motion of Mr. M. Dunn, Dalkeith, seconded by

Mr. D. Mackenzie, the report was approved of. The president intimated that at the last meeting of the council it had been arranged to have another Chrysanthemum show next season. It will be held in a larger hall, probably the Waverley Market, about the last week in November. The exhibits displayed on the table, included a beautiful collection of Chrysanthemum blooms, shown by Messrs. R. B. Laird & Sons. There were eighteen named varieties in remarkable condition for the time of year. Special reference was made to the condition in which one variety, named Elaine, was shown.

Lawns.—The renovation of grass sward is a matter which should not be neglected. The levelling up of holes to bring the whole surface to a presentable condition may be done when the ground is frozen hard; the soil can be wheeled on and no damage done by barrows. Holes are easily observed when rain has fallen and is frozen. A mixture of good loam with a portion of bone-meal or Vine manure mixed with it, does well to increase growth in grass without inducing coarseness. The surface may be levelled with a wooden rake to equalise the dressing, which may be $\frac{1}{2}$ in. or more in thickness, then a thorough raking to prepare for grass may be given in March. Sow the seed early in April on a fine surface, cross-raking and rolling it.

It is a difficult matter to get clean turf, but grass seed sown on well prepared surfaces will give the greatest satisfaction. Dressings of soot and rich soil are excellent for killing moss; the latter is significant as an exhibition of poverty. It is often forgotten that heavy crops are taken from lawns. The continuous close cropping is very exhaustive, and the soil requires renovating as for any other kind of vegetation. We often have had to renovate bowling greens (we have a large one at present) where the proprietors have expressed their wonder at the failure of grass and the increase of moss; just as if the former could thrive on inert soil. Draining and all such work can be done advantageously on lawns for some weeks to come, and good drainage is conducive to fine healthy grass.—*Caledonian.*

Rhododendron Nobleanum.—This is truly a very valuable plant at this season of the year, both for show, house decoration, and for cut flowers. Though it has become comparatively scarce, and not easily procurable in the trade, it is very easy of management. Our stock is severely cut every season during January and February; but they soon recover even under very ordinary treatment. New growth comes on simultaneously with the flowers in the gentle warmth of a newly-started Peach house, vinery or similar position. When the flowers are cut, or the plant is allowed to retain them as long as they last, young growths are well advanced; and when hardened off with care, they form flower-buds for the following season. We place them out in an ordinary shrubbery, from whence they are removed in autumn, and tubbed or potted as their root requirements necessitate. These, with two or three dozen flowers opened on each to fill up space after the removal of Chrysanthemums, &c., are no mean objects. We find home-grown plants much finer in foliage, and the blooms larger, than those purchased. We think many of the failures with these plants are caused by poverty of soil, dry positions, and it may be that the stock is grown year after year on the same land. A quantity of well-rotted manure mixed with common peat or leaf-soil, and placed over the roots of plants which are to be forced, does much to invigorate them. There are, of course, other kinds of Rhododendrons excellent for winter work; but we recommend this old favourite, so tenacious of life, as being very serviceable, and giving very little trouble to keep in a flowering condition. It is well adapted for Scotland, as we have seen it in larger quantities in northern parts than elsewhere.—*Caledonian.*

Gros Colmar Grape.—I thought the general opinion of the excellence of this Grape had been, on all hands, confirmed. I suppose it received an indifferent character at first because it was erroneously supposed to be fit for use as soon as it was coloured and coated with bloom; it has sometimes been exhibited in such condition, when totally unfit for use. I have never seen it fit for use before October or November, and those who value it most, to supply their own tables, will not allow it to be cut before their Hamburgs and better class of Grapes are consumed. Hamburgs keep well till after the new year, and are appreciated by all proprietors I know who have had a choice of kinds.

I have seen the Gros Colmar frequently on exhibition tables at autumn shows, but never tasted any which I should consider worthy of a prize when earlier kinds were present. In Scotland, this Grape has been often seen in fine condition, and requires an early start to get it ripened well. If autumn sun is allowed to complete the ripening process, with a moderate administration of fire heat, accompanied by abundance of air, this Grape assumes a very different character than when ripened with a minimum of heat late in the season. I enclose a few berries to show that it can be grown quite free from the coarse taste by which it is characterised during autumn.—*Scol.* [They were very good.—*Ed.*]

THE AMATEURS' GARDEN.

PEACHES AND NECTARINES.—Where these are grown under glass, if not now in flower they will very soon be so. The amateur, if he wishes to secure a fair average crop of these juicy, delicious fruits, may do it almost to a certainty any season under glass, if he choose, by a little timely attention. The weather out of doors at this season is very frequently unfavourable to the ventilating of houses; and in cases where no artificial heat is used, this matter is liable to be overlooked altogether. When Peach trees are in bloom, the stagnant atmosphere fostered by these conditions is fatal to the setting of the bloom by hindering the dispersion of the pollen. A somewhat higher temperature should be maintained during the flowering period—say, about 45°; this will allow the top ventilators to be partly opened, which, with a little heat in the hot-water pipes, will cause a free circulation of air in the house. Besides this, the pollen will also be distributed by lightly tapping the trees with a stick, or with the hand, two or three times a-day when they are in flower. A thorough dispersion of the pollen would also be secured by fastening some long plummy feathers on a pole, such as are used for dusting rooms, and lightly brushing over the blooms. The same applies to Nectarines and Apricots grown under glass.

KITCHEN GARDEN.—Where herbs are much in request, the borders containing them may be gone over and rectified. New plantations can be made by dividing the root-stock, and re-planting the pieces on well-prepared ground that has been properly manured; this is necessary if good crops for cutting are expected. Thyme, Mint, Hyssop, Balm, Horehound, Sorrel, Marjoram, and similar-habited subjects, may receive this treatment. Lavender, Sage and Rosemary are better if raised from seed or cuttings, as they are of a more woody nature, and do not produce suckers so freely.

Early sowings of Peas, Beans, Carrots and Radishes may be made on dry warm borders. See that the indoor sowings of Peas and Beans made last month are not becoming drawn by being too far from light. A free circulation of air should also be kept in the house where they are grown. As soon as the soil is in a fairly favourable condition, early varieties of Potatoes, if not already planted, can either be so treated or dibbled into the soil—preferably the former. For main crops on open unsheltered breaks, they need not be planted thus early, unless stress of work later on should necessitate it now. Dress Asparagus beds, and put them in a condition for the crowns to grow away freely whenever the temperature rises. Mixtures of horse and cow manure are most commonly used; but seaweed, where obtainable, may also be utilised to advantage.

FORCING DEPARTMENT.—Work of all kind in this department should now proceed with alacrity. If the manure for hotbeds has previously been prepared as advised, no delay need be made in getting the beds made up and covered with 9 ins. of soil. After all danger of violent heating is over, plant early Potatoes, and between the rows sowings of Early Horn Carrot and Radishes may be made. In frames where a gentle heat is maintained, sow Cauliflower, Lettuce and early Cabbages. Melons, Cucumbers, Tomatoes and Onions for early use can be sown in pots or pans and potted on when fit to handle; the Onions may be pricked out in a frame for early use. Chives come on early and form a good substitute for Onions. Continue to bring in batches of Rhubarb, Sea Kale, Asparagus and such things for forcing. Strawberries should also be started away into flower for early fruiting; and vineries will now require attention where second early supplies are required.—*F.*

CHRYSANTHEMUM SHOWS.

CHALLENGE CUPS AND TROPHIES.

Committees of Chrysanthemum societies have been, and are now, busy framing their schedules for next November exhibitions; and in all probability there is no little excitement and emulation as to which society shall offer the most tempting and costly prizes, with a view to drawing to their respective exhibitions the best exhibits, and greatest number of exhibitors. This is very laudable and praiseworthy, and shows a very healthy and desirable state of things so far. But there are societies springing up around us, who, in return for their valuable prizes, are determined to have their "pound of flesh," aye, and "blood" too!

One stipulation is, that these valuable trophies must be won, by the same competitor, twice out of three times, or twice in succession, before they can become his own; or in a general way, a man must compete three consecutive years to become the possessor of one. Putting the sterling value of a nominally 25 guinea Cup at £20, the actual annual value of his prize is represented by the magnificent sum of £6 13s. 4d. Is this sum anything like a fair equivalent for the immense strain on the mind and body of exhibitors for twelve consecutive months in these classes? There can only be one answer, and that is, No. Is it even a liberal prize to offer? To that I again answer, No, considering the requirements of the case. When the case is one of individual effort, and when that effort has to be a severe, continuous and protracted one, to gain the prize once ought to suffice.

I think there are few gardeners who desire to do their work twice or thrice over, when once is sufficient; and I do not see why competitors at flower shows should be required to win, two or three times over, a prize which after all would be but a moderately liberal one for one effort, when we come to consider the subject matter of the competition. Exhibitors may be masters of the position. They need not compete; and if no competitors appear, then those societies must adopt other measures. Trophies to be won several times in succession before they can become the property of the winners are all very well when their possession depends, not upon individual effort, but upon collective and united effort, such as district v. district, county v. county, or north v. south; and I confess that I should very much like to see some such "Chrysanthemum tournaments" organised. For instance, Lancashire might compete against Yorkshire, or Middlesex against Surrey. In such cases as these, the baneful effects on the health of the competitors would scarcely be appreciable, and much good to horticulture would result.—*J. Udale, Elford Gardens, Tamworth.*

TOMATOS IN THE OPEN AIR.

HAVING had, previous to the four last summers, some unfortunate experience with these out of doors, I had, till last season, practically given up growing them in this manner. On several occasions previous to that, just as the fruit was about to colour, the Potato disease appeared, and made short work of fruit and plants alike. My plan of growing them was that usually recommended—namely, sowing the seed at the end of February or beginning of March. My failures in the past forced the conviction on me that earlier sowing would be desirable—in fact, indispensable—to ensure success. The Tomato is a heat-loving plant, and our summers are often too cold and short to bring the crop to maturity sufficiently early to escape the ravages of disease.

Last summer we had fine crops of them on walls and trained on the single-rod system to stakes, the varieties grown being dwarf Orangefield, Laxton's Outdoor, Stamfordian and Abundance, the dwarf Orangefield and Laxton's Outdoor being the earliest. Those trained to stakes were a great success, and I would urge on all who have a warm aspect to try the plan. Could we ensure summers like that of 1886, an acre or two of these would be a profitable investment. We made our sowing for planting out this summer on the 30th October last, and are now (Feb. 1st) about to put them into 48-sized pots. They required careful watching during the severe weather we have recently passed through, for in their young and tender state they are very susceptible of cold. We keep them as near the glass as we can, in order to get a strong stocky growth. One of the worst things that can happen to them is to be drawn up. When they become fairly established in

the above size, they will bear a lower temperature, and can be placed in a more airy situation than is at present desirable. From thence onward a slow steady growth is the object till planting out time.

I am well aware that many who may read this will object to the time and room this will entail. Many have not the room, but to all who have it the extra expenditure will bring its own reward in an abundant crop of what is fast becoming the most popular culinary fruit of the day. You cannot get too many of them. We find the supply exceeds the demand. It will be found far better to get a few plants advanced early in the season like this than a larger number later on. A crop from good strong plants can be relied upon, even in adverse seasons; whereas one from plants turned out of 60-size pots is at best very precarious. In most situations it will be desirable, when planting out, to elevate the plants from 9 ins. to 12 ins. above the surrounding soil on hillocks or ridges made flat on the top, so that if watering has to be resorted to the plants may get the benefit of it. This ensures greater warmth and better drainage.—*W. B. G.*

GARDEN PLANTS ILLUSTRATED

THRIPSERMUM UNGUICULATUM.

At first sight one might readily mistake this for a species of *Phalenopsis*, and it was, indeed, sent home from Burmah under that name. It flowered lately in the Victoria and Paradise Nurseries, and surpasses *T. lanigerum* and others of a similar character that are only fit to be grown in botanical collections. The flowers are crowded in a short raceme at the end of a pendent stalk, and are almost comparable to *Phalenopsis violacea* in size. The sepals and petals are spreading and pure white, while the three-lobed labellum is marked or striped longitudinally with crimson on a white ground. This latter organ is comparatively small, and does not add materially to the attractiveness of the flower. The leaves are strap-shaped and somewhat broader at the upper end; of a leathery texture; and resembling those of *Phalenopsis grandiflora* considerably.—*Orchid Album*, t. 266.

SILPHIUM ALBIFLORUM.

The flower heads of this species are nearly white, and the plant is dwarfer, but of more robust habit than *S. laciniatum*. These two constitute the section in the North American flora, and are known as Compass Plants. The leaves are deeply pinnatifid and hairy, with linear-oblong segments, resembling the better-known species. It is a native of Reverchon, Texas, was introduced by Mr. Thompson, of Ipswich, and is perfectly hardy and suitable for the herbaceous border.—*Botanical Magazine*, t. 6918.

CATASETUM MACROCARPUM.

The flowers of this singular Orchid, if not very highly attractive, are exceedingly curious, of large size, and offer several features of interest for a general collection. The sepals are lanceolate and of a greenish yellow colour, almost entirely covered with small brown spots in transverse lines. The petals are larger and pale green. The deeply concave labellum is green and yellow externally, but orange internally; and being three-lobed or toothed at the apex, the plant is sometimes known as *C. tridentatum*.—*L'Illustration Horticole*, 1886, t. 619.

CEANOTHUS VARIETIES.

Several species and varieties of *Ceanothus* are hardy or nearly so in all ordinary winters in the south of England, but even those that are not perfectly hardy can be wintered in a cool house and planted out in summer. *Gloire de Versailles* produces terminal panicles of deep sky-blue flowers in great profusion. *Madame Adele Bailly* bears close bushy panicles of white flowers, while *C. americana rosea* is a rose-coloured variety of that species.—*Bulletino della R. Societa Toscana di Orticultura*, 1886, t. 14.

CRINUM VANILLODORUM.

The flowers of this species have a drooping irregular perianth, with broad white segments. The plant, therefore, belongs to a different section from that of *C. Hildebrandti*. The tube of the perianth is green as well as the styles and anthers; while the other parts of the flower are white, thus offering a marked contrast. The flowers may also be compared to those of *C. gigantum* or *C. podophyllum*, and the plant, which is allied to the former, may be distinguished by the long-necked bulbs.—*L'Illustration Horticole*, 1886, t. 617.

WORTHINGTON G. SMITH.

MR. WORTHINGTON GEORGE SMITH is so well known to gardeners and botanists as an illustrator of plants, and a writer on their structure and diseases, that we have no doubt the accompanying portrait, engraved by his son, Mr. Arthur E. Smith, will be welcome to our readers. Mr. Smith was born in 1835, and studied for the profession of architecture; this study necessitated the observation and drawing of plants as ornamental adjuncts to architecture, and some of Mr. Smith's designs for ecclesiastical plate were, in 1859, engraved by the famous wood engraver, Orlando Jewitt. Mr. Jewitt was a good botanist as well as an archaeologist and wood engraver, and he advised Mr. Smith to study the botanical as well as the ornamental aspect of plants. Acting on this advice, Mr. Smith had made, in 1865, a large number of original botanical drawings of flowering plants and fungi, and of the former 150 were at once bought by Messrs. Marcus Ward & Co., and the drawings of fungi were ultimately all bought for the British Museum.

Mr. Smith was awarded the Gold Banksian Medal of the Royal Horticultural Society for the drawings, and at a later date was awarded the Knightian Gold Medal of the society for his researches in connection with the Potato disease. The late Dr. Berthold Seemann advised Mr. Smith at this time to lay aside the practice of architecture for horticulture as well as scientific botany; and in 1870, meeting Dr. Masters, at his request Mr. Smith became chief engraver to the *Gardeners' Chronicle*, and soon established a high reputation for himself, the accuracy and beauty of his illustrations being admitted on all hands. Besides lending such valuable assistance to our contemporary, Mr. Smith's services became in great demand for illustrating trade catalogues, and it is not too much to say that the vast improvement that has been made in these productions of late years is largely due to Mr. Smith's accuracy and good taste as a draughtsman, and skill as an engraver.

From 1869 to 1876, Mr. Smith illustrated, and in part edited, *The Floral Magazine*. Forty of his large water-colour drawings of Fungi are exhibited in the Bethnal Green Museum, and his coloured sheets of edible and poisonous Mushrooms, with accompanying small book, have had a large sale, and passed through several editions. Mr. Smith's most recent work is one of Messrs. Macmillan's scientific class books, being an illustrated work on the *Diseases of Field and Garden Crops*; and he is also one of the writers and engravers for the new edition of the *Encyclopædia Britannica*. He has recently, too, illustrated Stevenson's *British Fungi*, and his finest engravings have been prepared for the catalogue of the fungi and lichens in the British Museum.

Mr. Smith's architectural and archaeological work is necessarily less known, to readers of horticultural literature than his horticultural and botanical, but we believe the quantity and quality of the first is equal to the second. His most remarkable archaeological achievement was his discovery of the "Palæolithic Floor" in the North of London, whence he extracted, in addition to a large collection of fossil bones, antlers, teeth, &c., about 1,000 implements of flint. Many of these implements were secured from Mr. Smith by the authorities of the British Museum, and a fully illustrated description of this "Floor" from his own pen and pencil was published a year or two ago in the *Anthropological Review*.

Mr. Smith is a Fellow of the Linnæan Society, of the Anthropological Institute, of which he was elected to the council in 1884; of the Royal Historical Society of Ireland, and of several other societies. He has served for thirteen consecutive years on the Scientific Committee of the Royal Horticultural Society; and he is a member of, and draughtsman to, the British Archaeological Association and the Cambrian Archaeological Association.

But our esteemed friend has not devoted the whole of his energies to science and "wood cutting for popular and scientific publications." He took an active part in the preservation of Epping Forest, and afterwards in helping to effectually resist the railway scheme for partially destroying it. He has also helped to successfully resist other attempts at common land spoliation; while his contributions to the press, both scientific and humorous (for our friend possesses a fund of quiet humour peculiarly his own) have been many, valuable and always eminently readable.

PLANTING OUT CAMELLIAS.

THOSE who have only grown these plants in pots and tubs have but a poor conception of the ease with which they are managed, and the luxuriance with which they grow when planted out in a well-prepared border. In pots they are subject to checks from a variety of causes, which often end fatally in the plants dropping their buds or assuming a sickly, unhealthy appearance; but when planted out risks are reduced to a minimum, and unhealthy plants are the exception, not the rule. I do not wish to convey the idea that Camellias cannot be grown well in pots and tubs, for there is ample evidence to the contrary, but they do better when planted out than when cultivated under such conditions.

In preparing to plant them out, a border 2 ft. 6 ins. in depth should be provided for them, including the

as to give to the house a furnished appearance; in many instances this must be done. The plants would grow well—even luxuriantly—in such a mass of soil; but in a few years they become crowded, and unless they are re-arranged they ruin and destroy one another—that is, if shapely specimens are required. No doubt, they would grow well in a mass, the same as a lot of Portugal Laurels; but such crowding is not desirable, for plants cramped together are neither ornamental nor beautiful. Camellias are not the best of things to lift after they have been allowed to ramble for some years in a whole border without some form of restriction. Lifting is attended, under these circumstances, with great risk and uncertainty.

This state of things can be avoided by building a single row of bricks some distance from the ball of

likely to crowd one another. It is better to err on the side of giving too little than too much root room at first, for this can be increased at any time if necessary, or feeding resorted to. The smaller and more compact the balls can be kept, the easier can they be transplanted when more space is required.

If we suppose that the whole of the plants are planted out, it will be readily observed how much easier they will be to transplant, either to give more space when needed in the same house, or to remove them to other positions. When such provision has been made, and the plants require more room, all that is needed is to lift out those plants that will not be required again to furnish the house, then dig a trench round the bricks, remove them, then bind the ball firmly together with sacking, or something similar, and then pull them



WORTHINGTON G. SMITH, F.L.S.

drainage; if the base is of clay it should be concreted, but if of a gravel or sandstone formation no such provision need be made; in any case a drain should be provided to carry away superfluous water. On the base, about 1 ft. in depth of broken bricks or other similar material should be provided for drainage. Some care must be taken in this matter; the larger pieces should be placed at the bottom, with a good layer of smaller ones on the surface, which will prevent the soil from mixing with the drainage, and thus rendering it useless in a few years.

In preparing borders for these plants, many mistakes are made, and one of the first is filling the whole space with prepared soil for the plants to grow in. It is necessary to remove the whole of the existing soil, so that efficient drainage can be provided; but to fill up the space again with fresh soil, and then to plant out, is one of the greatest blunders that can possibly be conceived. It is often necessary, in structures that are to be entirely devoted to Camellias, to plant at first, so

each plant, so that when planted out its roots will be enclosed within a circle. This is like giving them a large shift in a pot, and the building may be done before planting, except in the case of plants in large tubs, when it is best done afterwards. In this case the plant could be turned out of its tub, two or three sods, grass side downwards, laid over the drainage, and over these sufficient soil to raise the plant to its desired height. The wall could then be built on the top of the drainage, and the space between the ball and the wall filled in firmly with soil. Plants of only small or moderate size can as easily be planted out after the circular wall has been built as would be the case in transferring them into a larger pot. Where practicable the wall should be built before planting, and the mortar allowed to dry first. Too much space should not be given them at first. In this matter no hard and fast line can be laid down, but each individual must be guided by the distance between the plants, and the length of time they will be before they are

into the position required by the aid of a rope at the base. They can be got on to a square board made for the purpose, or on to a plank; in fact, any of the contrivances employed for the removal of choice shrubs will do very well. After they are in position, the brick wall, as before, can be placed round them again.

But I must retrace my steps, for the border was left just as planting had been completed. The space between these circular beds, if such we may call them, can be filled up with the best of the soil that was removed in the first instance. The surface can be planted with a few moderately hardy Ferns, such as *Pteris serrulata* and others, with *Selaginella Kraussiana* (denticulata of gardens) amongst them; which will quickly form an attractive green carpeting for the surface, and be much more ornamental than the bare soil.

The soil surrounding the Camellias may consist of a mixture of peat and loam in equal proportions, with sand added; but they will do equally well, if not

better, in good fibry loam, of a sandy nature, which, if it does not exist naturally, can be added; one seventh of decayed cow-manure; one 6-in. pot-full of $\frac{1}{2}$ -in. bones; and one 10-inch pot-full of charcoal, broken to the size of cob nuts, may be added to each barrowful of loam. A little soot may be added, or it may be supplied in liquid form from time to time, when the flowers-buds commence swelling. This system of limiting the root-run of the plants, proves not only favourable for lifting them, but fertile soil can be added when the plants need it. If the whole of the border were made at first, considerable expense for loam would be incurred over the system advised, and in addition to this, many of the most fertilising properties of the soil would be washed away before the plants could take possession of them. Camellias may be planted out at almost any season of the year, but the best time, undoubtedly, is just as they give over flowering and show signs of starting into growth. I may here state, that the brick wall surrounding the plants need not be visible on the surface, but for the sake of appearance it should be kept just below, and any roots that ramble over, can be cut back annually after flowering with the spade.

The best time to lift these plants is just as they complete their growth, that is, as soon as the foliage of the season's growth is developed and the flower buds show signs of forming. The roots are active at this stage, and if the plants are kept close, shaded and well syringed for a fortnight after the operation, they will have commenced making new roots. Two plants, 6 ft. high and 3 ft. through at the base, and from 18 ins. to 2 ft. at the top, lifted early in June last year, set a more than usual quantity of flower-buds, and no perceptible difference in the size of the flowers have been observed.

It is surprising how well Camellias do on the back walls of Peach houses and vineries, when planted out. The treatment given to Peaches, whether in early or late houses, seems to suit them exactly. Some walls here are covered, and the plants are literally laden with flowers annually; the roots are not limited in these cases. They have a very neat, attractive appearance, and add much to the ornamental appearance of houses in private gardens, and yield an enormous supply of flowers for cutting. For covering walls, or the ends of houses (inside) no better or more useful plant than the Camellia can be grown.—*Saxon*.

GARDENING MISCELLANY.

A Call upon the Benevolent.—A fund has been opened on behalf of Mr. F. K. Burrige, now of Emlen Road, Ipswich, and formerly a noted seed grower, of the Lexden Road, Colchester, who is in reduced and distressed circumstances, owing to failure in business. His case is being taken up by Mr. Richard Dean, Ranelagh Road, Ealing, who is issuing a special appeal to the members of the seed trade, and the case is supported by Mr. William Thompson, seedsman, Tavern Street, Ipswich. Any contributions to the fund can be forwarded to Mr. R. Dean, at the above address, who will acknowledge the same. Mr. F. K. Burrige will be known to some as the raiser of *Cosmidium Burrigeum* and *Chrysanthemum tricolor Burrigeum*.

Daffodils: Early Blooming.—I think that this season is one of the earliest ever known for Daffodils grown in the open air. *Narcissus pallidus præcox*, with me, has been in flower for the last month. *N. corbularia citrina*, *N. intermedius*, *N. pseudo-narcissus*, *N. Soleil d'Or*, *N. Tazetta*, and *N. papyraceus* are all in full bloom; and *N. moschatus*, *N. muticus*, *N. juncifolius*, *N. jonquilla*, &c., well on in bud.—*W. D. G. O., Biarritz*.

Gardenia Stanleyana is not generally met with in good form, but when it is, old plant growers look at it with pleasure. A good specimen is now in flower in one of the stores at the Botanic Gardens, Birmingham; and on one shoot are eighteen buds on the point of opening. Its habit is very peculiar, especially in the position of its flowers; and these have a long thin tube surmounted by a broad open corolla, which is densely spotted and marked with a rich crimson-chocolate colour. *Gardenia citriodora* is also well done here, and the flowers are by no means a bad substitute for Orange blossoms.

Libonia Penrhosiensis.—There are few more satisfactory, as well as pleasing winter-blooming plants, than *Libonia Penrhosiensis*, a garden hybrid. It is a dwarf bushy plant with a profusion of bright orange and red tube-shaped crowns; a truly valuable plant for general use, and of easy culture. Good examples of it are now numerous at the Botanic Gardens, Birmingham, and at the residence of the Rt. Hon. Joseph Chamberlain, M.P., at Highbury.

Degeneration of The Champion Potato.—On this subject, Mr. W. J. Murphy, of Clonmel, writes to the *Irish Farm*:—"I have definitely come to the conclusion that The Champion, or 'Scotch Champion,' is no longer reliable. At first it was a heaven-sent blessing; but for reasons I shall immediately give, probably no other variety ever degenerated so rapidly. I have grown it every year since its introduction, and nearly every year imported several tons direct from Forfarshire, for the sake of 'change of seed.' No manure was spared, and cultivation was not neglected, yet last year the crop would not pay for 'seed,' labour and manure. Why is this so? Degeneration has been produced by its peculiar precocious habit of throwing out buds months before they can be utilised, which are invariably rubbed off, the weak second or third growths being used."

Chrysanthemum lacustre.—Mr. James Percival, of Smithy Bridge, near Rochdale, has kindly sent me a plant of the true form of *Chrysanthemum lacustre*, pointing out to me that in a paragraph which lately appeared in THE GARDENING WORLD, I made *C. lacustre* and *C. maximum* to be identical, whereas they are quite distinct. What he has sent me as *C. lacustre* is apparently a form of *C. leucanthemum*; and he states that it flowers from June to September. He says that it is far superior to *C. maximum*, which I believe I am now growing under the name of *C. lacustre*. Mr. Percival further informs me that the true form of *C. lacustre* throws up its flowering-stems from the bottom, and does not branch as in the case of *C. maximum*. Its flowers are a third part larger, and considerably better than any of the so-called *Marguerites*. I am obliged to Mr. Percival, both for the plant and for the correction.—*R. D.*

Scented Snowdrops.—Is any reader of THE GARDENING WORLD acquainted with a form of the Snowdrop, double or single, that is perfumed? Inquiries are made of me as to whether such an one exists, but I am unable to say. Can any reader give me this information?—*A. B. C.*

Daffodil Yellow King or Ard-Righ.—A box of blooms of this charming early-flowering trumpet Daffodil has come to hand in excellent condition, from Mr. W. Baylor Hartland, of Patrick Street, Cork, who is an ardent admirer and a large grower of Daffodils. Mr. Hartland states that he has been cutting blooms of this variety in a cold house since December 20th, and that in a week's time thousands of flowers will be had in the open air. Fine as they are from a cold house, it is said they come even finer from the open ground. May we not ask, cannot this fine native Daffodil be largely grown for the London market? Many parts of Ireland, and especially county Cork, where it appears to abound, is well suited from its climate to produce the Daffodil early in the season and in large quantities, and surely they would find a ready sale at remunerative prices in the London market. Mr. Hartland strongly advocates the establishment of flower and fruit gardens in Ireland for supplying the English markets; and we venture to hope that his exertions in this direction will be recognised by his countrymen, and be rewarded by seeing his suggestions carried into effect.

Chrysanthemum La Belle Blonde.—In answer to Mr. Kemp's inquiry in your last issue as to the whereabouts of this variety, allow me to inform him that I still retain it amongst my stock. It is a free-blooming variety, and a useful one for greenhouse or conservatory decoration.—*W. E. Boyce, Archway Road, Highgate*.

Two Useful Hardy Ferns.—Except in a few gardens the merits of British Ferns and their varieties have been much neglected, or altogether overlooked in recent years. Why this should be is difficult to conceive, seeing to what good purpose some of them might be put for indoor decoration during winter. The strong robust habit and healthy green appearance of *Scolopendrium vulgare crispum* and *Polypodium vulgare*

cambricum is well exemplified by some specimens grown in a greenhouse at Merton Lodge, Chiswick. Both varieties mentioned are remarkable and barren forms of the respective species. They are sufficiently useful for garden purposes to merit a more general cultivation than they now enjoy. Although both are British and hardy Ferns, it is necessary to afford them protection from frost in winter if their fronds are to be retained. Even in the climate of London, *Polypodium vulgare cambricum* gets killed down by frost if left unprotected. A greenhouse or structure of any sort where frost is merely excluded will grow the Ferns above mentioned, and induce them to retain their fronds till fresh ones are produced in spring. During this time the much-divided fronds of the *Polypody* and the strongly undulated ones of the *Hart's Tongue*, constitute a source of pleasure to all concerned by their wealth of greenery.

A Dinner-table Decoration.—At this season a table decorated with very low bowls filled with various Lycopods and Crocus flowers has a very pleasing and charming effect. In the course of time, with the warmth of the room, the Crocus flowers gradually become fully developed, when the effect is very fine.—*Geo. Bolas, Hopton*.

Camellia Buds Dropping.—A well-known and able gardener states that, in his belief, nine cases out of ten of Camellia buds dropping, rises from the use of cold water, and he goes further and remarks that the mischief created in plant houses during the winter months, from this cause alone, is incredible. If any one will give Camellias water during the winter of a temperature of about 60°, and if the plants are stunted, an occasional dose of liquid manure, the roots will be kept active and will draw up plenty of sap to assist the opening flowers.

Gooseberry Bushes and Bullfinches.—I was very pleased to read the remarks of Mr. J. Horsefield on this subject, as I can vouch for the safety of the remedy recommended. During the late spell of severe weather, the bullfinches made their annual attack, although, I must say, they began their depredations much earlier than usual, no doubt owing to the scarcity of food. As soon as this was noticed, a mixture of soot and lime, as recommended by Mr. Horsefield, was applied in like manner; the ground underneath the bushes, before this, was thickly strewn with buds, but after this date, I can safely say, the birds did not touch one of them, although they continued their operations on a small batch of bushes in a different part of the garden, which did not receive the dressing. I can, therefore, speak with the fullest confidence of this efficacious method. The plan suggested by your correspondent, of not pruning the trees till the buds are well advanced, I am not prepared to say would prove detrimental or not; but I would rather have a crop of medium-sized fruit than run the risk of losing the whole.—*James B. Riding*.

Pancreatium fragrans.—What lovely things these are when in flower, especially at this time of year! They generally flower in the autumn, but I have a plant carrying twelve individual blooms on a spike, and their fragrance fills the whole house.—*J. Mayne, Stouford Lodge, Ivy-bridge*.

Violet Marie Louise.—Mr. John Crawford, of The Gardens, Coddington Hall, Newark-on-Trent, sent me, a few days ago, a bunch of lovely blooms of this Violet, so richly coloured, and so delightfully sweetly perfumed, that when they were taken out of the box they filled the room with their delicious scent. In a note that accompanied the Violets, Mr. Crawford states that he cultivates this Violet in frames, elevated upon beds with very little heat beneath, and in the same way he grows the Old Neapolitan and Comte de Brazza; and he adds, "I have had a nice lot of blooms all the winter, even during that unfavourable time through which we so recently passed; and now that the days are lengthening, and the sun strengthening, my beds are literally smothered with blooms and buds." A prettier and more seasonable bouquet for presentation to a lady than one of these beautiful Violets it would be difficult to find.—*R. D.*

Gros Colmar Grape.—At p. 344 "Vitis" asks for opinions as to when this Grape is at its best, and when is the right time to start it. Like your correspondent, my experience is that it does much better in an early house than in a late one; we have it in both, and find it superior in finish when started at the New

Year as compared to what it is if started at March 1st, or even February 1st. We consider it much improves the flavour to cut and bottle it for ten days or a fortnight before sending it to the table. In a late house it is also very serviceable, and when well ripened it keeps fairly well, and always pleases the eye.—*R. Bell, Morton Hall, Midlothian.*

Gros Colmar Grape v. Lady Downes.

—Your correspondent, "Scotia," gives a capital hint when he says, "I would advise a long season, plenty of heat and air"; the gist of the whole matter is in the last five words, and I am inclined to think that the kind of heat is no small factor in the production of flavour in some varieties of Grapes. The best flavoured Mrs. Pince's Black Muscat I ever ate were grown at Worksop Manor, in a vinery heated entirely by flues. The best flavoured Gros Colmars I have tasted were grown last season in a house heated in just the same way, but in another garden. Muscats are planted at the hottest and driest end of the house, next to these are two Vines of Gros Colmar, then comes four or five Vines of Lady Downes' Seedling; and the Gros Colmar Grapes under these conditions are superior in flavour to Lady Downes under the same conditions. Until last December I never tasted a Gros Colmar that I considered equal in flavour to an equally well-grown Lady Downes; I then, and have since, experienced the above-mentioned difference. I know that this is heterodoxy, and the statement will, perhaps, bring a hornet's nest about my ears; but having once realised the fact of the superiority of Gros Colmar under certain conditions, no amount of stinging will cause me to yield until it has been proved that I am mistaken.—*J. Udale, Elford, Tamworth.*

Chinese Primulas.—I enclose you herewith a few blooms of Chinese Primulas, taken in every instance from plants which were at their best about November 10th last, and which were exhibited in their various classes at the Birmingham Chrysanthemum Society's Show on the 25th of that month. These varieties are invaluable because of their excellent lasting properties, and for cutting purposes are unsurpassed; the long foot-stalk of each individual bloom renders the sacrifice of the truss unnecessary, as is the ease in some of the ordinary or common varieties. I think The Queen is far and away the best Primula grown; its habit is all that can be desired, and continuing as it does in bloom for a period of about four months, is indispensable as a winter decorative subject. Princess Louise is another excellent white, which should be grown by everyone. Marquis of Lorne and Emperor, blooms of which are also enclosed, last equally as long as the two preceding varieties, and are also invaluable for winter work.—*J. H. H.* [The flowers were of fine quality and well deserve our correspondent's good opinion of them.—*Ed.*]

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

POTTING STOVE PLANTS.—We have finished the potting of stove plants, and have thoroughly re-arranged all the plants, adding new staging material so as to make all secure for some time to come. It will be found necessary to dew over the occupants of this structure with the syringe frequently during the prevalence of sunshine. By this means they will all the more readily start, and become established in the fresh compost. We have sown the main batch of tuberous Begonias, with the exception of Frœbelii, which (as it does not flower until late in autumn) will not be sown until the end of next month. Much care is necessary in providing drainage when sowing the seed, so that the soil may be kept quite sweet, or the little seedlings will not make satisfactory progress if the soil becomes at all sour. It is always advisable, also, in the sowing of such fine seeds, to damp the soil in the pots before sowing, so as to prevent watering until they have germinated; and the pots should also be covered with a square of glass to prevent evaporation.

SEED SOWING.—We have also made a sowing of single Dahlia, Lobelia, Pyrethrum, Grevillea, Rhodanthe, and many others. The season is now sufficiently advanced, and unless an early start is made they are not satisfactory; notably is this the case with the Dahlias, which, unless sown in good time, do not make tubers of sufficient size to enable them to flower until late in the season, when frost speedily puts an end

to their beauty and usefulness. So soon as the Fuchsias, which were introduced as advised for early flowering, have made a start, let them be re-potted and placed in a good growing atmosphere, where they should be encouraged by frequent syringings to start away quickly. When growth has fairly commenced, they may be placed in a light airy position, or they will become drawn, and cannot be expected to flower satisfactorily.

BEDDING PLANTS.—Continue the potting off and propagating of all bedding plants, so that the necessary quantity may be secured. A good sowing of Mignonette should at once be made in 6-in. pots. To grow this well, the compost should have been previously prepared and made rich. Bone dust is excellent for the purpose. Good drainage must be given, and the compost should be made quite firm in the pots by ramming. This will prevent frequent watering, which this plant dislikes.

THE FORCING HOUSES.

CUCUMBERS.—With the state of the weather so extremely favourable for forcing, things are making rapid progress. The pit we have used for forcing has been cleared out, as there are numerous other structures wherein the necessary plants can be forwarded, without devoting one specially to the purpose; besides which, we require to plant out the successional batch of Cucumbers, which are quite ready. The hot-bed has been made good for them, and so soon as they are established, the early winter set will be removed, and the Melons planted, or rather potted, as we grow all ours in pots resting on brick piers, thus allowing of the bottom heat being renewed at will. The young plants are growing away nicely on a shelf near to the glass, and so keep sturdy.

THE VINES are breaking rapidly, and the directions previously given must be followed, carefully remembering that so soon as foliage appears ventilation must be given in good time in the morning, so that the growth made will be of good substance. We syringe the Muscat canes very frequently during the present bright weather, and find it of the greatest benefit; it greatly assists in a good break. Peaches, too, are now starting freely; continue the heeling in of all shoots intended to be left for next season's fruiting, syringe the trees twice a day, keep a sharp look-out for green or brown fly—upon the appearance of which fumigate until destroyed. The trees in the successional house should receive the same treatment as the early houses, only that the house should be more freely ventilated, especially at mid-day, tapping the branches of the trees with the thick of the hand to distribute the pollen.

THE KITCHEN GARDEN.

PREPARING GROUND FOR CROPS.—We are still busy digging all vacant squares, and until the sun gains power we wheel out burnt refuse, manure, &c., on to squares yet to be dug. We have yet one more square to double dig, but we hope to do it this week, should the weather continue favourable. The ground for Shallots and Garlic was dug early in November, and afterwards a good sprinkling of gas-lime was applied to the surface, and it is now in fine condition for planting, which will be done in the next few days. We have also given the ground intended for transplanting Tripoli Onions a good sprinkling of gas-lime; this we find a great preventive against grub. Of course, the ground had been previously well dressed and deeply dug.

SEED SOWING, &c.—Should the weather permit, we intend making a good sowing of second early Peas and Broad Beans. We have finished the planting of Forest trees, also the lifting of all that is required for estate work this season, so that the transplanting of seedling stuff will be proceeded with, so as to get it completed, if possible, before the March winds prevail. The stock of seed Potatoes should now be looked over, and the earliest should be spread out in single layers; should they have made too long a growth already they should be partly cut back, so as to be ready for planting. Be careful to protect Radishes and Carrots sown last month from frost, or they will be injured at the ground line; ours, so far, look strong and healthy.—*Walter Child, Croome Court.*

THE annual exhibition of the TROWBRIDGE HORTICULTURAL SOCIETY will take place on Wednesday, August 17th; and that of the Maidenhead Society on August 18th.

ORCHID NOTES AND GLEANINGS.

Orchids from Perth.—From Mr. Macdonald, Woodlands House, Perth, we have received another box of Orchids, containing, amongst others, a spike of a chaste and charming form of *Cattleya Trianae*, the proportions of which are truly grand. The flowers, if spread out, measure over 7 ins. across; the sepals are almost 1 in. in breadth, and the petals over 2½ ins. Both are of a delicate blush, while the labellum is several shades darker, with a large orange blotch in the throat, and measures over 2 ins. in breadth when flattened out. A richly-coloured variety of *Cattleya Percivaliana* formed a fine contrast to the above. It cannot compare with well-grown specimens of *C. Trianae* in regard to size; but the rich velvety, almost maroon-purple, of the upper part of the labellum will always tell in its favour, while the orange and purple lines of the lower part recall that of *Cattleya Dowiana*. The variety of *Laelia autumnalis* known as *L. a. atropurpurea* made a handsome appearance in the foggy atmosphere of Catherine Street. The intense purple of the sepals and petals will always constitute the variety one of the most serviceable and valuable for decorative purposes. The sepals shone like burnished metal on the outer surface, and measured almost 5 ins. from tip to tip. The lower half of the labellum was almost pure white, while the middle lobe was more intensely purple than either sepals or petals; the flowers were also very fragrant. A three-flowered spike of *Laelia anceps* also reached us in fine form; but seeing that so many varieties are now in cultivation, it would scarcely be advisable to give it a special varietal name. The purple and yellow lines in the throat are well marked, and the purple band round the orifice and the middle lobe contrasts well with the yellow disk. Two spikes of a small-flowered species of *Brassavola* which we do not recognise, each bearing nine or ten flowers, accompanied the others. The flowers were white, but too small to engage the fancy of most cultivators.

Odontoglossum Rossi majus.—Among some fine varieties in flower I have some of the rubescens variety, which are beautifully scented—as sweet as *Oncidium tigrinum*. Is this usual?—*J. Cypher.*

Laelia anceps.—I send you two flowers, for your opinion, cut from a plant bearing seventeen blooms. The plant was an imported piece, bought last February from the Liverpool Horticultural Co., and is flowering for the first time. It has been grown fully exposed to the sun, never having been shaded. The whole of our *L. anceps* are flowering well this season and were grown on the same plan.—*E. Cooper, gardener to the Rt. Hon. J. Chamberlain, M.P., Birmingham.* [The flowers of *Laelia anceps* sent us were exceptionally fine, not only with regard to colour but also size. The whole of the upper part of the labellum was of an intense purple; the middle lobe is deeply bifid, and the longitudinal yellow disk is so elevated and ridged in front as to be misleading at first sight about the identity of the species. The purple lines on the yellow ground colour of the interior of the lip were well defined and conspicuous in the orifice. The petals were of great breadth even to the tip, and of a warm rosy colour.—*Ed.*]

Well-grown Calanthes.—Under this heading, in your last issue, some rather startling statements are made. Your correspondent, "Con." says, that "Three bulbs of *Calanthe Veitchii* are grown in a 6-in. pot, and each bulb producing two spikes of bloom 4 ft. in length." Thus we have six spikes with from 200 to 300 flowers from a 6-in. pot. I am led to ask whether a mistake has been made in these figures? If not, then some of us have much yet to learn in the culture of these plants. Again, it is said that *Calanthe vestita* has five or six bulbs in a pot, and are equally well flowered. I do not dispute the statement, but I should be glad if your correspondent would kindly inform us how many bulbs were put into these pots when potted up last spring. I, too, have grown *Calanthes* for some years, and some people who have seen them have been rather flattering in their praises; but I have not yet obtained ten or twelve spikes of bloom from a 6-in. pot. Our *C. Veitchii* make bulbs from 9 ins. to 15 ins. in height, but I consider 12 ins. as satisfactory. From these we generally obtain three spikes—two from the base of the bulb, and one from the top. We have some spikes now in bloom, which opened their first flowers in the first week of November last. Have any of your readers ever heard of, or seen

a branching spike of either of the above-named varieties or of *C. nivalis*? We have one at the present time in fine form. Perhaps I may give our mode of cultivation on a future occasion. — *N. Blandford, Moor Hill, Southampton.* [Please do.—Ed.]

Lælia Crawshayana.—The general appearance of this Orchid at a little distance suggests it to be a variety of *L. anceps*. The nature of the flower stalk, and the absence of the keeled, laterally compressed bracts characteristic of *L. anceps*, soon dispels this idea on a close inspection, and the peduncle is seen to resemble that of *L. autumnalis* or *L. albida*. By competent authorities the species or form under notice is considered a natural hybrid, having the pseudo-bulbs of *L. albida*, and flowers resembling *L. anceps*. The sepals and petals are of a fine amethyst-purple, and the middle lobe of the labellum, together with the tips of the lateral lobes, are deep rosy purple. The interior of the tube is white, bearing three median longitudinal yellow ridges or lamellæ, and in that respect it entirely differs from *L. anceps*, with which the stature and general appearance of the plant may be compared. This fact, however, refers us to *L. albida*, or even to *L. autumnalis*, where we have similar ridges. It is a native of Mexico, and flowers in this country during the months of January and February, and has been in perfection for some time in Mr. Peacock's fine collection at Sudbury House, Hammersmith.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*Feb. 8th.*—The meeting on this occasion was held in the East Crnsb Room of the Albert Hall, which proved too small to contain all the good things sent in for exhibition, and consequently some things, notably an extensive and admirable display of Chinese Primroses from Messrs. James Carter & Co., were seen at a great disadvantage. The new plants certificated, seven in number, are described on p. 374. Primulas and Daffodils were the leading features, and on this occasion were shown, perhaps, three of the finest single whites ever seen at one time, and of one of which, Mr. Cannell's White Perfection, it may truly be said to be a grand acquisition. The Messrs. Carter's extensive display included batches in colours of their well-known strains, and the Silver Banksian Medal awarded to them was well deserved. Mr. William Bull, King's Road, Chelsea, exhibited a fine group of Orchids in flower, and obtained a Silver-Gilt Banksian Medal. Amongst others were *Cattleya Trianae* vesta, *C. T. Rosalind*, *C. amethystoglossa* marmorata, *Oncidium nubigenum*, *Dendrobium speciosum* Hilli, *Lycaste Skinneri* alba, *Cypripedium Argus*, and *C. Haynaldianum*. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, also received a Silver-Gilt Banksian Medal for a fine group of hardy plants, consisting chiefly of the various types of early-flowering Daffodils. *Freesia refracta* alba, *Helleborus niger* major, *Chionodoxa Lucillæ*, *Crocus Imperati*, *C. nivalis*, *Iris reticulata* purpurea, *I. histrio*, and *Ophrys tenthredinifera* were also prominent features in the group. A Silver Banksian Medal was awarded to Messrs. Barr & Son, 12 and 13, King Street, Covent Garden, for a group consisting chiefly of Daffodils, supplemented by *Lachenalia pendula*, *Freesia refracta* alba and *Iris reticulata*. Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, S.E., obtained a Silver Banksian Medal for a group of twenty-four varieties of Daffodils, supplemented with *Galanthus Elwesii*, *Sisyrinchium grandiflorum*, &c. Mr. B. S. Williams exhibited *Dendrobium Fytchianum* roseum, *Lycaste plana* Measuresiana, &c. Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, exhibited fine spikes of *Lælia anceps* Sanderiana, *L. a. Veitchii*, *Odontoglossum crispum*, *O. Ballantinei*, and *Oncidium brevifolium*. F. A. Philbrick, Esq., Q.C., Oldfield, Bickley, exhibited *Phalænopsis Stantiana*, *P. casta* and *Saccolabium bellinum*. W. Vanner, Esq., Camden Wood, Chislehurst, showed *Dendrobium Vannerianum*, a hybrid between *D. japonicum* and *D. Falconeri*, having white, purple-tipped segments, and *Pachystoma Thomsoniana*. F. G. Tantz, Esq., Studley House, Goldhawk Road, showed *Cypripedium Boxallii* atratum. Messrs. Paul & Son showed *Iris histrio*, a native of Palestine at an elevation of 4,000 ft. Mr. G. Maw exhibited the rare *Narcissus cyclaminens* for A. W. Tait, Esq., of Oporto. Mr. W. B. Hartland, 24, Patrick Street, Cork, had a vote of thanks for the Daffodil Irish

King. Messrs. Masereel Bros., Ghent, Belgium, also received a vote of thanks for cent blooms of *Odontoglossum* allied to *O. crispum*. R. J. Measures, Esq., Cambridge Lodge, Camberwell, showed several hybrid *Cypripedia*, prominent amongst which were *C. Sallicrii*, *C. insigne grandis* and *C. i. Richardi*, for the last of which he received a vote of thanks. Mr. Derbyshire, gardener to L. A. Balestone, Esq., Timperly, near Manchester, showed a branching spike of *Calanthe nivalis*, and received a vote of thanks; and Mr. W. Allan, gardener to Lord Suffield, Ganton Park, Norwich, received a Cultural Commendation for a basket of double white and pale blue Violets, showing how admirably he cultivates these ever-welcome flowers.

At the meeting of the Fruit Committee, Messrs. Rivers & Son exhibited a number of varieties of late-keeping Apples; Mr. C. Ross, Welford Park, and Messrs. Saltmarsh & Son, Chelmsford, exhibited samples of two seedlings. Mr. W. Troughton, 4, Cbnrch Street, Preston, sent samples of a free-bearing Cucumber in the way of the old Hedsor Prolific.

ANNUAL GENERAL MEETING.—This meeting was also held in the East Crush Room, at 3 p.m.: the president, Sir Trevor Lawrence, Bart., M.P., presided, and there was a good attendance of Fellows. The usual preliminary formalities being concluded, the president rose to move the adoption of the report and statement of accounts, and said, with reference to a question which had already been asked as to whether the time at which the ballot papers had been sent out was in accordance with the bye-laws, that the council met on December 7th, 1886, when there was so much business to be transacted that some had to be postponed until January 11th. Then there would have been time to issue the notices by the 15th ult. had not some difficulty occurred in getting the consent of the gentlemen proposed to fill the vacancies on the council, and before this could be done the requisite time had lapsed. They, therefore, could not proceed with the election until proper notice had been given, and the council and officers would remain in the meantime as before. The council had to regret the death of Mr. West, who had rendered the society most valuable services as auditor, and they wished to express their hearty condolence with his family. Referring to the report, the president regretted that he was unable to give a definite statement as to their prospects. The negotiations with the Albert Hall Corporation had fallen through because the terms proposed by the latter to the Commissioners of 1851 were of such a nature that they declined them. The position now is that the Commissioners would place alternative terms before the Albert Hall Corporation, and, in the event of these being unaccepted, they would be prepared to enter into direct negotiations with the Royal Horticultural Society. The position of the society was undoubtedly very unsatisfactory, but it could not establish itself in an independent position without considerable expense. It was most desirable that the society should have a home of its own if they could obtain the necessary funds. He thought it was desirable to make an arrangement to the mutual advantage of South Kensington Fellows and horticulturists generally, but they could not sacrifice the interests of the society to the former element. Their recent position had not been creditable to them, but their grateful acknowledgments were due to the Commissioners for their terms of occupation. They had permission to use the offices they now occupy by accepting all liability as to rates and taxes, but the use of the conservatory for shows and meetings had been declined unless some arrangement could be effected with the parochial authorities by which the latter would accept a stipulated sum for each time it might be employed. The president said as regards the Liverpool show, that the matter was fully considered before it was undertaken. The Mayor of Liverpool and other local authorities were consulted, who represented it as an exceptionally favourable opportunity, and in matters of this kind they were necessarily chiefly dependent upon local information. Though the accounts show a considerable loss, the show was a great success horticulturally. The president then nominated Mr. H. Turner as auditor in the place of the late Mr. West.

Mr. Gnedella, who seconded the motion for the adoption of the report, thought that the time had arrived when a plan should be elaborated by which the society could be established on a more satisfactory footing. Mr. J. T. D. Llewellyn wished to know, with regard to the shows of the special societies which had been arranged to be held in the conservatory, whether the earliest intimation as to any change would be given, as the schedules were then being printed; and in reply the president said, that in the event of any difficulty occurring, the society would feel itself bound to provide some other suitable place. Mr. Hodges wished to know what advantages could now be offered to Fellows in

return for a 4-guinea subscription. A 40-guinea life Fellow regretted the difficulties in which the Society was placed, but thought the life Fellows had been badly used in their tickets being made non-transferable. He wished to know whether the life subscriptions had been capitalised, or what had been done with the debentures. The president stated in reply, that the life subscriptions had been spent, and between £900 and £1,000 had been expended in supporting the rights of the debenture holders.

Mr. Harry J. Veitch had listened to the preceding remarks, and thought they ought to come to the point at once. Some valuable suggestions had been made, and he believed that they might, by united efforts, remove the society from its present difficult position. They had an excellent council, and the observations he was about to make were not offered in an antagonistic spirit; but he thought the report was unsatisfactory, and might have been of a more business-like character. The subjects alluded to in it seemed to range from Dan to Beersheba, and back to Dan again. For some years the society had been knocked about from pillar to post—since, indeed, they lost their president, the Prince Consort. He believed the Queen was then desired to nominate a president, the late Duke of Buccleuch being appointed; and he thought if Her Majesty was applied to now more progress might be made in the settlement of their affairs. Land had been found at South Kensington for several societies, and he could not see why the Royal Horticultural Society should not be treated in a similar way. If land could be so obtained, there would be no difficulty in procuring funds; he therefore proposed that a committee of five persons be appointed to confer with the council to determine what course the society should adopt, and, if possible, to procure land as a site for permanent offices.

Mr. Elwes supported Mr. Veitch's proposal; but said it seemed to him that many of the difficulties would be removed by the employment of an efficient paid secretary, as some of the most successful societies owed their prosperity, in a large measure, to their secretaries, who are really the managers. He thought the continued existence of the society was mainly due to Mr. Barron and Mr. Dick. He mentioned that the report of the severe winters six or seven years ago was not yet issued. Mr. A. H. Smee thought that the society would never do any good until it was clear of South Kensington. If it would give up there and make its home at Chiswick, he felt sure any amount could be raised. He would willingly head a subscription list with 100 guineas to assist in establishing the society away from South Kensington. After some few explanatory remarks by Sir Trevor Lawrence, the report was then formally adopted.

Mr. Shirley Hibberd thought they wanted a more popular representative council. It was disadvantageous that it should be self-elected, and that the Fellows were required to nominate members of the council a month in advance. He complained that no list of the Fellows had been issued for ten years, and he believed it would be better if the annual general meeting was held in May instead of February.

Mr. Veitch's proposition as to the formation of a sub-committee was then adopted, five Fellows being nominated—viz., Messrs. G. Maw, H. J. Elwes, H. J. Veitch, H. M. Pollett, and Major Lendy, to consider the future of the society, and report thereon at their earliest convenience. The names of a considerable number of Fellows having been struck off the rolls, a hearty vote of thanks to the president brought the proceedings to a close.

Manchester Royal Botanical.—*Jan. 31st.*—The fifty-ninth annual meeting of the proprietors of the Botanical Gardens at Old Trafford was held in the Mayor's Parlour, at the Town Hall, the Mayor (Mr. Alderman Curtis) presiding. The Mayor, in moving the adoption of the report, said the report was in some respects satisfactory, but in one important respect it was a little unsatisfactory, because it showed that the debt had increased. This was due to an expenditure of something like £2,000 in the erection of the new Palm-house. He presumed, however, the proprietors were all agreed that the council had done right in spending this amount of money, because if they had not done so a large number of valuable plants would have had to be parted with or put aside. Another cause of the increase of the debt was the diminution in the receipts from the various shows, in consequence of the bad weather. Mr. Samuel Barlow, in seconding the motion, said the real cause of the unfavourable position of the society, as shown in the balance sheet, might be given in two words—bad weather. The result was an addition to their liabilities of £1,733 2s. As a set-off against that they had the new Palm-house. The expenditure on the Palm-house would, he thought, complete their expenditure for a long time to come. Something like £5,000 had been spent during the past twelve years, and the gardens were now in a wonderful state of efficiency. The contents of the Palm-house would be of great beauty, and would form one of the leading attractions of the gardens during the forthcoming Jubilee Exhibition.

Mr. W. Fogg called attention to the subject of the conditions under which subscribers to and shareholders in the gardens were to be admitted to the gardens while

the Jubilee Exhibition was being held, and after some discussion, in which Mr. Bruce Findlay, Mr. W. H. S. Wates and Mr. Reynolds took part, Mr. A. H. Gilbody moved, and Mr. J. France seconded, a motion in the following terms:—"That this meeting is of opinion that the arrangements made by the council with the committee of the Jubilee Exhibition will not be satisfactory to the proprietors, unless the season tickets granted to them shall admit the holders on all occasions," which, on a division, was carried by a considerable majority.

On the motion of Mr. Robert Tait, seconded by Mr. Thomas Smelt, a vote of thanks was passed to the retiring council for their services during the past year. On the motion of Mr. A. K. Dyson, seconded by Mr. Gilbody, officers were elected for the ensuing year. A vote of thanks to the Mayor for presiding and for the use of his parlour brought the meeting to a close.

Obituary.

WE regret to record the death, on December 24th, 1886, at Clunes, near Melbourne, of Mr. ARCHIBALD SINCLAIR, for many years in the employ of Messrs. James Veitch & Sons, at their Chelsea Nursery. Mr. Sinclair had been in bad health for some time, and left England for Australia in the autumn, in the hope that the voyage would be beneficial to him; but we understand he had a bad passage, and succumbed soon after his arrival in the colony.

QUESTIONS & ANSWERS.

PEARS.—*Planter*—(p. 349): You cannot do better than adopt the single cordon mode of training, if it is variety of sorts that you want. For cordons, undoubtedly, the Quince stock is the most preferable on which to graft the Pear, as it does not grow so strong on that as on the Pear stock. It also fruits quicker, and does exceedingly well, in moist sandy soils, grafted on the Quince. When grafted on the Pear stock, the trees possess more vigour, and attain a later age, and are, therefore, best adapted for espaliers, for fan-shaped and horizontal trained trees.—*B.*

GEUM MONTANUM.—When ought this to be sown, and is it quite hardy?—*Various*. [You may sow seeds of this species immediately in pots or pans if you have the convenience of a cold frame to shelter the young seedlings till the weather becomes more favourable, when they may be planted out. They may, however, be sown in the open garden in April. The species is perfectly hardy, and extremely well adapted for cultivation on rockwork, where it flowers during great part of summer. It comes from the Pyrenees.]

RED GEUM.—What is the name of the old single red Geum, and where can I obtain seeds of it? It does not seem to figure in most catalogues.—*Various*. [You no doubt refer to *Geum coccineum*, a popular old border plant. Seeds of it are probably not very common, but you might apply to Mr. Wm. Thompson, of Ipswich, who deals largely in that class of plants. There is a double form, which you might find even more useful than the single, and it would prove highly satisfactory if you could obtain small plants of either or both.]

LILIUM AURATUM.—Is it difficult to raise *Lilium auratum* from seed, and how ought the young plants to be treated? Do they take long to come up?—*Various*. [It would be an easy matter to raise seeds of this handsome Lily, and the more especially if you could command a little heat. Sow the seeds in a compost of sandy loam and peat or leaf soil, in well-drained pans or pots. They take a considerable time to come up, especially if you cannot give them artificial heat. Raising plants from seeds is a slow process, and unless you wish to do it for experiment or amusement we would advise you to get bulbs. However, you may allow them to complete one or two seasons' growth in the pans, and then plant the little bulbs in a cool or moist bed or shady border. The soil should be sandy loam with a good admixture of peat. It would also be an advantage to lay some cocoa-nut fibre, old spent tan or rough leaf-soil over the soil to screen it from the sun.]

DAHLIAS.—Can Dahlias be raised from seed in a cold frame without a hot-bed?—*Various*. [Dahlias are easily raised from seed, but, unless under very favourable circumstances, they would probably not flower very satisfactorily, if at all, the first season. By preserving the tuberous roots, however, through the coming winter, your plants will flower freely next year. The experiment is worth the trouble, and you will have all the pleasure attached to the raising of new varieties.]

CRICKETS AND WOODLICE.—Will you kindly tell me through THE GARDENING WORLD the best means for destroying crickets and woodlice?—*Vesta*. [Crickets may be destroyed by mixing a small quantity of honey with water, putting it in a deep open vessel, and standing the vessel in question where the pests abound. The vessels should be plunged to the rim or small pieces of wood laid against them for the insects to climb. Phosphorus paste, which may be bought in small boxes or bottles, may also be laid about during the night for them. Pieces of roasted Apple, on which a little powdered arsenic is placed, will also destroy them. The poisons must be used with great care and removed during the day. Woodlice cannot be destroyed in wholesale manner, but must be trapped by placing hollow pieces of turnip or carrot about their haunts, and examining them every morning, when the depredators found lurking there may be destroyed. Pieces of cold boiled or roasted Potatoes put amongst a bit of dry moss in a small flower pot will also induce them to enter at night and take up their abode; by looking over the pots every morning the pests may be kept in subjection.]

WORMS IN MANURE.—Can anyone suggest a method of destroying worms and insects in manure without its being injurious

to plant life afterwards?—*Wiltshire*. [The safest plan and that pursued by many plant growers, is to thoroughly bake the soil on a flue or some such place till animal life is destroyed either by great heat or the dry condition of the soil, brought about by the baking or roasting process.]

ANNUALS.—Will any annuals grow in a good border facing east and exposed to the north?—*Various*. [No difficulty whatever should be experienced in growing all the more popular and useful annuals on such a border as you mention. It would be sheltered, we presume, from the sea breezes on the south side, and provided it is not subject to be swept with severe gusts of winds during storms annuals will grow well there.]

MOULDY SEEDS.—Is it of any use to sow seeds that have become mouldy from being in a damp place?—*Various*. [If the seeds are valuable you may give them a trial, provided they have not lain damp for any length of time. Should they be common seeds, the ground they would occupy had better be sown with something more certain and the bad seeds thrown away.]

ANNUALS FOR A GRAVELLY SOIL.—What annuals are best suited for sowing on a gravelly soil?—*Various*. [Many annuals will grow tolerably well on a gravelly soil, provided they are sown sufficiently early to make a fair amount of growth before the soil becomes too dry by the increasing heat and drought of summer. Autumn sowings might be made of such things as *Linum catharticum*, *Silene pendula* and *Calendula officinalis*; *Tropeolum majus* may be treated as an annual. *Nemophila insignis*, *N. atomaria*, *N. maculata*, *Gilia capitata*, *G. tricolor*, *Leptosiphon parviflorus*, and its numerous varieties, *luteus*, *rosaceus*, &c., will flower satisfactorily on light soils.]

NAMES OF PLANTS.—*J. T. Poë*: *Odontoglossum gloriosum*.
COMMUNICATIONS RECEIVED.—*F. Sander & Co.*—*W. H. E.*—*W. H. G. J.*—*J. C.*—*A. O.*—*Inquisitive* (next week).—*W. D.*—*W. G.*—*C. G.*—*J. U.*—*J. B.*—*St. George*.

TRADE CATALOGUES RECEIVED.

FRANK LAW, Carnation Gardens, Rochdale.—Catalogues of Seeds, Dahlias, and Carnations and Picotees, &c.

A. J. PRITCHARD, Abingdon.—Descriptive List of Garden Seeds.

ERIC F. SUCH, Maidenhead.—Chrysanthemums, Florists' Flowers, Herbaceous Plants, &c.

LONDON SEED TRADE.

February 9th, 1887.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady trade in farm seeds. English Reds and English and foreign White Clover offer on easier terms. Superfine Alsike is dearer, medium quality unchanged. Trefoil and Rye Grasses continue firm. Bird Seeds unchanged.

COVENT GARDEN MARKET.

February 10th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve	2	0	5	Pine-apples, St.	
Grapes.....per lb.	2	0	4	Michaels, each	1 6 0
Kent Cobbs..100 lbs.	65	0	70	Pine-apples, Eng., lb.	1 0 1 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3 0 5
Beans, French, per lb.	0	6	8	Lettuces ..per dozen	1 6
Beet, per dozen.....	2	0	3	Mushrooms, p. basket	1 0 2
Brussel Sprouts, per lb.	0	3		Onions, per bushel ..	4 0 5
Cabbages per doz.	2	0	2 6	Parsley, per bunch ..	0 6
Carrots, per bunch ..	0	6		Radishes, per dozen..	1 6
Cauliflowers, English,				Sea Kale ..per basket	1 6 2 6
per dozen	3	0	5	Smallsalading, punnet	0 4
Celery, per bundle ..	2	0	2 6	Spinach, per strike ..	2 0
Cucumbers, each	0	6	0	Tomatos, per lb.	1 0 1 6
Endive, French, doz.	2	6	3	Turnips.... per bun.	0 6
Herbs, per bunch....	0	2	0 4		

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.		
Arum Lilies, 12 blms.	3	0	5	Mignonette, 12 bun...	4	0	6
Azalea, 12 sprays	0	6	1	Parma Violets(French),			
Bouvardias, per bun.	1	0	1	per bunch	3	0	4
Camellias, 12 blooms	2	0	4	Pelargoniums, per 12			
Carnations, 12 blooms	1	0	3	sprays	1	0	1
Cut Tulips, 12 blooms	0	9	1	— scarlet, 12 sprays..	0	6	1
Czar Violets (French),				Primula, double, bun.	0	9	1
per bunch	1	6	2	— single 12 bun.	4	0	6
Daffodils .12 blooms	0	6	1	Roses (coloured)	3	0	6
Epiphyllum, 12 blms.	0	6	1	Roses, Tea per dozen	1	6	4
Eucharis, per dozen ..	3	0	6	Roses, red (French),			
Gardenias, 12 blooms.	12	0	30	per doz.	1	6	2
Heliotropes, 12 sprays	0	6	1	— Safrano (French),			
Lapageria, red,				per doz.	1	0	2
12 blooms	1	0	2	Tropæolums	1	0	2
Lapageria, white,				Tuberose, per dozen ..	2	0	4
12 blooms	2	0	4	Violets .12 bunches	1	6	2
Lilies of the Valley				White Jasmine, bun.	0	6	0
12 sprays	0	9	1	Xmas. Roses, 12blooms	0	4	0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.			
Aralia Sieboldi, doz.	6	0	18	Ferns, in var., doz.	4	0	18	0
Arum Lilies, per doz.	18	0	24	Ficus elastica, each.	1	6	7	6
Begonias, per dozen.	6	0	12	Foliage Plants, vari-				
Bouvardia, per doz.	9	0	12	ous, each.	2	0	10	6
Cyperus, per dozen	4	0	12	Hyacinths, per doz. pts.	6	0	9	0
Daffodils 12 pots	8	0	10	Lily of the Valley,				
Dracæna term., doz.	30	0	60	12 pots	12	0	24	0
— viridis, per dozen	1	0	24	Marguerites, per doz.	6	0	12	0
Epiphyllums, per doz.	18	0	30	Palms in variety, each	2	6	21	0
Erica hyemalis ... doz.	12	0	24	Pelargoniums, scarlet,				
— Regermians ... doz.	9	0	12	per dozen	6	0	9	0
— various ... per doz.	8	0	24	Primulasinensis, p. dz.	4	0	6	0
Evergreens, in var.,				Solanums ... per doz.	9	0	12	0
per dozen	6	0	24	Tulips ... per doz. pots	6	0	8	0

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Carters' Stratagem Pea	" 2 0
Carters' Telephone Pea	" 2 0
Carters' Pride of the Market Pea	" 2 0
Carters' Leviathan Broad Bean ...	" 2 6
Carters' Jubilee Runner Bean ...	per pkt. 5 0
Carters' Champion Runner Bean ...	per quart 2 0
Carters' Longsword Dwarf Bean ...	per pint 2 6
Carters' Crimson Ball Beet	per pkt., 1s. 6d. 2 6
Carters' Perfection Beet	per oz., 1s. 6d., pkt., 6d. 1 0
Carters' Pyramid Broccoli	per pkt., 1s. 6d. 2 6
Carters' Mammoth Beefheart Cabbage, oz., 1s. 6d., pkt., 6d.	1 0
Carters' Defiance Early Cauliflower ...	per pkt., 1s. 6d. 2 6
Carters' Solid Ivory Celery	" 1s. 2 6
Standard-bearer Celery	" 1s. 2 6
Carters' Model Cucumber	" 2s. 6d. 3 6
Carters' Model Endive	per pkt., 1s. 2 6
Carters' Phoenix Kale	" 1 6
Carters' Welsh Kale	" 1 6
Carters' Holborn Model Leek	" 1 6
Carters' Longstander Lettuce	" 2s. 6d. 1 0
Carters' Blenheim Orange Melon, per pkt., 1s. 6d., 2s. 6d.	3 6
Carters' White Emperor Onion	per pkt., 1s. 2 6
Carters' Tennis Ball Onion	" 1s. 2 6
Carters' Golden Globe Onion	" 1s. 2 6
Carters' Fern-leaved Parsley	" 6d. 1 0
Carters' Knickerbocker Radish	" 1s. 6d. 2 6
Carters' Perfection Tomato	" 2 6
Carters' Dedham Favourite Tomato ...	" 2 6
Carters' Greengage Tomato	" 1s. 2 0
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Carters' Jersey Lily Turnip	" 1 0
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IN 1886 AND 1887.

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Per 14 lbs.

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Per 56 lbs.

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"My gardener is very solicitous that I should write and tell you the result of your Seed Potatoes; and also, I may add, that as usual all your seeds have yielded well and true to name and description; 6 lbs. Sutton's Seedling yielded 120 lbs. all good sound tubers; 6 lbs. Sutton's Abundance produced 178 lbs., all good sound tubers."—Mrs. HARVEY, Purland Chase, Ross.

New Potato, 1886.

Per 14 lbs.

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SUTTON'S SEEDLING.

"Sutton's Seedling Potato has turned out splendid. When cooked they are like balls of flour. It seems quite a disease-resisting Potato. Grown here, it and Magnum Bonum are the only varieties free from disease. If I were asked, 'What are the two best main-crop Potatoes?' I should say, without hesitation, Sutton's Seedling and Magnum Bonum."—Mr. W. MACKIE, Gardener to Mrs. Ruddle, The Mythe.

New Potato, 1887.

SUTTON'S TWENTY-ONE.

Per 14 lbs.

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"A wonderful cropper, very even, scarcely any small ones. The 3 lbs. of seed were cut to single eyes, and the produce was 8½ bushels. Tubers fit for exhibition were found on nearly every root. Most excellent flavour, very much like the good old Regent in its best days, many years ago."—Mr. C. ROSS, The Gardens, Welford Park.

New Potato, 1887.

SUTTON'S THIRTY-SIX.

Per 14 lbs.

5/-

"This I consider the best of the three new varieties, a heavy cropper, and, in fact, the best white round Potato I have grown. It cooks well, and is, in fact, the bean ideal of a Potato for a gentleman's table."—Mr. G. ELLIOT, The Gardens, Braywick Lodge.

New Potato, 1887.

SUTTON'S FORTY-FOUR.

Per 14 lbs.

5/-

"This handsome Potato is quite distinct; by far the best round I ever grew. Crop more than an average of uniform tubers. Last year's trial proved it to be a first-rate variety; this is more than confirmed by this year's crop. Quite free from disease. The best quality of any Potato I have grown this year. It has no bad point whatever, but is perfection."—Mr. C. LORR, Gardener to Major G. H. Allfrey, Wokefield Park.

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The Liverpool Horticultural Association Exhibitions for 1887.

THE SPRING SHOW of Hyacinths, Tulips, Azaleas, Forced Hardy Plants, &c., will be held in St. George's Hall, on Wednesday, March 16th.

Grand Exhibition in Sefton Park, on Saturday and Monday, July 30th and August 1st.

The Great Chrysanthemum and Fruit Show, on Tuesday and Wednesday, November 22nd and 23rd.

Liberal and special prizes are offered.

Schedules now ready, and may be had from the Secretary,

EDWARD BRIDGE, 3, Cedar Terrace, Huyton, Liverpool.

PRESTON AND FULWOOD HORTICULTURAL SOCIETY.

The Ninth Great Spring Flower Show and Floral Fête will be held in the New Public Hall, Preston, on Thursday and Friday, the 17th and 18th of March next. Schedules of prizes and other information from the Secretary, Mr. JOHN ATHERTON, Fern Bank, Cadley, Preston.

Next Week's Engagements.

MONDAY, Feb. 21st.—Clearance Sale at the Hertford Nursery by Protheroe & Morris.—Trade Sale of Lily Bulbs at Stevens Rooms.

TUESDAY, Feb. 22nd.—Special Sale of Orchids in Flower at Protheroe & Morris's Rooms.—Sale of Roses, Shrubs, &c. at the City Auction Rooms.

WEDNESDAY, Feb. 23rd.—Sales of Hardy Plants, Bulbs, &c. at Stevens' and Protheroe & Morris's Rooms.

THURSDAY, Feb. 24th.—Sale of Orchids, Bulbs, &c. at Stevens' Rooms.

FRIDAY, Feb. 25th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, Feb. 26th.—Sales of Hardy Plants, Bulbs, &c. at Stevens' and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 19, 1887.

THE COAL DUES.—Although the question of the continuance of the Coal Dues over the Metropolitan area after 1889 does not seem to excite appreciable interest, it is evident that legislation respecting them will take place this year, and their continuance be assured, unless public sentiment be aroused concerning them. Perhaps the cause for this comparative apathy is found in the insidious nature of the Coal Tax, which because it is not apparent, is, therefore, not felt in the same way that a direct impost is; but when it is stated that the duty paid on coal consumed in the Metropolitan area annually amounts to some £420,000, or rapidly approaching to half a million of money, it is evident that coal consumers have to pay in this way a tax which would be stoutly objected to if more clearly brought home to them. The question, happily, is a purely non-political one. The most eminent financiers of the great political parties have pronounced against the continuance of the tax, and the present Government has declared its intention to adhere to the late Chancellor of the Exchequer's declaration, which stoutly opposes the continuance of the tax, unless some strong expression in favour of that continuance is made by the inhabitants of the area generally.

Now, in these days of glasshouses, heating power is an indispensable element in gardening, and that heating power is obtained exclusively

from coal. It would be pottering with the subject to assert that gardeners chiefly used coke because that is a coal product, and it is thus obvious that enhanced price of coal means at once dearer gas and dearer coke. However, the fact is clear enough that all who use coal or its products—coke or gas—for horticultural uses, within the Metropolitan area, are deeply concerned in the question. It is not generally known that this Metropolitan area extends over the whole of the Metropolitan Police district, and reaches nearly twenty miles round London. It includes a population of nearly or quite 5,000,000 of inhabitants, and tens of thousands even of considerable coal consumers in that area have hardly the least knowledge that the indispensable coal consumed by them is increased in cost in that area some 10 to 12 per cent. through the imposition of the tax. Actually the amount charged per ton is 1s. 1d., and as merchants must insure themselves against contingencies, as also to cover the inevitable difficulties which follow upon such an impost, the real tax is not less than 1s. 3d. per ton; whilst it is estimated by competent judges, having regard to existing coal prices outside the Coal Dues area, that as much as 1s. 6d. per ton reduction would be made all over the Metropolitan area were the Coal Dues discontinued.

Then the tax is a peculiarly oppressive one, because it is not differential according to quality and value, but equal, let the coal be what it may. Thus the nurseryman or florist who uses common furnace coal at, perhaps, 15s. per ton, pays just the same tax per ton as does the rich man who consumes the best coal in his drawing-room at 20s. per ton. Thus it is a tax which presses with special hardship upon trades and manufactures, and the poor are essentially very heavy sufferers. We will not now stop to discuss the vicious nature of an impost upon a great home industry; but when so many of a certain class of politicians are calling for relief to home industries by taxing foreign imports, it is strangely inconsistent on their part to be as readily supporting one of the worst imposts upon a great home industry ever met with. Market florists, and, indeed, gardeners of every degree in the vast Metropolitan area, find it hard enough to contend with the foreigner, blessed as he is with greater natural warmth and brighter sunshine; but it is a monstrous thing that he should have added to his burthen the additional one of a tax upon the coal he is, of course, compelled largely to consume.

It is begging the question to assert that the City Corporation and Metropolitan Board of Works apply the Coal Dues in the carrying out of great Metropolitan improvements. It is enough to retort that great towns like Glasgow, Liverpool, Birmingham, Manchester, Leeds, and many others have carried out improvements relatively as great and costly, and have done so without the aid of a coal tax, or in any other way than through the ordinary rates. All these Metropolitan improvements have done much to benefit land and property, often creating for these prices once thought incredible, and yet land and property pays nothing towards them practically, but the burthen of cost in rates and the Coal Tax falls upon the tenant or the consumer. It seems but needful that we should thus draw attention to this vicious and most unjust impost upon horticultural enterprise in the vast Metropolitan area, to induce all interested in horticulture to combine and agitate for the entire cessation of the Coal Dues. We cannot afford to remain handicapped by imposts of this sort any longer. When we see that the entire carriage-building trade is demanding the cessation of the Carriage Tax (which, it would seem, presses almost exclusively upon the wealthy), because it is

an impost upon a home industry, and is materially checking its expansion; when we see even the goldsmiths asking for relief for their articles manufactured; for the same reason is it not certain that a gigantic impost—not, be it understood, levied by the Government for national purposes, but by a couple of non-representative and irresponsible civic bodies, upon, perhaps, the most important article of home commerce and consumption—affecting so seriously as it does the coal trade directly, and of all other trades horticultural especially using coal indirectly, is it not time that some combination was made against the tax, and the support of horticulturists universally given to the Government in its expressed determination to refuse the continuation of the tax beyond 1889. As we have said happily the subject is not one of a party kind, it is essentially an economic one, and needs to be understood to evoke against the Coal Tax a powerful expression of condemnation.

A SPECIAL MEETING of the council of the ROYAL HORTICULTURAL SOCIETY has been summoned for Tuesday, the 22nd inst., when part of the business will be to appoint a sub-committee of the council to confer with the committee nominated at the annual general meeting to consider the future of the society's affairs.

THE following dates have been fixed for the meetings of the NARCISSUS COMMITTEE—viz., March 22nd and April 12th and 26th. Should the season be backward, it may be found desirable to hold another meeting on May 10th.

MR. T. FLETCHER, senior partner of the firm of T. Fletcher & Son, nurserymen, Chesterfield, has retired from the firm, the partnership being dissolved.

THE ninth spring show and floral fête of the PRESTON AND FULWOOD HORTICULTURAL SOCIETY is announced to be held, on March 17th and 18th, in the New Public Hall, Preston.

THE LUDLOW HORTICULTURAL SOCIETY'S annual exhibition will be held on Thursday, August 25th.

MR. ARTHUR OCOCK, formerly gardener to Major Roberts, Holborough Court, Rochester, has succeeded Mr. Bones as gardener to Mrs. McIntosh, Havering Park, near Romford, Essex.

MR. J. H. MILLARD, for many years with Messrs. Sutton & Sons, has joined the firm of Messrs. Oakshott & Co., of Reading, which will in future trade under the style and title of Oakshott & Millard.

WITH a view mainly to ascertain what LATE KEEPING APPLES AND PEARS may be got together in the district, it is proposed to hold an exhibition of hardy fruits in Chester early next month.

THE CRYSTAL PALACE COMPANY have just issued a schedule of prizes for competition at the following exhibitions, to be held at Sydenham this year:—Spring Show, March 26th; Summer Show, May 21st; Rose show, July 22nd; Fruit and Dahlia Show (grand national), September 2nd and 3rd; Autumn Fruit Show, October 6th to 8th; and Chrysanthemum Show, November 4th and 5th.

ON Friday, the 11th inst., Mr. Sidney Summers read an interesting paper on THE VINE before a full meeting of the Chiswick Gardeners' Mutual Improvement Association. He dwelt at length on the history of the Vine, its propagation by seeds, eyes and grafting, the diseases and insect pests that infest it, and other matters. The paper elicited a lively and protracted discussion, in which many of the members took part.

THE NATIONAL CHRYSANTHEMUM SOCIETY has fixed their three exhibitions to be held at the Royal Aquarium as follows:—Exhibition of early Chrysanthemums, 14th and 15th September, 1887; grand Chrysanthemum, fruit, and vegetable exhibition, 9th and 10th November, 1887; and mid-winter exhibition, 11th and 12th January, 1888. The Floral Committee will meet at the Royal Aquarium for the purpose of awarding Certificates to meritorious varieties on the 14th September, 12th and 26th October, 9th November, and 7th December.

CHINESE PRIMROSES.

A RECENT visit to Woodside, where Mr. J. James is now engaged in perpetuating his famous strains of florists' flowers, showed Chinese Primroses in great abundance, and in exceeding beauty, and, without exception, of the very finest form. That much is to be expected from Woodside, because Mr. James has the finest strains of Cinerarias and Calceolarias in the world, and his Primulas, either in the matter of culture or quality, could hardly be excelled. It cannot be doubted but that in the bright clear atmosphere of Farnham Royal, not only do plants thrive better than in low-lying districts, but the colours stand out so much purer and brighter than they would within the smoke of London and other great towns.

The houses, too, are low, light, airy, and seem for the purpose to which they are applied, almost perfect. Each house is 111 ft. long, and 12 ft. in width, span-roofed, and fitted up with the most modern improvements in staging. In two houses a 1-in. pipe runs along the entire length on either side, half-way down the slope, and, indeed, helps to form support to the rafters. In the third house there is but one top pipe. These are fed by upright pipes, 6 ft. high, fixed in the main flow-pipe from the boiler, which runs across beneath the floors of the houses, and when turned on the water rushes up this erect pipe, and soon heats the top pipe admirably. It is worthy of note, as showing how much the system impresses practical men, that Mr. H. Veitch, who recently saw it in operation here, warmly approved of it. As the plants of all kinds grown at Woodside are for the production of seed, it is very important that a dry atmosphere during the blooming season should be had, for without such fertilisation would be difficult, and often a failure.

The Cinerarias will in a couple of months or so be a grand sight, as there are upwards of 2,500 plants all in from 5-in. to 7-in. pots, whilst there are about three dozen plants growing as specimens in 10-in. pots, which will later be as fine examples of plant culture as can be desired; already some measure over the leafage quite 2 ft., and when in full bloom will be about double that width. How much these Cinerarias like the houses and the soil is evident. Two of the spans and a lean-to are already quite full, and many of the propagated plants are in bloom. However, we leave Cinerarias to a more later period, and give but a passing glance at the Calceolarias, which will be a brilliant sight to see about the middle of May. Of these some fifty in 9-in. pots, and yet to be shifted into larger ones, will make splendid specimens by-and-bye, such as cannot, perhaps, be excelled in the kingdom. These are, of course, from selected old bottoms of last year, thinned in each case to three shoots, but already these plants are some 15 ins. over, and robust, clean, and breaking in full vigour.

With the Chinese Primroses, our chief present theme, Mr. James has been remarkably successful in strains and in cultivation. Nearly all the plants are in large 32's, and in the elements of rude health, stoutness, compactness of habit and floriferousness, could not be beaten; indeed, the plants throughout rank amongst the most perfect examples of Primula culture we have seen. But, beyond this, the quality of the bloom is of the very highest; indeed, on many plants plenty of flowers fully 2½ ins. over may be found, and of great substance and well fringed also. Then the trusses in all cases, due both to culture and careful selection in previous years, are borne on stout stems of nice even height, the heads being finely rounded and full. It is worthy of remark that none of the blooms exhibit a feature not uncommon in large flowers—too crowded or crumpled petals. Without being too flat there is, none the less, in all good rotund, well-presented faces and with good fringing. It is worthy of note also, that we prize fringing in the Chinese Primrose as an element of special beauty, whilst so strongly deprecating it in many other florists' flowers. In one or two instances flowers display even more of this feature, for some are deeply lacinated, and these will be carefully fertilized as developing a feature worthy of farther extension.

One of the finest strains in the collection is a grand Fern-leaved kind carrying ivory-white flowers of great size, substance and purity. As none of these strains have special appellations, it cannot now be farther distinguished, but a basket of it was shown on the 8th inst., before the Floral Committee by the Messrs. James Veitch, who have purchased the entire seed stock of what is, without exception, one of the best pure white

Primulas ever offered. The old market white on the plain foliage, grown by Mr. James for twenty years, is now a very fine strain, many plants carrying wonderful heads and huge flowers. The tendency of this strain, fine as it is, to produce tinted flowers, shows how much more valuable is the ivory-white Fern-leaved kind above mentioned. From the same parentage which produced the Fern-leaf is a plain-leaved kind, carrying pure white flowers, and, no doubt, will soon replace the old tinted white, although in that state the latter is very distinct and beautiful. A good white is also found on red Fern foliage, and a peculiarly pleasing kind is a fine white, delicately flushed with mauve, on dark red Fern foliage. The latter merits special selection and perpetuating.

A few plants of the old *P. alba magnifica*, whilst showing really pleasing flowers, do but serve also to express how great is the advance in other directions. The very finest of all the lavender-hued or *Marginata* strain is here—the flowers most freely produced on stout stiff stems, head large, and blossoms of the finest quality and of wonderful size. This is, indeed, a superb strain. The blue *Primula* here, seen at its best in the pure light, is equal to any strain offered; but, in spite of that, is almost killed by the richer hues and the glorious pure whites. Blue can hardly be ever a popular colour in Chinese Primroses. A lovely cerise-red, in a big batch, is a charming strain; and the Chiswick Red type, showing intense hue and very fine densely-petalled flowers, is all aglow with richness and colour. The new double scarlet, though really fiery crimson, is also a wonderfully striking kind; its flowers, most freely produced, are here the finest we have seen, the batch lighting up the house in the sunlight with wonderful effect. This is, indeed, a wonderful kind. From out of this strain has come a curiosity, in the form of a *Primula* with *Cyclamen* leafage. Its flowers are abortive, but the plants seem to be clear evidence of an undoubted cross between the *Cyclamen* and the Chinese Primrose, though an accidental one.—*A. D.*

HEATING AND VENTILATING.

MAY I be allowed a few lines in answer to "Saxon's" criticisms. I am well aware that the plans of top-heating and double glazing are neither of them new in themselves, but, as far as I have any knowledge, the combination of the two, as suggested by me, is novel, and originated with myself thinking the idea might be worth considering. I have given it to the world for what it may be worth, whether little or much. Top-heating was first practised by Mr. Cannell when at Woolwich. I saw it in operation there, I think, quite fourteen years back; and he has carried it out on a more extensive scale at Swanley. I know enough of him to warrant me in saying, that had it not answered his expectations it would have been discarded long ago. Double glazing has only been used to a very limited extent in the United Kingdom, but in the United States and elsewhere, where the winters are more rigorous, it is better known and appreciated.

The difficulties respecting expansion pipes and supply cisterns are far from formidable ones; it will most likely be found, whenever the plan is tried, that the piping will not have to be carried so far up the roof as at first sketched out by me. I would remind "Saxon" that most of the dirty accumulations on the under surfaces of the glass are of vegetable origin, and that all the time the heating apparatus is at work the surfaces of the glass will be too warm and dry for their propagation. If he really thinks an extra pane of clear glass will obstruct the light more than a coating of frost, I do not think he will find many to go with him; as to the plan being only adapted to open-roofed houses, if he looks back to p. 293 he will find that is not my opinion.

"Saxon" says, again, that if we take it for granted that no moisture will be condensed on the glass, the atmosphere will be naturally cool. Precisely so, but only in a relative degree; the heat in the enclosed space will generally be above that of the internal house, so that condensation on the inner layer of glass will be impossible. Is he quite right in supposing that the plants will radiate more rapidly than the pots, stages and soil? I think not. As an illustration I will mention a phenomenon which may often be noticed—i.e., the stones in gravel paths will be found clothed with moisture, while the foliage of plants and shrubs in the adjoining borders is perfectly dry. It is quite certain

that under the system advocated the plants would often be covered with dew; is that, I ask, a dreadful experience for a plant, and injurious to its well being? I am under the impression that they generally get too little of it, hence the necessity for the copious syringing, which would be to a great extent dispensed with. As to the extra cost of building, I would remind "Saxon" that a considerable saving in the cost of heating apparatus would be effected—the materials would be had for about one-fourth, and there is no reason why, in case of a breakdown, the outer glass should be removed.

I do not think the plan could in all cases be fully relied on without some provision for internal heating, which might be managed with less trouble and expense than at present, but it would most likely only be required in cases of extreme cold, and possibly at times to dry up any undue accumulation of damp. "Saxon" must know that under whatever system of heating adopted, a large percentage of the heat generated does virtually go to heat the air passing over the surface of the glass; if we could have a transparent roof which was a perfect non-conductor of heat, our fuel bills would be very materially reduced. The question at issue is really this: a layer of enclosed air being one of the best non-conductors we have, can we, by maintaining it at a temperature in excess of the required heat of the house, keep the heat of that structure to the desired degree at a less cost, and should we by so doing insure better atmospheric conditions as respects moistures?—*W. B. G.*

THE CHESTNUTS, GUNNERS-BURY.

APART from the economy and utility of a garden, the pleasure and recreation derivable are incalculable; but no one knows this better than the owner of such, who takes a lively interest in the subjects cultivated, who sees and observes them closely in all the phases of their existence, and watches with a close scrutiny the vicissitudes that affect their well-being. That this is the experience of Mr. Starling a very short acquaintance with him will amply testify. His genial and communicative manner also makes it extremely enjoyable to all who have the pleasure of his conversation on garden matters. Such was our experience recently.

The garden is pleasantly situated on a gentle slope towards the South Western Railway Company's line, the numerous passing trains of which enliven the scenery in front, but work havoc on the inmates of greenhouses from the amount of soot deposited on the glass. The difficulties of this nature surmounted in gardening makes it all the more creditable to those concerned. The principal features of the garden are fruit trees and bushes; but the effect produced, and the seclusion enjoyed, by the introduction of trees and shrubbery is remarkable, considering the small space at command. Notwithstanding the proximity to the railway, and the smoke from houses on all sides, there are some handsome young trees, of some ten or twelve years' standing, of *Araucaria imbricata*, *Wellingtonia gigantea*, *Cupressus Lawsoniana*, Walnuts and others. These, together with other shrubs, both evergreen and deciduous, surround the grass and flower-beds, and screen the house from the more economic part of the garden.

The specialities in which Mr. Starling takes most interest are Orchids, Chrysanthemums, Camellias, Azaleas and Gloxinias, supplemented with a miscellaneous collection of various greenhouse and stove subjects. Amongst Orchids we noted several species of *Cymbidium*, including *C. giganteum*, *Odontoglossum pulchellum* with fragrant white flowers; *Cypripedium venustum*, *C. barbatum* and *C. insigne*, and its variety *syhetense*. The latter is characterised by the shortness of its pouch-like labellum. Several species of *Odontoglossum* and *Oncidium* elbow their way amongst the rest, and various species of *Cattleya* of the *C. labiata* group find a suitable home. Some of the pieces are of large size, grown in pans, and judging from colour and vigour of the rigid green leaves will flower well. *Dendrobium nobile* is here cultivated in baskets, hung up close to the light, and near by was a large clump of a species of *Harpophyllum*.

The Camellias are all grown in pots, and vary greatly in size, but their healthy vigorous green state reflects credit on the treatment they receive. They are bristling with flower buds in all stages of development,

and all the available area of the house is occupied with these, and a number of medium-sized, healthy well-trained Azaleas. The Chrysanthemums must tell their tale at another season.

In the other plant houses were located various useful subjects, such as Dracenas, including *D. Goldiana* and *D. terminalis*. The great leathery spiny serrated leaves of *Chrysophyllum imperiale* were conspicuous amongst foliage of a less pretending character, and, like *Ficus elastica*, breaks the monotony in an assemblage of graceful or slender-leaved plants. Huge standard specimens of *Heliotrope* predict a supply of cut flowers presently, and large plants of *Rhynchospermum jasmoides*, or *Trachelospermum* rather, are laden with flower-buds which will scent the whole house with their fragrance later on. *Begonia metallica*, *B. maculata* and others find their uses, as do the more popular *Adiantums*, such as *A. cuneatum* and *A. Capillus-veneris*.

The houses, whether span-roofed or lean-to, have low roofs well adapted for plant growing and a free admission of light. The ventilation and heating, especially the latter, have been well provided for; and tanks are constructed beneath the floors for the receipt of rain-water. The whole is superintended by Mr. Starling himself, and nothing but an inherent love for the subjects cultivated would induce anyone to give them such devoted attention. In this, however, he is ably assisted by his gardener, Mr. Webb, who carries his instructions into effect.

LATE-KEEPING PEARS AT CHISWICK.

HUNDREDS of varieties are grown throughout the length and breadth of this country that are of no use whatever, usurping places that might be far more economically and advantageously occupied with varieties of known excellence and utility. Varieties spring into existence under all sorts of conditions, and instead of the worthless ones being vigorously weeded out, they are simply allowed to accumulate by the toleration of local growers or the raisers of the sorts in question. Compared with the number of varieties in existence, few are really worth accommodation, either on account of flavour, produce, or long-keeping qualities. It is remarkable what hold worthless sorts have on those most interested in their existence or culture, but the day is, probably, not far distant when the rising generation of gardeners, at least, will see their way to make a clean sweep of useless kinds, and grow those only of decided commercial value or for home consumption. In private establishments, a supply for the mansion is the chief desideratum, and in some gardens, either on account of their extent or the productiveness of the soil this is not difficult to do.

In most cases a vigorous selection of suitable and useful varieties will do much to attain the desired end, but much more is necessary in order to surmount difficulties in the way of suitable soil, aspect and locality. A proper knowledge of the most suitable stocks on which to graft the various kinds, and the soil for which those stocks are best adapted is an urgent necessity amongst gardeners; and it is to be hoped that there may not be wanting in the near future a numerous body of observers all over the country who will make a special study of such nationally important fruits as Apples and Pears. Much may yet be done in ascertaining the sorts most adapted to the soil and climatal influences in various parts of the country.

In the raising of seedlings the chief line of development along which selection might be made, is that of raising varieties with a view to greater hardness of constitution and ability to withstand late spring frosts. From a commercial point of view, as well as from that of the private grower, the production of very early as well as very late-keeping sorts should be a matter of primary importance. The former would be able to command the best prices obtainable in the market, while the supply was limited owing to the time of year. The latter would be better able to maintain a supply of useful fruit throughout the greater part of the year.

The planting season is again in full swing, and intending planters should pay special attention to the recognized qualities of sorts in commerce, and the purpose for which they are desired in establishments under their charge. The following sorts are of recognised merit, and may be depended on for their special characteristics, although much further know-

ledge is desirable of their suitability for different parts of the kingdom. We had the pleasure of seeing them recently at Chiswick, through the kindness of Mr. Barron.

DESSERT PEARS.

Old Colmar is generally reckoned to be ripe after Christmas, but may be considered in season from November to February. It is a medium-sized Pear, of a greenish yellow spotted with russet, and possessing an excellent flavour when ripe. No Pear, probably, keeps so long and well after being sufficiently ripe for use. The fruit of Josephine de Malines is green spotted with russet, and has a melting flesh with a fine aroma, and on that account is grateful to the palate of many. It is of medium size, top-shaped, and is in season from December to March. St. Germain is an old variety that attains great size, and is in season for the table from November to January; the fruit is green spotted or suffused with russet, keeps well and has a rather gritty flesh, but is sweet and otherwise rich when in good condition. The Pear-shaped fruit of Comte de Flandre is juicy, rich and sweet when mellowed in the fruit room, but does not keep after January; while its usual season is generally considered to be November and December. Beurré Rance keeps in season from January to May, and is an excellent juicy Pear, except towards the core, where it is rather gritty.

The late-keeping qualities of Easter Beurré are well known. It ripens late, and is in season from January to April or May; while, according to the experience of some growers, it refuses to become mellow and fit for use in particular soils or seasons. The fruit is green, more or less distinctly dotted with brown all over, and presents a fine appearance when in good condition. The flesh is white, buttery and sweet. The quality of Fortuné Boisselot varies, but, in general, may be described as a useful sort that sometimes attains a large size. The fruit is turbinate or top-shaped, varying in colour from green to yellow, more or less coloured with grey-russet. It was raised at Nantes, introduced in 1867, and is in season during January and February. Aglae Gregoire is sometimes stated to be in season from October to November, but the fruits at Chiswick keep good till February or March. Another variety not yet widely distributed is Bowood. The fruit is soft and sweet by January, but does not become melting; it is large, top-shaped, and yellow suffused russet.

The above mentioned are all large-growing Pears, and generally have a commanding appearance on the table; but medium-sized and smaller ones, if less imposing, are equally serviceable, both from the variety they afford, their generally good keeping properties, and peculiarities of flavour they may possess. One of the best-flavoured of this class is Olivier de Serres. It is a short Pear, heavily suffused with a russet colour, and is in season during the months of January and February. Doyenné Flon Aîné is another short, roundish, deep russet fruit, that keeps from November to February. It is one of comparatively recent origin, having been imported in 1866 from Angers. When in proper condition, the flesh becomes very juicy, with a slightly acid taste. Another Pear of somewhat similar appearance is Prince Napoleon, which is roundish, with a ground colour of olive-yellow, much blotched or marbled with deep brown or russet. It is a fruit of first quality, and keeps in season from January to March. It was introduced from Rouen in 1869, and is a first quality late season fruit, with a sugary, perfumed, half-melting flesh. This is perfectly distinct from the better-known Pear-shaped green-fruited Napoleon. Another small roundish Pear that might possibly find many admirers is that of Prince Imperial. The skin is of a clear yellow, and the flesh sweet and juicy; it is in season during the month of January. Beurré du Cercle is a short fruit, suddenly tapering into the stalk, or even a little one-sided. When ripe, it is of a dull bronzy colour, more or less dotted with greyish white points. It is in season during January, and has a juicy, sweet, melting flesh, but somewhat gritty. The flavour of Huyshe's Victoria does not seem to attain the high quality in the rich clayey soil at Chiswick which it does in some other parts of the country. The fruit is small and yellow when ripe, and keeps well during the months of December and January. It is said to be an excellent Pear in the Weald of Sussex, where it becomes sugary and melting, with a vinous flavour. In different soils Fondante des Bois behaves differently as to size, so that in one may be described as large fruit and in another as small. When mellowed

in the fruit-room it has a pale green colour, more or less heavily stained with brown and grey, and the melting flesh becomes sugary and savoury, somewhat acidulated.

ODOURS OF ORCHIDS.

RECENTLY I heard the remark, "Orchids are very beautiful, but their flowers are not fragrant, I believe." The remark seems to have been made for the same purpose as I had heard it made on several occasions before, viz., for the sake of saying something; and I think it as well to call the attention of those who have used their eyes only in the matter, to the fact that there is no truth in the statement, and that Orchids supply us with flowers in the different species, which imitate in odour all those of our sweetest flowers, as well as bringing to us odours not known in other plants. By far the greater number of the species are fragrant, and there are peculiarities in the variations of the intensity of their odours, at which time, in the same flowers, they are emitted powerfully or almost suppressed; and many other points in connection therewith, which afford study for a lifetime to anyone who has the courage to devote himself to the task.

To name a few of the peculiarities of fragrant Orchids: I have noticed that some of them of delicate and subtle odour, such as *Oncidium ornithorhynchum*, may be tested by a dozen persons, and each would give a different name to the scent, some declaring it was delightful, and one or two, perhaps, not being quite sure whether they liked it or not. Even the same plant may emit a different odour at different times, and the most direct proof of this I found in the original *Odontoglossum hebraicum*, which on flowering with me proved to be strongly fragrant of cinnamon; the plant passed into Sir Trevor Lawrence's collection, and I notified the late Mr. Spyers of the difference in its odour, but he said that when it again flowered no one at Burford could find any but the strong Hawthorn scent peculiar to the section. On flowering again the following year, however, he informed me that for a time he found its odour exactly that of cinnamon. In flowers of the same species, differing widely in odour, I lately had a striking instance, having met with a variety of *Zygopetalum crinitum*, which instead of having the aromatic aniseed odour of the type, smelt like a Rose.

Those who are in the habit of wearing Orchid flowers in their button-holes will have noticed how it often happens that they place an Orchid without much apparent odour in their coats in the morning, and how that suddenly, at a given time, the fragrance of it ascends to the nostrils with great strength. In some cases, and especially when there is bright sunshine, the odour becomes more pronounced as the mid-day approaches, when it is at its strongest; but in others—as in the case of *Epidendrum ciliare*, *E. nutans*, and *E. nocturnum*—the odour is strongest at night. There is nothing in nature without a use and a reason, and no doubt the varying odours, and the times and seasons of their being given forth, play an important part in the economy of these plants, and, most probably, in respect to their reproduction from seeds by insect aid when in a wild state.

The Hawthorn scent is by far the commonest in Orchid flowers; we have it in a great many of the yellow and brown *Oncidiums*, in an equally larger number of *Odontoglossums*, and stronger than any in *O. odoratum*, *O. Sanderianum* and *O. madrense*, of which a single plant in bloom in a house is enough to call to mind a May bush. *Trichosma suavis* and *Maxillaria picta* smell very strong of Hawthorn flowers, *M. punctata* and *Oncidium (Cyrtorchilum) maculatum* of Primroses, *M. Turneri* of Honeysuckle, *M. venusta* of Coriander, and many of the other *Maxillarias* are very fragrant. Among Orchids which imitate the fragrance of the Rose, we have *Odontoglossum Roezlii*, *Trichopilia suavis*, *Lycaste Harrisoniae*, the varieties of *L. elegans*, *Turneri* and *prasiata*, and *Phalenopsis Schilleriana*. Of Vanilla-scented Orchids there are many, good examples being all the varieties of *Vanda tricolor* and *suavis*, *Aërides odoratum*, *A. suavisimum* and many other *Aërides*. The *Cattleyas* give us many delightfully fragrant species, of which, perhaps, the most grateful are the old *C. Mossiae*, *C. speciosissima*, *C. Gaskelliana* and *C. Eldorado*, the last-named being between Rose and Honeysuckle, or a mixture of both. The *Anguloas* have a strong aromatic odour, *Oncidium tigrinum* is

like violets, *O. Lanceanum*, *Odontoglossum læve*, and many other Orchids have a delightful odour like some ripe fruits; *Sobralia dichotoma* smells of Wallflowers, and *S. macrantha* and other *Sobralias* are very sweet. *Cœlogyne pandurata* has the odour of ripe Apples, *Sarcopodium Lobbii* of fresh-cut Cucumbers, *Brassavola Digbyana* and *Cymbidium sinensis* are like Violets, *Angraecum arcuatum* like Tuberoses, most of the *Dendrochilums* like Hawthorn, and many of the *Catasetums*, *Mormodes* and *Pilumnas* are very fragrant, and *Lycaste aromatica* and *cruenta* are strongly aromatic.

The great genus *Dendrobium* gives us a variety of sweet odours, of which the Violet-scented *D. heterocarpum* is a noteworthy example; all its family—*Ainsworthii*, *splendidissimum*, *Leechianum*, *endocharis*, &c., partaking more or less of its fragrance. The old *Dendrobium nobile* is very sweet, and the many varieties flowered out of recent importations give as great a range of odour as they do of colour. *D. primulinum*, *D. palpebræ* and other *Dendrobes* have the odour of Primroses; whilst among the doubtfully grateful odours may be placed the Rhubarb scent of *D. superbum macrophyllum*, the pungent odour of *Brassia verrucosa*, the ground Ivy smell of *Epidendrum inversum* and the heavy odours of some of the *Stanhopeas* (*S. grandiflora*, *S. insignis* and some others have grateful odours for a plant house) which in *S. graveolens* is so strong that the smell cannot easily be removed from the fingers with soap and water after handling the flowers.

But it is impossible to touch on a tithe of the Orchids which have pleasant odours; suffice it to glance at a few of the large genus *Epidendrum*, which give us a rich range of odours. *E. varicosum* and *E. ionosmum* are exquisitely fragrant of Violets, *E. phœnicum* of Vanilla, *E. alatum* of Angelica, *E. criniferum* of Cowslips, *E. selligerum* of Tuberoses, and *E. Stamfordianum*, *E. fragrans*, *E. paniculatum*, *E. macrochilum*, and by far the greater number of the rest of the genus are very sweet. But it will not do to preach sweetness only; we have a few—and a very few—among the Orchids which have flowers not grateful to the olfactory organs. The worst example of this is the curious *Bulbophyllum Beccarei*, of which I sent the first inflorescence to Professor Reichenbach. The opening lines of his acknowledgement will serve to give an idea of his appreciation of its fragrance. The worthy Professor began his letter, "When I opened the box—Oh, horror!" Truly it has a vile odour; and so also has *Cirrhopetalum ornatissimum* and a few others, all of which, by their livid brown, grey, and other *Arum Dracunculus*-like tints, fail not to warn the wary plantsmen; but for chance experimentalists who cannot read the signs, one trial sufficiently enlightens them.—James O'Brien.

THE PROPAGATING HOUSE.

THIS house is a necessary appendage to all horticultural establishments, both in trade and private growing. In this house either the greatest achievements horticulturally, or the greatest failures, have to be recorded annually; and it is in this house that a successful propagator turns out the quantities of plants that are to bring money to the tradesman, or pleasures to the eyes of the masses of people who promenade our public parks. They also bring pleasure and refinement to the merchant after the toils of business are over.

The position of this house need not run at any particular point of the compass; but, for choice, I prefer the ends of the house to be east and west; this gives a south and north aspect equally. It is a much easier matter to shade from sun than to make sun shine upon the house. Its shape should be an equal span, and its height need not exceed 7 ft. in the centre, the walls up the side being 4 ft. in height, and the width 10 ft. to 11 ft. Ventilation must also be provided along the centre of the roof, so arranged that from a very little to a quantity of air can be put on if necessary. The house should be in length from 36 ft. and upwards, according to the quantity of work it is expected to do, and should always have a glass division made in the centre. This arrangement is to facilitate the means of having a hot propagating house and a cool one, which is an absolute necessity where a great quantity of work has to be turned out.

In the heating of these houses plenty of piping must be provided both for top and bottom-heat, and stop

valves placed so that this heat can be regulated to a maximum or minimum in either house. The best style of house with which I have ever had to deal has been those in which arrangements have been made that a hot-water tank should go along the whole length of one side of the warmer house. This hot-water tank may be arranged in various ways. Some use a good cemented tank in which the hot-water pipes are simply laid near the bottom, and when the hot water is circulating through these pipes, it causes the water in the tank to become warm. Some, again, use wooden tanks, and others iron ones; but whatever is used provision must be made to have a supply of water at hand to keep the tanks full. If either the cement or the wooden one should become dry, and the pipes are still kept heated, it will soon be all over with them as far as their holding power is concerned. Over this tank the best covering is blue slates. They allow the heat to come through them readily, and last as long as anything that can be used. On the top of these slates good substantial cases or frames should be made.

The frames should be so arranged that the sashes or covering can be lifted up either from the front or path, and slung to the roof with a small brass chain or a piece of wire. This is to allow superabundant moisture to escape from the cutting case at any time it may be deemed necessary. These cases must be filled with cocoa-nut fibre refuse to the depth of 6 ins. or 12 ins. This answers the purpose of a plunging material, and retains the heat as well as any material that can be used. If these cases should be disposed to get too hot at any time, the stop valve must be regulated till the required heat is obtained. It is not at all times requisite to cover the whole length of this hot tank with cases, but if half the length is covered, the other half without cases may simply be covered with the fibre. This leaves a good space for plunging any kind of cuttings that do not require to be kept so very close, but still require a good bottom heat to cause them to root freely. The other side of the house should be for the accommodation of stock plants of any from which cuttings are desired, and also for the purpose of placing the pots containing rooted cuttings. The latter will here become firmer preparatory to their being potted off singly in the potting shed.

The staging on this side of the house will do if it is erected as an ordinary greenhouse stage, provided it has a covering of cocoa-nut fibre refuse of sufficient thickness to retain a good amount of moisture, and so prevent the soil in the cutting pots from drying up too rapidly. The cooler house may be exactly on the same principle, with the exception of the large hot-water tank; and this may be supplemented by the use of trough-pipes in place of ordinary pipes, that can be filled at will for moisture or otherwise, as the circumstances of the case may require.

Cleanliness is an essential to the well-being of a good propagating house, and all materials that are used in it should be free from rubbish of every description that may tend either to breed fungus or harbour vermin. This especially applies to the pots and crocks that are to be used, and also to the sand, which, if at all dirty, should be washed with a few changes of water, and then allowed to dry again before use. The plunging material should also be changed annually, and the house should have a good cleansing with lime-wash, well dashed into all crevices to destroy any germ of insect life that may be lurking there.

If this house is at all troubled with insect pests, such as crickets, cockroaches, woodlice, &c., traps must be provided to catch them, for they will soon clear away the tender seedlings and cuttings, however careful they may otherwise be tended, and the result of your labour would then be lost. An equable temperature must be maintained for soft-wooded cuttings, both at bottom and top. The bottom-heat should range from 80° to 85°, and the top-heat in the house 75° in the day, and not lower than 65° at night; the more equal the heat can be kept, the better for the well-doing of the cuttings. Allowance must be made for sun-heat, and provision for shading the house; this can be done with blinds for the whole of one side of the house, or in lengths, so that one part only requiring it may be shaded. Sheets of newspaper may be used to throw over the cases in the house, or over any cuttings or seedlings, when a sudden outburst of sunshine occurs.

A moist atmosphere must be maintained in the warmer house. This will at all times prevent spider,

thrip, &c. from increasing, which, if allowed to get ahead, will soon make havoc amongst plants in a house. This part of the arrangement will have to be left entirely in the hands of the propagator, who will be generally guided by the class of plants he may be working, and also by the different periods of the year. This knowledge can only be obtained by practice, and to attempt to lay down any set rule for the guidance of novices, would be superfluous, and more often end in mishap than success. The novice, in attempting to take charge of a propagating house without having first had some experience under a practical man, will generally make many errors that cannot easily be rectified. He should never aspire to be at the top of the ladder at first, when his proper position should be the bottom. To have failed in his first attempt, or to be discouraged at the outset of his career, often leads to failures all through. Better, indeed, had he risen step by step, and so reached the top honourably, than, by trying to leap, to end in utter disgrace.

A good propagating house that is intended to turn out much work, should have a small shed erected at its entrance; in fact, this should form part of the house. If this be provided, the soil and pots can be kept there, and will consequently be always at the same temperature as the house. In this shed the propagator can make his cuttings and insert them without continually running out into the cold so often experienced during the changeable weather of our spring months.—*W. G.*

GARDENING NOTES FROM SCOTLAND.

Aberdeen: The Old Oak Tree.—During the past two months many men have been engaged digging out the trunk of the old Oak tree which has stood so long on the banks of the Dee. It had occupied this site since 1829, when it was found in the bed of the Dee after the memorable flood of that year. Being a gigantic piece of Oak, it has been considered by the inhabitants of Aberdeen a fit mark to commemorate the flood. It was surrounded by a paling, and, in addition to commemorating the flood, served as a retreat for a large number of birds. Ivy was planted round it, and each succeeding summer it was clothed with an abundance of beautiful green leaves. Alterations about to take place have necessitated its removal to the Duthie Public Park. With great difficulty it was got on to a lorry, and after being securely tied with ropes, ten horses were attached, and followed by a large number of spectators, the tree was dragged along the Riverside Road to the Duthie Park. It will be placed on the west side of the rockery, where the venerable relic will once more raise its head to remind Aberdonians of the "great spate of 1829." The dimensions of the tree are 30 ft. in length, 29 ft. in circumference, and weighs about ten tons.

THE AMATEURS' GARDEN.

OUR FRAME-MAKING.—Methinks I hear the practical gardener—from the fact of his vocation connecting him with extensive hothouses and palatial conservatories fitted with heating appliances arranged in the best possible manner for the cultivation and preservation of luxurious and costly plants—exclaiming, "What nonsense to write on such trivial matters!" But I would remind him that such minute things as these are the only subjects the aspiring amateur has to relate. They are the favourite strings on which he harps, and constitute his hobby, more especially when the sole aim and ambition is to outrival his neighbours; at least, so it is in our case. There are four villas contiguous to our own, and these, or rather the strips of garden ground and their appurtenances, are known as the "Surprise Packets," an appellation conveying its own meaning. Each one struggles to outvie by some new innovation. While agreeing with the old adage, "Self praise is no recommendation," I deviate from its truth reverentially when I say that since our occupation of "Surprise Packet No. 5," "all its lovely companions have faded and gone," their competitive

attempts eclipsed, and, to speak in sporting parlance, "knocked out of time."

The plants in our conservatory having failed to make a move, owing to old Sol's attempts to cast his cheering rays over them being frustrated by the overhanging houses, it was unanimously agreed to start a frame at the foot of the garden; there to bestow our favourites, where they would get full benefit of the sun the whole day. No doubt some of the feminine contributors to *THE GARDENING WORLD*, who delight in the manufacture of any articles for the embellishment of their homes and gardens, are as proficient in the art of carpentering as a lady of my acquaintance, who wields the saw and manipulates the plane with great dexterity. To such an one, perhaps, these simple remarks will be of assistance. First, we obtained a good strong window sash, about a yard square. This had sash-bars running either way; these had to be removed, and re-adjusted in proper form. They were insufficient in length, but by scarving (joining together) the superfluous bars the difficulty was surmounted. It was rather a tedious task—perhaps it would have been better to have made a new one; but it answered the purpose.

The glazing of the sash was the next consideration. Some 9 ft. of glass and a couple of pounds of putty soon found this accomplished, and the light ready to be fitted to the frame (or *vice versa*). A discarded egg-box—but make up your mind for plenty of planing—some 5 ft. in length, consisting of eleven boards averaging 8 ins. or 9 ins. in breadth, by careful manipulation sufficed for that purpose, with the addition of four pieces of 3-in. quartering (one at each corner) to which to nail the four sides, and a slight piece of boarding about 6 ins. broad on either side at top of the frame to keep the light in its place. With a good coating of paint inside and out for preserving the wood, both frame and light are complete. A coat of boiled whiting and size before painting will be beneficial in filling up any little interstices, and not absorb so much paint.

To this receptacle we first intend conveying such things as we want to start growing; *Pelargoniums*, *Heliotrope*, *Calceolarias*, *Fuchsia fulgens*, *Spiræa*, and some *Nicotiana affinis* in pots—which we think wonderful to have saved through the inclement season—will be the first occupants. We shall remove these in a month's time, and hasten on seeds in boxes, such as Sweet Peas, *Coreopsis*, *Convolvulus*, *Nasturtiums*, another batch of *Nicotiana affinis* for autumn flowering, Indian Corn, and Canary Creeper for planting out in the borders. Our frame clear of these, our ambition finally soars—and it is no idle phantasm—to cutting Cucumbers of our own growing. It may be late in the season ere we arrive at this climax, but, barring accidents, this is the contents of the programme of "Surprise Packet No. 5."—*Albert George Hull, Forest Gate, Essex.*

SEED SOWING.—If the seed lists have not already been made up, and the seeds sent in, no delay should occur in having them done immediately. The earliest opportunity for sowing them, where practicable, should be seized by the amateur, who, even with his limited appliances at command, can do much to hasten the flowering and fruiting of flowers and fruits, and the raising of useful vegetables.

By the aid of a small hot-bed, seeds of Tomatos, Cucumbers, Vegetable Marrows, &c., can be germinated and grown on in readiness for planting out when the proper season arrives. As soon as they are up, remove them to a more airy structure, having, if possible, a little artificial heat to keep them growing slowly. All should be potted off singly, and receive an occasional shift as the pots become filled with roots. By treating them thus early, they have a long season before them for the production, and, where desirable, as in the case of Tomatos, the ripening of the fruit. Cauliflowers, early Cabbages, Leeks, Lettuce, Endive, Spinach, and such things can be forwarded, by the aid of a frame, without any artificial heat whatever. Seeds of many useful flowering annual or perennial plants can also be forwarded with advantage. Single Dahlias and Lobelias would germinate best on a hot-bed; but many fine things, such as Hollyhocks, Delphiniums, and Chinese Dianthus, may be grown and flowered the first season without artificial heat. Many annuals flower better and earlier by being raised in a frame, including *Centaurea cyanus*, *C. moschata*, *C. suaveolens*, *Helichrysums*, and other everlastings.—*F.*

A GARDENERS' ORPHANAGE.

SOME of your readers, when they see the above heading, will say, "Well, I did not know that a gardeners' orphanage existed in this country!" and I am bound to say that I do not know of any such particular institution; but I see no reason why one should not be established. We have an admirable institution for the benefit of aged gardeners and gardeners' widows; but the little children appear to be overlooked.

At the present time, various schemes are being proposed in the horticultural journals for appropriately celebrating the Queen's year of Jubilee by the "horticultural world" in this kingdom; and I know not of any higher, nobler, or more unselfish method of celebrating this auspicious year than by founding a home for the destitute, fatherless and motherless children of those who have honourably followed the illustrious calling of "gardener;" and by this term I embrace all who are directly connected with horticulture, either journalistically or by trade.

I do not know, Mr. Editor, a more appropriate journal than yours wherein to make this appeal on behalf of the young; for I think THE GARDENING WORLD is the youngest gardening periodical in this country, and, child-like, it gets into nooks and corners that its aged and sedate contemporaries fail to reach.

Appeals have appeared, from time to time, in the horticultural press for contributions on behalf of the orphan children of well-known and clever gardeners—men who have passed away at a comparatively early age, and consequently had little opportunity of making provision for those they loved so well. I fear these appeals have not always met with the response they deserved—not from lack of sympathy, good nature, or charity, but rather because "what is everybody's business is nobody's business"; and instead of everyone doing *something*, each person leaves the work to be done by another, and in the end it turns out that scarcely anyone has done anything.

Gardeners, as a rule, are surpassed by none in generosity when this is required in a good cause, and I feel sure that if an appeal is made to them on behalf of a Gardeners' Orphanage it will meet with earnest consideration and liberal support. Since writing the foregoing, on the evening of the 8th inst., a paragraph has appeared in a contemporary from the pen of Mr. Penny, of Sandringham, urging the establishment of the institution I suggest.

I have before me, as I write, the balance sheet of the Railway Servants' Orphanage, and I observe that with a capital of nearly £21,000 the managing committee are maintaining an orphanage containing nearly 200 children, and have provided accommodation for 300 more. This orphanage is managed in connection with the Railway Benevolent Institution, and it occurs to me that a Gardeners' Orphanage might be established in connection with the Gardeners' Royal Benevolent Institution. Surely we gardeners ought to be able to establish a small institution without any difficulty. Every head gardener ought to willingly give his guinea; I am prepared to do so, and will gladly double it if 499 other gardeners will do the same; for out of over 3,000 gardeners to be found in the directory, it is scarcely unreasonable to expect that there are at least 500 who will give the above sum. In addition to the above, each head gardener should contribute 2s. 6d. per annum, or more; and every under gardener a donation of 2s. 6d., and an annual subscription of 1s., or such larger sum as he may choose. I hope other of your readers will state their opinions.—*J. Udale, Elford, Tamworth, Feb. 11th, 1887.*

ON THE USE OF MANURES IN ORCHID CULTURE.

IF careful note is taken of certain Orchids as imported, it will be found that the material in which they have been growing in their natural home is of a very rich description, shewing unmistakable signs of decayed vegetation, manurial deposits, etc. The fact that such is the case tells us that under certain conditions these Orchids thrive in a richer material than that composed of moss, crocks, peat, charcoal, etc. Take for instance the *Cymbidium Lowianum* or *giganteum* at home; this Orchid is found growing most luxuriantly on the sides of small watercourses, the soil being of a fine friable loam rich with decayed vegetable matter. At certain seasons the rain descends in torrents, washing down the accumulations of decayed

vegetation and manurial deposits, liberally deluging the plants with what we should term "liquid manure," soaking the soil, and, at the same time, enriching it to an extent that seems incredible. In this soil the plants grow, and throw spikes some 6 ft. long, carrying as many as thirty flowers, and, in some cases, even more. During the dry season these watercourses (or dykes) dry up, thus leaving the plants without any water, except such as they obtain from the dews of night. The result is that the roots penetrate the soil, seeking nourishment from the rich material stored there; and their appearance shows how well it suits them. Here then, surely, is an Orchid that we should treat with manure if we wish to grow it in perfection.

Another matter worthy of note is the fact that although the country is, at certain seasons, very hot, the finest plants are those grown in a comparatively cool atmosphere, where plenty of shade is obtained. We have always grown this Orchid in a cool place, and have, on more than one occasion, been told that we are growing it too cool. Following, however, what we think the natural treatment, and giving them a plentiful supply of manurial stimulant, such as they receive at home, or its equivalent, our plants grow freely, and give us a plentiful return of bloom, the foliage being spotless, and of a rich dark bright green; showing that here, at least, we have an Orchid deriving benefit from the application of manure when given by careful hands and at necessary times.

At one time, Jensen's manure was applied in small quantities on the surface of the material, letting the watering wash the particles to the roots. Latterly, however, we have given it in a liquid form, giving the minimum quantity often rather than a dose of over-strength. Let those who object to such treatment satisfy themselves in seeing what can be done by it, and I have no doubt they will be convinced of the benefit derived by the plants. Like "Caution," with certain other subjects the result has not been so successful; but experience is never more profitable than when bought.—*St. George.*

THE RESURRECTION PLANT.

OCCASIONALLY this crops up in a sensational paragraph, as for instance, not a great while since when a statement made the rounds of the papers in this country, and also in America, purporting to be descriptive of this "marvellous plant," the "latest discovery in the vegetable kingdom!" and highly exaggerating the peculiar characteristic properties which it possesses. It is really an interesting Lycopod, for it belongs to the Lycopodiaceæ, a natural order of plants which forms an intermediate link between the Ferns and the mosses, and of which the native club-mosses are the home representatives. The Resurrection Plant is *Lycopodium lepidophyllum*, and was so named by the late Sir William Hooker, who described and figured it in his *Icones Plantarum*, published in 1836, he having at different times got specimens from Mexico; the first of which, also supposed to have been the first that was brought to Europe, was by a Mr. Cuming, who purchased it in Central America for its weight in gold. After giving its botanical description, Sir William states that "this plant in South America, having enjoyed such a celebrity from its remarkable hygrometric property, that specimens form an article of commerce between Mexico and Peru. Like the *Anastatica hierochuntica*, or famous Rose of Jericho, in the dried state the stems and branches are incurved, so that the whole plant forms an elastic ball. On being moistened, the stem and branches spread out horizontally, and the experiment may be repeatedly performed."

On its native Mexican plains, it forms, in the rainy season, pretty, flat-spreading, compact, green moss-like plants; but when that of extreme drought sets in, these incurve, as before mentioned, drawing their little rootlets at the same time out of the ground, when they become rolled up into balls, which are then bowled about by the winds till, on the recurrence of the rainy season, they again spread out, fix themselves, and resume their growth. Although kept dry for many years, the plant will expand on being placed in water, and roll up again when dried, although its actual vegetating or growing powers may be entirely lost, nor is it likely these will be retained long after the period allotted for its annual rest; hence its resuscitative powers are strictly hygrometric—absorbing or retaining moisture—and, therefore, more imaginary than real.

A MANUAL OF ORCHIDACEOUS PLANTS.*

THE first part of a work, that promises to be an invaluable boon to Orchid growers in general, amateurs and all lovers of this the most deservedly popular class of plants, has at length appeared, and will, no doubt, fulfil the sanguine expectations of all who have been eagerly looking forward to its advent. A prominent and noticeable feature, that cannot fail to interest and instruct readers, is the insertion of two maps, showing the geographical distribution of the genus *Odontoglossum*. The countries inhabited by the several species occupy a narrow longitudinal strip, running through the Andean region of South America and the Rocky Mountains of Central America and Mexico; this region is coloured differently from the rest of the maps, while the species inhabiting the several districts are given in blue ink.

In mentioning the founders of the genus, we fail to understand why Bonpland, one of the number, should be left unnoticed. The generic distinctions of *Oncidium*, *Odontoglossum* and *Miltonia* have always been unsatisfactory, and probably will always remain an unsolved problem while they are kept separate. We are glad, however, to note that *Miltonia vexillaria*, M. Endresii (syn. *Odontoglossum Warscewiczii*) and M. Warscewiczii (syn. *O. Weltoni*, Hort.) are relegated to their proper genus. The lip is described as being parallel with the column at the base, but it is difficult to see how this applies to *Odontoglossum grande*, *O. Schlieperianum*, *O. Insleyi* and *O. hastilabium*; the woodcuts given in the body of the work, however, pay special attention to this fact and are invaluable on that account. A detailed description is also given of *O. citrosum*, showing in what important particulars it differs from a typical *Odontoglossum*, which latter may best be conceived by reference to *O. crispum*, *O. odoratum* or *O. blandum*. In describing the column we notice a marked improvement on the description in the *Genera Plantarum*, which says "*columna . . . apice præter dentes v. lobos clinandrii exalata, rarissime more Oncidii ad latera stigmatis 2-auriculata.*" Many of the most typical species have prominent wings alongside of the stigmatic disk; some species, such as *O. pardinum*, *O. nebulosum*, *O. hastilabium* and others have no wings to the column, but the same thing occurs in several species of *Oncidium*.

Of the sixty to seventy acknowledged and distinct species, about fifty-five are given on the distribution maps; and over forty of the best and most useful for garden purposes are accurately described, and show the imprint of a masterly hand. All the more important varieties are described under their respective species, and a laudable distinction is made between really botanical variations and those describable simply as colour varieties. To a casual observer, *O. Wallisii* recalls some of the varieties of *O. constrictum*, such as *O. c. Sanderianum*; but the monograph under notice points out its distinctness in the long linear leaves. Besides those mentioned, a list of purely botanical species, and the so-called natural hybrids, are given at the end of the book, with short descriptions. These will be most useful for reference by those who are perplexed with the specific value of *O. elegans*, *O. Wilckeanum*, *O. brachypterum*, and others. A great number of allied forms, however, are grouped under the species they most resemble; and this is a most laudable—and, possibly, least confusing—method of dealing with the so-called or assumed natural hybrids. *O. odoratum*, *O. luteo-purpureum*, and *O. crispum* are the most prolific in intermediate forms, and their distribution in contiguous districts is very significant.

Copious cultural notes with regard to potting, temperature, watering, and shading are given in the introduction; and after the specific descriptions given in the body of the work, the history of the species (when it has any) is related in a manner that will induce readers to peruse it with pleasure. Numerous references to figures or coloured plates in all the more important botanical and illustrated works will doubtless prove of immense value to those in search of further information. Synonyms are introduced where such exist, and foot-notes referring to descriptions, and other information, render the manual a work of no ordinary merit. The accompanying illustration of the very handsome *Odontoglossum Pescatorei Veitchianum*, now in Baron Schroder's collection, forms the frontispiece to the work, and for its use in these columns we are indebted to the courtesy of Mr. Harry Veitch.

* A MANUAL OF ORCHIDACEOUS PLANTS, Cultivated under Glass in Great Britain. PART I., ODONTOGLOSSUM. By James Veitch & Sons, King's Road, Chelsea.



OPONTOGLOSSUM PESCATOREI, VENTURA'S VARIETY. IN THE COLLECTION OF BARON SCHROEDER, AT THE DELL, NEAR STAINES.
From a Photograph taken by Mr. H. Stevens, of 38, King Street, Covent Garden.

GARDENING MISCELLANY.

Spinach.—In common with many in this neighbourhood we have suffered heavy losses in our crops of winter Spinach. Ours gave great promise of a splendid crop in the autumn, but soon began to look unhealthy and die off till fully nine-tenths of the plants were dead. It makes little difference where or on what soil the crops have been sown. They are all affected alike—a large breadth in a neighbouring market garden where it has never been grown till this season is equally bad. Can any of your readers suggest a remedy that admits of application when the disease first makes its appearance which is likely to save or benefit the crop?—*W. B. G.*

Cestrum elegans.—Under the name of *Habrothamnus* appears to be grouped most of the species that are of any value horticulturally. There are a considerable number of them; but except those belonging to the section under notice, the flowers are greenish or whitish and worthless. In the decoration of the conservatory or greenhouse, *C. elegans* is invaluable for the profusion of flowers with which it is laden a great part of the year, even in the dullest winter months. If growth is slightly stimulated by a genial temperature, such as that accorded to houses where a display is to be maintained, flowers will be the result, no matter in what month. Mr. Wright, at Devonhurst, Chiswick, obtains any quantity of bloom from a large specimen planted against the back wall of a lean-to greenhouse in which Azaleas and Camellias are kept. It is planted out and the leading stems secured to the wall, while all the secondary branches are allowed to depend at their free will. Their natural habit is drooping, and they seem to be weighed down by the large branching but closely set panicles of club-shaped deep purple flowers. Planting out is necessary for the rapid growth and free-flowering propensities of this, or, probably, any of the species. Summer-produced flowers, if uncut, are generally followed by a rich crop of handsome deep red berries; they are also extremely useful for cutting purposes, lasting well. It is figured in the *Flore des Serres*, ser. 1, vol. ii., feb. t. 9.

Iris fimbriata.—Should this showy and desirable Iris flower—even in favourable seasons out of doors—as *I. stylosa* does, it would be an acquisition indeed; but its habit, and the exposed nature of the flowers, does not even favour the idea. The atmosphere of the Cactus-house at Kew is always dry and moderately warm in winter, and evidently very congenial to the well-being of the Iris in question, judging from the freedom with which it flowers annually during the winter months. The foliage is evergreen, abundant at all seasons, of a light green colour, gracefully arching, and from the centre of this rises the cymosely paniced inflorescence. The individual flowers are large, and, from the fact of their developing successionaly, the flowering period is extended over several weeks. They also offer a feature of great attraction to visitors on account of their deliciously fragrant odour—resembling that of Primroses—and the charming yet not discordant contrast of colours. The general tint is lavender-blue, but the three reflexed segments are bearded and furnished with a deep yellow blotch. These segments, together with the broad petaloid stignas, are beautifully fimbriated, suggestive of the specific name. The species is figured in several works under the above name, including Redouté's *Liliaceæ*, 3, 152, and *Savis Flora Italiana*; but it is also figured in the *Botanical Magazine*, t. 373, as *Iris chinensis*.

Sternbergia lutea.—Many are the changes of nomenclature this hardy bulbous plant has undergone. It resembles a yellow Crocus when peering above ground during the dull winter months, but its six stamens exclude it from that genus. It was originally known as *Amaryllis*, and may, probably, exist in some gardens under that name, as it does in some books, and owing to the insertion of the stamens, is sometimes separated from its congeners to form the genus *Oporanthus*. Unlike most hardy bulbs it is evergreen, with dark green strap-shaped leaves that cover the soil, through which the flowers push at different times subject to the mildness of the season. This season they made their appearance towards the end of January, but, like the Snowdrops, are much later than usual. It is of the easiest cultivation, and not partial to any particular

kind of soil provided that it is not too retentive and clayey in its nature. It is a native of South Europe, and was originally introduced in 1596, or nearly three centuries ago. A figure of it is given in Reichenbach's *Flora Germanica*, 9, 372-3.

Azalea Narcissiflora.—For some reason or other, the white varieties of the Indian Azaleas seem more precocious than the darker-coloured ones. They spontaneously start into flower much earlier, require less forcing than the latter, and are, therefore, specially recommended for forcing purposes. The cultivator also knows the advanced state of the buds in autumn, and that they commence to expand on the slightest provocation when they have been grown out of doors during summer, and are transferred from thence to winter quarters. Mr. Aitken, of Parkside, Ravenscourt Park, says that it blooms almost perpetually with him without any forcing whatever. At present, a medium-sized, conically-trained specimen is well furnished with its pure white semi-double flowers. The individual blooms are small compared with those of many varieties in cultivation, but are none the less useful for the cut-flower basket. The petaloid stamens are short, causing the flowers to be semi-double; and from their resemblance to the corona of a Narcissus, have suggested the name *A. Narcissiflora*.

Late-keeping Apples.—Among the culinary Apples recommended I have seen no mention of the Spring Grove Codlin. There are three tall trees in this garden, all heavy croppers year after year. This Apple resembles the description of Annie Elizabeth in your number for January 29th last, being very large, green when gathered, except those exposed to the sun, which are red on the sunny side, and becoming yellow in the fruit-room about March and April. I have kept some till June in good condition. I believe these trees originally came from America. I know of no kind which can compare with this for great size, heavy crops, late-keeping, and excellent cooking properties.—*Wm. Jenkin, Roschill, Falmouth.*

Large Yield of Mushrooms.—Growers who are interested in the cultivation of Mushrooms in large quantities may be pleased to know of a strange freak that has been productive of a large yield of good Mushrooms for some weeks past. At Edgend Hall, Burnley—where Mr. J. C. Durao is usually very successful in the production of these edible fungi from his ordinary beds—has occurred an extraordinary yield of fine Mushrooms, that have sprung up abundantly amongst a large bed of Rhubarb roots placed at the back of a stove and underneath the stage. These roots, after being placed here, were covered over with the soil from an old exhausted Mushroom-bed, and evidently the heat of the stove has started into life a grand lot of spawn, which is now yielding an immense crop, and appears likely to go on for some time to come. Strange to say, very few of the Mushrooms have appeared on the surface of the soil, but have come up all over the Rhubarb roots; in fact, they are a living mass of Mushrooms. How long they are going to keep up a supply it seems hard to predict, for there seem to be hundreds, about the size of a button, coming in every direction round these Rhubarb roots. For the time of year, these Mushrooms ought to be considered valuable, and they are highly appreciated by his employer. If they could be produced in large quantities like this in the winter season, they would be a profitable crop to grow; but the question in my mind is this: Are the Rhubarb roots necessary for the production of this extraordinary yield, or is it simply some spawn that has been lying dormant, and sprung into new life with the heat of the house?—*W. G.*

Hardy Ferns for Pot Culture.—It has always been a matter of surprise to me that our hardy Ferns have not been used for pot culture. Numbers of gardeners have to supply plants by the score for house decoration, yet very few of them use hardy Ferns. For this purpose we find them invaluable, both in summer as well as winter, but more so in the latter case, when exotic Ferns are of little use for our purpose. They are grown in all sizes from a 3-in. pot to an 8-in. one, this being the largest size we use. Their culture is very simple indeed; we usually pick them off the back walls of the vineries, or of the pits and frames. They are put in the smallest pots possible till they become established. They are then potted on as they require it; any ordinary potting soil will suit them, provided it is porous. During the growing

season they require liberal supplies of water; those that are full of roots will be materially assisted by the judicious use of liquid manure. The plants do not require potting every season, we prefer them root-bound so that they can be well fed; they are also hardier and stand the atmosphere of the rooms with impunity. The Ferns should not be used until they have finished their growth, especially the deciduous species, of which there are many beautiful forms. It will be found an advantage to those who have the means to give them an early start, thus favouring their earlier maturity.—*James B. Riding.*

Bouvardias.—It is well to know that this useful winter-flowering plant can be readily propagated from cuttings of the old wood. The usual plan is to cut back the plants after they have done flowering, and place them in heat to induce them to break; when the young growths are about 2 ins. long, they are taken off with a heel and placed in a close propagating pit or hot-bed, and so treated they root very freely. The successful management of the plant depends, in a great measure, on the getting of early cuttings. This season, by seeing a piece of a branch which had been stuck in a pot pushing out fresh growth, I was induced to try some pots of cuttings of the old wood, and the results are very satisfactory. The young plants are earlier than those treated in the usual way; and the Bouvardias, as is well known, may also be propagated from root cuttings.—*A. W. D.*

Gros Colmar v. Lady Downes.—Mr. J. Udale's experience on the relative merits of these Grapes will be read with surprise by many who have grown the two in question. This experience has been gained under exceptional circumstances, for I think it will be generally admitted that Lady Downes would not be in favourable company with the Muscats, while the Gros Colmar would revel in such a house. If we take the former Grape grown in a late vinery, and the latter grown in the Muscat house, and then compare them, I think the Lady Downes would carry off the palm; at least such is my experience. I have never yet tasted Gros Colmar with a first-rate flavour, although I have tried many well-grown samples; its appearance is certainly much better than Lady Downes, and it will stand much heavier cropping; but when flavour is concerned it must certainly stand aside when compared with many of our late Grapes. It has become very fashionable of late years to laud the praises of this variety; I consider if the same amount of attention had been given to Lady Downes, or Mrs. Pince's Black Muscat, we should have been quite as well off; for if we except the one evil of Lady Downes, namely, scalding, which can be prevented by a little special management, it is undoubtedly our best late Grape. I have seen it in splendid condition in March and April after the Gros Colmars are done. No doubt the Gros Colmars have been planted to an enormous extent during the last few years, owing to its appearance on exhibition tables.—*James B. Riding.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

POTTING.—We are now potting our stock of *Hedychium Gardnerianum*, rendered necessary by the rhizomes having reached considerably over the sides of the pots, consequently, the young roots would have nothing wherein to establish themselves unless potted. Divide carefully, removing as much of the old rhizome as can well be spared, and keep the ends of the growths in re-potting towards the centre of the pots instead of towards the rim; by this means they last a season or two longer without a shift, of which, at all times, they are most impatient, presumably on account of their thick fleshy roots being so liable to injury.

IMANTOPHYLLUMS, which should now be throwing up their trusses of flower, will be much benefited if placed in a growing atmosphere, and liberally treated by frequent doses of liquid-manure water, always remembering to keep the plants thoroughly exposed to the light, or the colours of the flowers will not by any means be satisfactory. Cyclamen are flowering freely, and, of course, need abundance of water; a sprinkling of Clay's will be found of much advantage in bringing up the late flowers, which at times, from exhaustion, fail to come. We have potted on our old stock of

SHOW AND FANCY PELARGONIUMS, returning them

to the pit, where they can be kept close for a few days until they take to the new soil; after potting, give a watering to settle the soil about the ball, but exercise due caution afterwards until the plants are making a start in growth. Some of the larger zonals we have cut back and placed on shelves in the Peach house, the heat of which will just suit to start them into growth; these will be found of much service both for staging purposes and also for affording trusses for cutting, which are much appreciated during spring. Of good proved sorts it will be advisable that the prunings should be made into cuttings, and in all probability these will be found most useful later on.

THE FORCING HOUSES.

STRAWBERRIES.—Our earliest Strawberries are now throwing up their trusses well, and to strengthen them a good sprinkling of Clay's has been given to the surface of each pot; more air will also be admitted to the house in which they are growing, that they may not be unduly hastened, a mistake very frequently made when they are in flower; after the fruit is once set, they may be kept warmer, that is if fruit is required by a specified date, and any doubt is entertained; but hard forcing of this fruit should always be avoided. It should also be borne in mind that fruit picked from a hot temperature is always of inferior flavour; and to counteract this, a shelf or two should be arranged in some airy structure, whereon the plants bearing matured fruit may be placed for a day or two before being gathered for dessert. The successive batches placed in the vineries and Peach houses are also starting into growth, and more must also be introduced to keep up a full supply; in fact, where a house is not devoted entirely to the growth of this fruit, every favourable shelf should be allotted to it.

STANDARD ROSES.—We have placed in heat a nice batch of standard Marechal Niel and Devoniensis Roses, and also a good lot of dwarfs, which are most useful for staging purposes. Perhaps it will be advisable for me to remind the reader, that before placing the plants in heat the drainage should be examined. Any defect in this respect will be fatal to the production of good blooms. We also always give all the plants a good surfacing of rich material, for Roses are greedy subjects, and must be liberally treated.

MUSHROOMS.—As the earliest made-up Mushroom-beds show signs of exhaustion, and it is not thought desirable to make up new ones, allow them to go quite dry, and then give a watering of nice warm water, into which has been added a good sprinkling of common salt, afterwards treating as if in bearing. If new beds are required, half the old material may be mixed with new, and so much time gained, as drying is not necessary.

THE KITCHEN GARDEN.

SEA KALE CUTTINGS.—It will now be necessary to attend to the making of Sea Kale cuttings; be careful to use only the thongs for the purpose, using parts of the old crowns being most unsatisfactory in its results. Where the stock has become short or a change is desirable, it is far better to sow a good breadth in the spring, which can be lifted at pleasure during the winter, and will furnish an abundance of cuttings by simply cutting off the crowns; after the cuttings are once made they should be laid in any spare corner where they can be kept moist until required for planting, which should be done by the middle of next month. The crown of the cutting should be placed half-an-inch under the soil, and if slugs are at all troublesome, as they frequently are, a good dusting of gas-lime should be given to the surface of the square, which will effectually stop their depredations.

We have completed the double digging of the quarters for Sea Kale and Brussels Sprouts, a most necessary precaution, because, if not prepared in good time, really first-class produce cannot be expected; ordinary growing of the latter crop is a thing of the past. We have been continuously picking good sprouts from our batch since the middle of last August until now. By the way, our spring sowing of these, Cauliflower and Lettuce are almost ready for pricking out and must be attended to, or they are apt to damp off; let the lights be removed from them as much as possible during the day, but not at night during frosty weather. We have made the sowing of Peas and Beans as advised, and also planted Garlic and Shallots.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Orchids at Studley House, Hammer-smith.—Among the collections of Orchids in the neighbourhood of London, that of F. G. Tautz, Esq., at Goldhawk Road, Hammersmith, stands forth as a model of neatness and good culture. Not only are all the things under the care of Mr. Cowley, his Orchid grower, well-managed, healthy and clean, but in some of the sections, such as the Cypripediums—of which every procurable kind, both species and hybrid, are included—an aptness in dealing with a varied collection representing such a wide geographical range is displayed, which produces the highest cultural results. Perhaps the most salient feature of the whole collection are these Cypripediums—pretty in leaf and handsome and curious in flower, numerous and diverse in the character of the imported species, and rendered endless in their diversity by the aid of the hybridist, who seems to have anything but exhausted this pleasant and fertile subject. Indeed, Mr. Tautz himself has entered his hand at this interesting work, and his perfect collection should enable him to produce some eminently desirable things, especially as he admits only the best varieties to work upon.

Among the Cypripediums in flower at Studley House are the new *C. callosum*, with superbly marked dorsal sepal, $2\frac{1}{2}$ ins. across and two flowers on a stem; the fine *C. Boxalli atratum*, the best of its kind; many *C. venustum* hybrids, including *C. calophyllum*, *C. politum* and *C. Meirax*; *C. calurum*, *C. Williamsianum*, *C. Salieri*, *C. villosum*, *C. concolor*, *C. Dauthieri marmoratum*, a most extraordinary variety, with flowers like those of *C. Harrisianum*, but mottled and flaked like a bizarre Carnation; and a fine series of new forms of *C. insigne*, of which the best, perhaps, is that named *grandis*, which has finely formed flowers, with round dorsal sepals edged with white and spotted with violet.

The Orchid show-house is filled with well-bloomed plants, some large paus of the favourite *Cœlogyne cristata* being prominent by their chaste white flowers; with them are fine plants of *Cattleya Trianae*, *C. Percivaliana*, *Lælia anceps*, *L. a. Stella*, *L. albida*, *Dendrobium heterocarpum*, *Pilumna nobilis*, *Scarlet Sophronitis*, *Odontoglossum Rossii majus*, *O. Cervantesii*, and other *Odontoglossums*, as well as most of the other Orchids usually found in flower at this season. In the East Indian house, in bloom, are *Saccolabium bellinum*, *S. giganteum*, *Ærides Leeanaum*, *Angræcum caudatum*, *A. citratum* and *Dendrobium luteolum*, together with large numbers of *Dendrobes* and other plants in bud.

The *Phalænopsis* house is arranged with *Phalænopsis* hanging overhead, with some of the large *Nepenthes* bearing very fine pitchers and foliage, and flowering stove plants beneath. The house presents a pretty appearance, with the arching sprays of *P. Stuartiana* and *P. Schilleriana* overhead, and the mingled flowers of the scarlet *Anthurium Andreanum*, the white *Eucharis*, the fragrant *Gardeuia citriodora*, and an occasional Orchid with beautiful foliage, such as *Vanda Lowii*, among the other handsome-leaved plants beneath.

The cool houses, just about to furnish their flowers, are occupied by plants in the most robust health; and, perhaps, the best example of *Odontoglossum vexillarium* culture to be found in the neighbourhood of London is that displayed by the goodly array of them at Studley House, which Mr. Cowley carefully guards from moisture on the leaves at all times, and attributes much of his success with them to that fact; indeed, the syringe is no favourite of his. In conclusion, we may say that those who wish to see a select collection of rare and well-grown plants in a small compass should avail themselves of the first opportunity to see that of Mr. F. G. Tautz.

Ada aurantiaca.—Are distinct forms of *Ada aurantiaca* recognised? We have a plant in bloom which I believe to be the type, with orange-red flowers; and two other plants, which flower from a fortnight to three weeks later, having deeper orange and larger flowers. I fancied the time of blooming might have been affected by the previous treatment of the plants; but the difference has proved to be constant.—*George F. Wilson.* [Only one species of *Ada* is known—namely, *A. aurantiaca*. It is widely distributed in gardens, and must have been largely imported from the Columbian Andes. Hitherto, however, no variety seems to be sufficiently distinct to call for any special

varietal name. We have noticed a marked difference in the size of flowers borne by some plants compared with that of others; but as the flowering period was the same in both, the difference was attributed to a more vigorous state of growth. It would be interesting to continue the observations, and see how far the distinctions you note remain constant in consecutive years.—*ED.*]

Arachnanthe Cathcarti (Vanda Cathcarti).—According to the *Genera Plantarum*, the affinities of this plant are to be found in the species of *Arachnanthe* proper connected through the medium of *A. Lowii*. Lindley, however, described it under the name of *Vanda*, but it differs from that genus in the labellum being nicely hinged to the base of the column, and in the absence of a sac or spur to the latter organ. The function of a nectary is performed by a deep cavity piercing the labellum longitudinally from the base upwards. The whole flower is most remarkable, and differs from all the other species, including the equally important *A. Lowii*, to which it claims the greatest affinity. The sepals and the petals are broad, elliptic, very obtuse, much imbricated in the lower half. They are thick and of great substance, almost leathery, of a fine glossy yellow colour, and most singularly banded with transverse brownish red lines arranged concentrically, having the column for their centre. The labellum is suspended by a fine hinge from the base of the column, is fleshy, white with two central red lines, and a strongly upturned yellow margin. The whole bears a most striking resemblance to the human jaw, even to the gums with a slight indication of teeth. It is a native of the Himalayas, and is figured in Hooker's *Illustrations of Himalayan Plants*, t. 23, and the *Botanical Magazine*, t. 5345. A large plant against the back wall of a lean-to stove at Pendell Court flowers annually at this season under the care of Mr. Ross.—*J. F.*

Lælia Crawshayana.—In your notice of this at p. 380, the writer says, “. . . . *L. anceps*, with which the stature and general appearance of the plant may be compared.” Of course there may be variety of habit in this as well as in other Orchids, but my plant, the original one, is as like a *Lælia albida* with the bulb very slightly flattened as it can well be; in fact, before it bloomed I thought it was *albida*. I should much like to know how many plants there are of it now; up to the present I only know of five holders of it, therefore it may be called rare.—*De B. Crawshay.*

Cymbidium giganteum.—The flowers of this Indian Orchid are amongst the boldest of the species in cultivation, and, although they cannot compare either with the purity or fragrance of the spring-flowering *C. eburneum*, they are, nevertheless, most acceptable at a season when flowers of any kind are by no means over plentiful. The species is a strong-growing one from Nepal, with numerous long arching leaves, producing many-flowered scapes from the base of the plant. The flowers are large and fragrant when at their best, with broad incurved sepals and petals that are yellowish green or more often yellowish brown striped with purple. The labellum is much more conspicuous and highly coloured, with a distinct yellow hue, often passing into white and more or less closely spotted with crimson. It is figured in Lindley's *Sertum*, t. 4, and in the *Botanical Magazine*, t. 4844, but living specimens vary much in colour, and often appear different from coloured illustrations. The flowers appear in winter and last a long time in perfection. They are now passing out of season in Mr. Starling's collection at The Chestnuts, Gunnersbury.

Phalænopsis Stuartiana.—Mr. Cooper, gardener to the Right Hon. J. Chamberlain, M.P., has favoured us with a flower of *Phalænopsis Stuartiana*, the sepals, petals and labellum of which were normal, but superposed to the latter was a second labellum. This accessory organ was smaller with one side only developed, one lateral lobe and half of the crest being suppressed. The column was more singularly malformed, of great size, and appearing proliferated, representing a considerable number of anthers, with their caps and orange pollinia more or less perfectly developed. Mr. Cooper says that all the other flowers on the plant were similarly developed. This separation of parts would appear to be frequent, and recalls Major Lendy's variety figured in our columns February 27th, 1886, p. 412. P. S. Lendyana has remarkably broad petals, with a process on the base of each comparable

to the crest, and having other characteristics of the labellum. This attempt at regularity is constant, as exhibited annually by the plant in Major Lendy's collection.

Lælia albida, orange-tinted variety.—The most remarkable form of *L. albida* we have yet seen is now in flower at Mr. J. E. Bonny's, Hextable Nursery, Swanley, Kent. In shape it is a fine form of *L. albida*, but in colour it is just what *L. albida* would be if it were possible to cross it with *Epidendrum vitellinum*, the whole of the flower being suffused with an orange tint, which gives it a glowing appearance. It is a most beautiful form of a very pretty and fragrant plant, and it came out of Mr. Fred. Horsman's importations.

Orchids from Howick House, Preston.—Some noble spikes of *Dendrobium bigibbum*, bearing seven or eight flowers each, have reached us from Mr. Wrigley's gardener, Mr. W. Swan. The intense rosy purple of the sepals and petals on two of the spikes was a notable feature of the flowers; but this was much exceeded by that of the labellum. Their great size exceeds any that we have seen, and recalls those of the allied *D. Phalenopsis*. The flowers of the distinct *D. Goldiei* were most welcome, and of a deep claret-purple colour. This is much intensified on the labellum, which is further characterised by three curiously-fringed lamellæ. The sepals are conspicuously margined with white. The flowers of the superb *Lælia harpophylla* and *L. cinnabarina* resemble each other in general appearance, but are easily distinguishable. Those of the last-named are darker in colour, the labellum is beautifully striped internally, and the long lateral lobes are crisped; while there are no stripes on *L. harpophylla*, the lateral lobes of the labellum are shorter and plain, and the middle lobe has a broad white margin.

Odontoglossum Rossii majus rubescens.—In reply to Mr. Cypher's query, at p. 379, on this Orchid's scent, I can affirm it also. My plant, now carrying one spike with four, and three with three flowers, is like a bunch of Violets in the house.—*De B. Crawshaw.*

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE twenty-first annual meeting of this society was held on Monday evening last at the "Caledonian Hotel," Adelphi, London, Mr. Richard Dean presiding. The meeting was the largest ever held by the society, the room not being large enough for the accommodation of the members. After the election of ten new members and the nomination of several others, Mr. James Hudson, the treasurer, who since Mr. McElroy's death has discharged the duties of the secretary, read the annual report for 1886, which was as follows:—

"The officers of the society have much pleasure in again presenting to the members (and for the information of the profession in general) the report and balance-sheet of the year ending January 10th, 1887. They are glad to say that the number of members continues to increase steadily, and there is constant inquiry being made by gardeners throughout the country for the rules and regulations governing the society. They appeal to each member for assistance in furthering the interests of the society by making its benefits and advantages known whenever they have the opportunity to do so. Everyone can thus aid in a considerable measure towards making it a still greater success, remembering, as we do, that our motto is "Union is Strength," which, with "unity" in regard to our interests, must result in making us a far stronger body than we are at present.

"We have now reached our twenty-first annual meeting, and, in revising the work of the past twenty-one years, there is reason for congratulation that the objects had in view by those of our number who aided in forming the society have been verified to a considerable extent.

"We have assisted those who have been laid aside by sickness; have aided those children who were bereft of both parents; and last, but not least, we have been able in many cases to hand over a good sum of money to the widows of our late members, the thankfulness with which the latter sums have been received being testified to in many instances.

"We have to deplore the loss of our indefatigable and hardworking secretary, the late Mr. John F. McElroy, who had the interests of our society so thoroughly at heart for the entire period of his service in that capacity—viz., fourteen years. The letters that have been received by the treasurer whilst acting as secretary *pro tem.* have with one accord borne the highest testimony to his earnest endeavours on their behalf; whilst the punctuality of his communications, the kind advice given to those who reside at a distance, and the opinions formed by several who had never seen him, but framed the value of his labours by the character of the man as shown in his letters to them, could hardly have been exceeded had they had the pleasure of his personal acquaintance, which so many of us have derived benefit from during the long period which he served us."

The benefit fund accounts show that the income during the year was £346 8s. 10d., this including the

contributions of 177 members, and the interest amounting to £63 6s. 4d. accruing from invested funds. The disbursements, including a payment of £19 9s. 7½d. to the widow of a deceased member, were £46 8s. 4½d., and the balance in hand on January 10th was £2,482 5s. 10½d. The benevolent fund, from which no grants have been called for during the year, has increased from £1,018 2s. 11d. to £1,092 0s. 1½d. during the year—a gain of £73 17s. 2½d. The management fund showed a balance in favour of the society of £5 16s. 6d., and this sum the chairman was instructed to send to Mrs. McElroy with a letter of sympathy expressive of the feelings of the members. The balance from this fund is the only emolument the late secretary accepted, though the rules empower the payment of £20 a year to the secretary. It is desirable that means be devised for increasing this fund, and suggestions were made with that object; as at present it is quite inadequate for providing the secretary's salary, apart from furthering the interests of the society and extending its usefulness. The additions of honorary members include C. M. Major, Esq., Cromwell House, Croydon; Messrs. Sutton & Sons, Reading; and Mr. John Laing, Forest Hill. The payments to sick members during the year amounted to £17 7s., this being met by deducting 1s. 8d. from each member's contributions, the remainder, or £1 4s. 4d. out of £1 6s., being added to his deposit account. In the case of some of the older members the interest arising from their accumulated deposit now equals their annual contributions. The sum of £352 17s. 6d. has been invested in Consols during the year, and the total amount now invested in the same is £3,650.

The report being adopted, the meeting proceeded to elect four members of committee in the place of an equal number retiring by rotation, and the following were consequently elected:—Messrs. E. Berry, H. Heims, E. Wheeler and W. Wright. There were three applicants for the secretarial vacancy, and Mr. W. Collins, gardener, Chivos House, Poynders Road, Clapham Park, London, S.W., was elected almost unanimously. Mr. W. Foreman was elected in his place on the committee. A suggestion made by the chairman to the effect that the society having attained its majority in the Jubilee year of Her Majesty's reign, the occasion would be appropriate for a commemorative gathering of the members, met with general approval, and the subject will be considered at a future meeting. In respect to the death of Mr. McElroy, it was desired that the following expression of the meeting be recorded on the minutes: "The members of this society in annual general meeting assembled desire earnestly and unanimously to record their deep sense of the loss the society has sustained by the death of Mr. J. F. McElroy, who, for a period of fourteen years, was the indefatigable secretary of the society, during which time he won not only the confidence, but the affection of the members." A cordial vote of thanks to the chairman terminated the proceedings.

HORTICULTURAL SOCIETIES.

National Chrysanthemum.—The general committee of this society held their first meeting of the season at the Old Four Swans, Bishopsgate Street, on Monday last; there was an excellent attendance of both members of the committee and representatives of affiliated societies. At the last general meeting a sub-committee was appointed to prepare the draft schedule for the current year, and the principal business on Monday was to receive the report of this sub-committee.

Before proceeding with the draft schedule it was decided that the Floral Committee should as heretofore consist of sixteen members; there were twenty-two nominations for this committee, and ultimately the choice fell to the following members:—Messrs. T. Bevan, H. Cannell, R. Dean, N. Davis, G. Gilby, G. Gordon, G. Gibson, J. P. Kendall, H. Mardlin, G. Stevens, R. Swift, J. Wright, R. Owen, L. Castle, G. Langdon and E. Kemp. The following gentlemen were then elected stewards for the exhibitions:—Messrs. G. S. Addison, W. E. Boyce, W. Blake, T. Bevan, H. Crane, R. Dean, G. Drain, H. Figgues, E. F. Kemp, G. Langdon, F. J. Long and H. Payne. Several new members were duly proposed and elected, and The Royal Cornwall Polytechnic Chrysanthemum Society's proposal for affiliation was accepted. The dates of the three exhibitions to be held at the Royal Aquarium were fixed as follows, September 14th and 15th, November 9th and 10th, and January 11th and 12th. The Floral Committee will hold meetings at the same place on September 14th, October 12th and 26th, November 9th and 23rd, and December 7th.

A lengthy discussion took place upon the question, so often being asked, "What is the proper definition of an amateur?" and it was ultimately decided that in the new schedule a note should appear as a suggestion for the guidance of affiliated societies in defining persons entitled to exhibit in the amateur classes—"That an amateur is a person who does not at any time employ skilled labour or derive any pecuniary benefit." Several more alterations were made in the rules, and amongst the special prizes offered at the November exhibition are a silver cup by Messrs. Wood & Son,

and several prizes, amounting in all to £20, by Messrs. Cannell & Son, for the best stands of their new varieties of Chrysanthemums sent out this season. The six Veitch Memorial medals will also be a great attraction.

Manchester Horticultural Improvement.—*Feb. 10th.*—At this meeting, over which Mr. Robert Tait presided, Mr. Forrester, gardener, Beechwood, Rochdale, read a paper on some of our common insects, and the importance of their destruction—a subject which is, he said, of value to horticulturists. The casual observer would agree that plants or animals infested with parasites are neither so pleasing or inviting as those without them. The beauty and value of plants depend on their being clean and healthy, or infested and sickly. Insects, if allowed to go unchecked, not only rob plants of their beauty, but the effects are often fatal. The insignificance of insects seems balanced by their number; for, according to some authors, they furnish four-fifths to the number of existing species of the animal kingdom. After naming some of the common insects to be found in plants and fruits, Mr. Forrester gave some excellent hints as to how they might be destroyed. As prevention was better than cure, efforts should be put forth to keep plants, trees, and fruits free from insects. If that failed, then some remedial measures must be resorted to. It was an admitted fact that sickly plants are more subject to the depredations of insects than healthy ones. The main cause of great numbers of insects infesting plants in glass structures is the want of sufficient moisture at the roots and in the air. We often see plants perched on dry shelves and stages, which facilitates the development of insects. The best stages for the majority of plants are those made of slate or stone, and covered with some fine gravel or other substance which will absorb moisture, and give it out when required. The syringe must be freely used in hot weather, or where artificial heat is kept up; and instead of a mere dewing over, a thorough drenching is often required. He might add that painting yearly the woodwork and walls of plant houses is an excellent means of clearing away insects. If this cannot be done, the houses should be washed down with paraffin oil, which will bring about similar results so far as insects are concerned.

The chairman, Messrs. Plant, Upjohn, and Birkenhead took part in the discussion which followed the reading of the paper.

QUESTIONS & ANSWERS.

LILIUM KRAMERI.—How should I treat *Lilium Kramerii*? I find my bulbs deteriorate and go off altogether.—*J. B.* [You do not state the treatment you give your bulbs, or whether they are grown indoors or outside. All the forms of *L. japonicum*, of which *Kramerii* is one, are liable to die out in our climate when planted in the open ground. When so treated, however, they flower freely for a year or two if the bulbs are strong. If weak, it would be safer to treat the *Lilium* in question as a greenhouse plant, by potting it in good fibrous loam with which some peat or leaf soil and a good sprinkling of sand is incorporated. As the bulbs get strong they require plenty of root room to flower well, and must not be overwatered either when starting into growth or ripening off.]

HORTICULTURAL DEMOCRATIC UNION.—*H. G. A.* has not complied with our rules, by sending his name and address.

HOT-BEDS.—Will anything else do to mix with manure for a hot-bed where neither leaves nor tan are obtainable?—*W. W.* [You can add sawdust, but why not use the manure alone?]

LYCASTE SKINNERI.—Could I grow *Lycaste Skinneri* and *Oncidium cucullatum* in a greenhouse? I may say that I manage to bloom *Odontoglossum Alexandræ*.—*J. B.* [The Orchids you mention are cool-house subjects, and may undoubtedly be grown in a greenhouse, as they have been by other amateurs possessing only such conveniences. *Cypripedium insigne*, *C. venustum*, *Odontoglossum Rossii* and many others will succeed if the atmosphere is kept as moist as possible during growth.]

SULPHATE OF AMMONIA.—Will you oblige me with directions how to use Sulphate of Ammonia; i. e. it to be applied mixed with water for outside crops, and in what proportion, or sprinkled on the surface of the soil and forked in?—*H. J. O.* [Use it with water at the rate of ½-oz. to a gallon, and be careful not to touch the foliage.]

RASPBERRY.—Which is the best and largest red Raspberry for general crop?—*H. J. O.* [We should give the preference to Baumforth's Seedling.]

PRESERVING FUNGI.—I shall feel obliged if you can tell me how to preserve Fungi.—*C. B.* [To two pints of sulphuric acid add four quarts of water and one pint of creosote, mixing the whole well together; bottle the Fungi in this and cork tightly. Perhaps some of our readers can tell "C. B." of an easier method.]

HERBACEOUS CALCEOLARIAS.—Can any of your readers inform me how large were the biggest herbaceous Calceolarias that have been exhibited? I believe at Brighton, some thirty years ago, they were shown measuring over five feet, but I should like to know for a fact.—*An Improver.*

NAMES OF PLANTS.—*Levenshulme*: 1, *Odontoglossum Oerstedii*; 2, what is the habit of this? Can you send us a bit of old growth? 3, *Oncidium reflexum*. *W. Robinson*: *Cœlogyne flaccida*. *Con.*: *Zygopetalum intermedium*.

COMMUNICATIONS RECEIVED.—*W. G.*—*J. W.* (many thanks)—*R. D.*—*R. O.*—*B. L.*—*Wales*—*M. T.*—*D. Chisholm*—*Con.*—*C. G.*—*W. K.*—*W. E. G.*—*J. M. H.*—*R. H. M.*—*R. E. F.*

LONDON SEED TRADE.

February 17th, 1887.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate enquiry for Clover seeds. English Red Clover is still offering at lower rates and meets with few buyers. German White Clover is cheaper. No change in values of foreign Red Clover, Alsike, or Trefoil. Rye Grasses are firm. No change to report in Bird Seeds.

COVENT GARDEN MARKET.

February 17th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.	
Apples, $\frac{1}{2}$ sieve	2	0	5	Pine-apples, St.		
Grapes.....per lb.	2	0	4	Michaels, each	1 6 6 0	
Kent Cobbs...100 lbs.	60	0	65	0	Pine-apples, Eng., lb.	1 0 1 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0	
Beans, French, per lb.	2	0	2	6	Lettuces ..per dozen	1	6		
Beet, per dozen.....	2	0	3	0	Mushrooms, p. basket	1	0	2	0
Brussel Sprouts, per lb.	0	3			Onions, per bushel ..	4	0	5	0
Cabbages ...per doz.	2	0	2	6	Parsley, per bunch ..	0	6		
Carrots, per bunch ..	0	6			Radishes, per dozen..	1	6		
Cauliflowers, English,					Sea Kale ..per basket	1	6	2	6
per dozen	3	0	5	0	Small salading, punnet	0	4		
Celery, per bundle ..	2	0	2	6	Spinach, per strike ..	2	0		
Cucumbers, each	1	0	1	3	Tomatos, per lb.	1	0	2	6
Endive, French, doz.	2	6	3	6	Turnips.... per bun.	0	6		
Herbs, per bunch....	0	2	0	4					

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Arum Lilies, 12 blms.	3	0	5	Marguerites, 12 bun...	3	0	6	0	
Azalea, 12 sprays	0	6	1	0	Mignonette, 12 bun...	4	0	6	0
Bouvardias, per bun.	1	0	1	6	Parma Violets(French),				
Camellias .12 blooms	2	0	4	0	per bunch	3	0	4	6
Carnations, 12 blooms	1	0	3	0	Pelargoniums, scarlet				
Cut Tulips, 12 blooms	0	9	1	3	12 sprays..	0	6	1	0
Czar Violets (French),					Primula, double, bun.	0	9	1	6
per bunch 1 6 2 0					— single ...12 bun.	4	0	6	0
Daffodils ..12 blooms	0	6	1	6	Roses (coloured)	3	0	6	0
Epiphyllum, 12 blms.	0	6	1	0	Roses, Tea per dozen	1	6	4	0
Eucharis, per dozen..	3	0	6	0	Roses, red (French),				
Gardenias, 12 blooms.	12	0	30	0	per doz.	1	6	2	0
Heliotropes, 12 sprays	0	6	1	0	— Safrano (French),				
Lapageria, red,					per doz.	1	0	2	0
12 blooms 1 0 2 0					Tropæolums	1	0	2	0
Lapageria, white,					Tuberose, per dozen.	2	0	4	0
12 blooms 2 0 4 0					Violets ..12 bunches	1	6	2	6
Lilies of the Valley					White Jasmine, bun.	0	6	0	9
12 sprays 0 9 1 6					Xmas. Roses, 12 blooms	0	4	0	9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Aralia Sieboldi, doz.	6	0	18	0	Ficus elastica, each..	1	6	7	6
Arum Lilies, per doz.	18	0	24	0	Foliage Plants, vari-				
Cyperus, per dozen ..	4	0	12	0	ous, each.....	2	0	10	6
Daffodils ...12 pots	8	0	10	0	Hyacinths, per doz.pts.	6	0	9	0
Dracena term., doz.	30	0	60	0	Lily of the Valley,				
— viridis, per dozen	1	0	24	0	12 pots	12	0	24	0
Epiphyllum, per doz.	18	0	30	0	Marguerites, per doz.	6	0	12	0
Erica hyemalis ...doz.	12	0	24	0	Palms in variety, each	2	6	21	0
— Regerminans...doz.	9	0	12	0	Pelargoniums,scarlet,				
— various ..per doz.	8	0	24	0	per dozen	6	0	9	0
Evergreens, in var.,					Primula sinensis,p.dz.	4	0	6	0
per dozen	6	0	24	0	Solanums....per doz.	9	0	12	0
Ferns, in var., doz.	4	0	18	0	Tulips ..per doz. pots	6	0	8	0

Never before offered at such prices.

DWARF ROSES, 21s. per 100; Seakale, strong, for forcing, 40s. per 1,000; Planting, 25s. per 1,000; Asparagus, 2 years, 10s. per 1,000; 3 years, 15s. per 1,000; two new Strawberries, the Captain and King of the Earlies, 3s. per 100. All of good quality, and the best money can buy. Cash with all orders.—R. LOCKE, Wrotham, Kent.

Cedrus Deodara.

THE LARGEST STOCK IN THE COUNTRY; from 3 ft. to 12 ft. and upwards. Prices very moderate. Catalogue on application to—

H. LANE & SON, The Nurseries, Berkhamsted, Herts.

NEW PLANT & BULB COMPANY,

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No. 81. Our SPECIAL LIST OF ORCHIDS.
No. 84. Our GENERAL LIST OF LILIES, NARCISSI, &c.
No. 85. Our SPECIAL LIST OF IRIS.
No. 86. Our SPECIAL SPRING LISTS OF LILIES, GLADIOLI,

HORTICULTURAL SOILS, MANURES, SUNDRIES, AND POTTERY.

Trepho for Orchids
Peat for Orchids & General Use
Loam, Sand, coarse and fine
Compost and Small Peat
Sphagnum Moss and Leaf Mould
Spar Gravel and Shell Shingle
Cocoa-fibre Refuse
Guano (best), Fish Potash
Manure
Manures and Bones, all kinds
Gishurst compound and Gishurstine
Tobacco Paper, Cloth, Powder, and Juice
Quassia Chips and Insecticides
Aphicides and Aphid Brushes
Fumigators, "Tebb's Universal"
Garden Pencils, Pot Brushes

Sticks, Stakes, and Labels, various
Teak Baskets, Rafts, Boats, &c.
Truck Baskets, Virgin Cork
Charcoal, large and small
Mats, Raffia, and Tarred Twine
Parcel Post Boxes and Tags
Pruning and Budding Knives and Scissors
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Wire Netting and Tanned Netting
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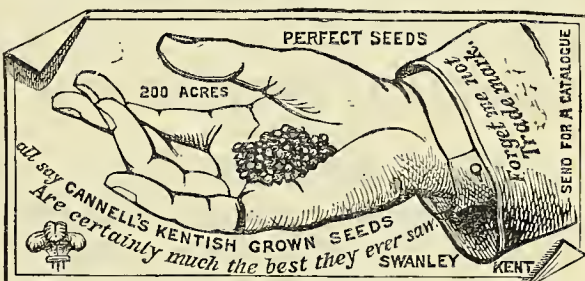
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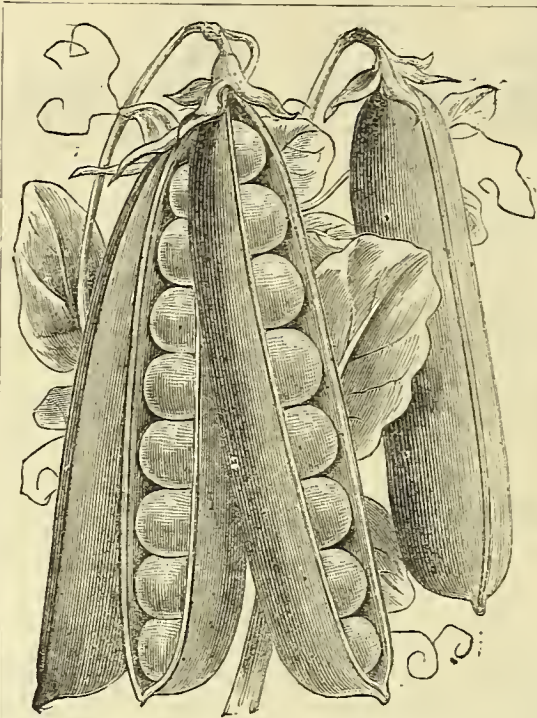
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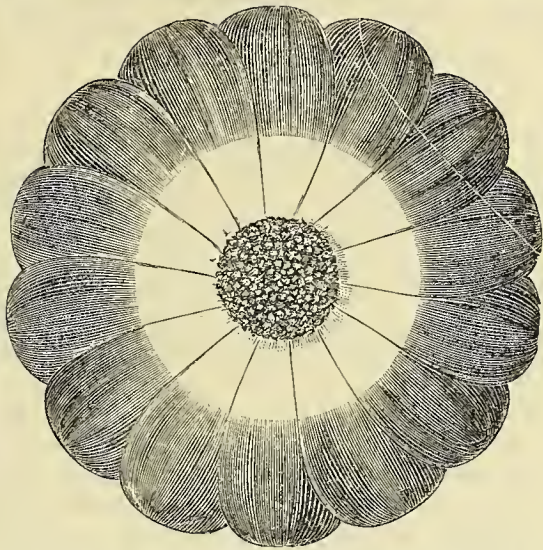
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Royal Berks Seed Establishment, Reading.

The Liverpool Horticultural Association Exhibitions for 1887.
THE SPRING SHOW of Hyacinths, Tulips, Azaleas, Forced Hardy Plants, &c., will be held in St. George's Hall, on Wednesday, March 16th.
Grand Exhibition in Sefton Park, on Saturday and Monday, July 30th and August 1st.
The Great Chrysanthemum and Fruit Show, on Tuesday and Wednesday, November 22nd and 23rd.
Liberal and special prizes are offered.
Schedules now ready, and may be had from the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Huyton, Liverpool.

PRESTON AND FULWOOD HORTICULTURAL SOCIETY.—The Ninth Great Spring Flower Show and Floral Fête will be held in the New Public Hall, Preston, on Thursday and Friday, the 17th and 18th of March next. Schedules of prizes and other information from the Secretary, Mr. JOHN ATHERTON, Feru Bank, Cadley, Preston.

Birmingham and Midland Counties Chrysanthemum, Fruit, and Floricultural Society.

THE Twenty-seventh Annual Exhibition of Chrysanthemums, Fruit, &c., will be held in the Town Hall, Birmingham, on November 16th and 17th next, when the following liberal Prizes for Fruit will be offered open to all England:—

	First	Second	Third
Grapes, 6 bunches, not less than 3 varieties	£ s. d. 5 0 0	£ s. d. 3 0 0	£ s. d. 2 0 0
" 3 " black	2 10 0	2 0 0	1 0 0
" 3 " white (Muscats)	3 0 0	2 0 0	1 0 0
" 2 " " (excluded)	1 0 0	0 15 0	0 10 0
" 1 " " any variety	1 0 0	0 15 0	0 10 0
" 1 " black	1 0 0	0 15 0	0 10 0

Schedules ready in about a fortnight, and can be had on application to the Secretary,
J. HUGHES, Metchley Lane, Harborne, Birmingham.

Next Week's Engagements.
MONDAY, Feb. 28th.—Sale of Lily Bulbs, &c. from Japan, at Stevens' Rooms.
TUESDAY, March 1st.—Sale of Roses, Plants, &c. at the City Auction Rooms; and of Orchids at Protheroe & Morris's Rooms.
WEDNESDAY, March 2nd.—Sale of Roses, Hardy Plants, &c. at Stevens' Rooms; and at Protheroe & Morris's Rooms.
THURSDAY, March 3rd.—Sale of Imported Orchids at Stevens' Rooms. Clearance Sale of Sea Kale and Rhubarb at American Exhibition, Earl's Court, by Protheroe & Morris.
FRIDAY, March 4th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.
SATURDAY, March 5th.—Sale of Roses, Hardy Plants, &c., at Stevens' Rooms.

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 26, 1887.

THE TRADE IN "COLLECTIONS."—We are just now in the season of collections—not, gentle readers, of church or charity collections, for they are ever with us, but of collections of seeds, plants, and similar garden products. Practical readers of the technical garden papers are not so largely familiarised with these collections as are the amateur and cottager elements in gardening, to whom they are acceptable or otherwise, just as the contents are found useful or useless. Collections have grown out of the sharp competition which besets every form of horticultural trade, and in catering for what may be termed the requirements of the masses, it is probable that enterprising seedsmen and plant growers have found profit.

We do not assume for a moment that in compiling small cheap collections tradesmen desire to dispose of inferior seeds; we know that the case is otherwise, for we have been enabled to

test the growth of some cheap collections in past years, and have found it to be entirely satisfactory. But the quality in other respects is naturally of the commonest or cheapest kind; as really first-class things, whether in the form of seeds, plants, or cuttings, could not be retailed, unless the bulk were of very ordinary quality. Still, there may be thousands having very small gardens, and troubled as to what seeds to purchase, to whom one of these collections of seeds may come as a boon. On the other hand, the chief difficulty which presents itself to those who have some knowledge of gardening is that a collection may give just the things not required, and omit those most desired. In all such cases the very best course to take is to order what is wanted as per catalogue, and leave the collections alone. It is very probable that the greater the garden knowledge the more will that course be adopted, and seedsmen will hardly complain, as collections create so much work, and at the best leave a very narrow margin of profit.

We are just now referring only to those collections, ranging from one shilling up to five shillings in value, the preparing of which must demand considerable outlay in labour, even if the first cost of the seeds is trifling. Before us lie one collection of vegetable seeds and one of flower seeds, each valued at one shilling, though really costing twopence more for postage. In the one case we find sixteen small packets of such things as ridge Cucumber, Vegetable Marrow, Savoy and white Cabbages, white Cos Lettuce, Leek, Onion, red and white Celeries, Autumn Giant and Sprouting Broccolis, &c., all very useful in a cottage garden, and each packet at the very least well worth one penny. Then of flower seeds for the same price we find no less than twenty packets, chiefly hardy annuals, and presenting enough of material to make any cottage flower garden exceedingly gay.

Taken in bulk, perhaps, the seed may have cost not more than fourpence; but each kind is in a neat packet, fully named and described, and the packeting alone of these twenty sorts of seeds must have entailed considerable labour. Whether the kinds sent be common or otherwise, whether desired or not, at least all are useful, and in no case can it be said that money's worth is not given. Probably, to poor people, and especially to children who have school gardens or allotments, it would be difficult to find other presents so useful and so acceptable as these seed collections. It is to the honour of the seed trade that whatever may be said as to commonness or usefulness, there is not the least attempt to impose, and full value for money is given.

Turning to other collections, still of the same low price, we find one of vegetables, which includes eight really good packets of the following, each packet not purchasable singly probably under twopence or threepence:—Spanish Onion, white Turnip, Altringham Carrot, Drumhead Savoy, mixed Lettuce, Mammoth Broccoli, Student Parsnip, and Radish. Another comprises one pint of Supreme Peas, one pint of Broad Beans, and a packet each of Cabbage, Carrot, Onion, Lettuce, Parsnip, and Turnip—a very cheap lot indeed; so much so, that these collections will be sold only in quantity, and we should think a big trade would be needful to make it profitable. In this case also the flower seed collection comprises thirteen packets only, but larger than in the previous one of twenty packets, and includes rather better quality. Of course larger collections, which cost more money, include greater variety; but enough has been said to show the nature of the competition going on in the seed trade, and the meagre profits which flow from that competition. Of course traders of this sort have to appeal

to the million literally, and they do so chiefly through the agency of the press; so that advertising must make an appreciable hole in the narrow margin of profit.

We have drawn our readers' attention to this phase of trade, because it presents almost a curiosity of commerce; and the same may be said of the plant collections which are offered so cheaply in the spring. Of course the Parcels Post has made this form of trade possible; but the plants are necessarily of the smallest, and too often are fresh from cutting-pots and heat. In such case they need a month in a frame or greenhouse to make them at all useful. It will thus be seen that as investments the seed collections are the most meritorious.

THE QUEEN has been graciously pleased to permit the dedication to Her Majesty of Mr. E. J. Beale's forthcoming book on Messrs. James Carter & Co.'s experiments relating to Tobacco cultivation.

THE ANNUAL MEETING of the ROYAL SOUTHAMPTON HORTICULTURAL SOCIETY was held on Thursday evening, when the council, for the first time for many years, had the pleasure of producing a statement of accounts showing a considerable cash balance.

THE AMARYLLIS at Messrs. James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, are just opening their first flowers, and promise to be even finer this year than ever. In the centre bed alone there are over 1,000 large bulbs with from one to three spikes each, and in the main house there are nearly 3,000 flowering bulbs.

FROM Mr. B. S. Williams we have received some blooms of his CHINESE PRIMULA, MAGENTA QUEEN, a new variety of good substance and bright colour, with a small bright lemon eye. Like some other sorts of a similar shade of colour, the blooms are flecked with white spots, which we hope in time to see eliminated.

MR. MAW exhibited at the last meeting of the Scientific Committee a drawing of *Crocus Karduchorum*, collected by Mr. Hubbard in the neighbourhood of Sivas in 1885, 3° or 4° west of Mükus and Sherwan, where it was originally discovered by Theo. Kotschy. It is allied to *C. zonatus* of the Taurus, but a much smaller plant, with exceptionally small leaves, lasting on till the ensuing flowering time; two sets of leaves thus occurring contemporaneously, one being hidden within the sheathing leaves.

MR. R. C. TREATT, Dunster House, Mincing Lane, has published some notes on the CULTIVATION OF THE ROSE TREE, and on the ATTAR OF ROSE TRADE. The latter portion of the brochure is devoted to statistics of the trade, which may be of value or interest to some; but as regards the first portion, the author's opening statements, that "*Rosa caudata* is the species from which Attar of Roses is made," shakes our faith in the remainder of his remarks.

AN interesting and instructive address was given by Mr. Alexander Dean before the Chiswick Gardeners' Mutual Improvement Association on the 17th inst. The subject, namely, CHARACTER IN GARDENERS, was treated under the headings of moral and mental character, in which he ably expressed himself, using some forcible and convincing argument. After a lively discussion, Mr. Dean replied, and in the course of his remarks advised young gardeners to commence committing their ideas and observations to paper, which might ultimately appear in the gardening press.

AT a meeting of the Linnean Society held on the 17th inst., a paper was read by Sir John Lubbock, Bart., M.P., on SEEDLINGS, being a continuance of his phytobiological observations commenced last year. He dwelt at some length on the Onagraceæ, illustrated by diagrams showing a remarkable development of the cotyledons of annual and biennial species of *Oenothera*, comparable to that of the primary leaves. He also accounted for the form of the leaf of *Liriodendron* in a very natural and ingenious manner.

AT a committee meeting of the WILTS HORTICULTURAL SOCIETY, held in Salisbury on the 17th inst., when the officers of the society were re-elected, and on the proposition of The Mayor, seconded by Mr. H. W. Ward, Longford Castle Gardens, a vote of thanks was accorded to Mr. H. W. Williams, the honorary secretary, for the very able manner in which he has con-

ducted the duties of his office. The summer show was fixed to be held about the middle of August, and it was also decided to hold a Chrysanthemum and fruit show in November. In the evening about 150 supporters of the society dined in the Council Chamber, the Mayor presiding.

THE site chosen for the MANCHESTER ROYAL JUBILEE EXHIBITION is an admirable one, including as it does the whole of the Botanical Garden at Old Trafford, which in itself must prove very attractive, with its well-arranged herbaceous and flower gardens, and extensive lawns and promenades. The exhibition buildings proper are situated at the rear of the gardens; and in the central nave—1,022 ft. long and 56 ft. high—the committee of the industrial section intend massing large groups of plants surpassing anything yet attempted in the northern counties. In the centre of the nave, and of the same height, a transept crosses, its length being 370 ft.; and at the intersection there will be a dome, 140 ft. high and 90 ft. in diameter, around which a rockery, 9 ft. in width, is to be built by Mr. William Clapham, of Stockport. The furnishing and management of the floral decorations for the six months that the exhibition is to remain open has been entrusted to the Liverpool Horticultural Company (John Cowan), of Garston and Liverpool. The banks on either side, under the dome, will prove an imposing feature, as they will rise to the height of 30 ft., which must produce a pleasing tropical effect, being composed of Palms, tree Ferns, *Dracænas*, and other foliage and flowering plants. A Venetian arch, 10 ft. high, furnished by the same company, and plants in tubs, of one uniform pattern and colour, will also add greatly to the general effect.

SISYRINCHIUM GRANDIFLORUM.

VARIETY might be introduced to our greenhouses and conservatories at this season, by growing a batch of the above named Iridaceous plant, whose lovely deep purple nodding flowers awaken a lively interest in all lovers of hardy plants, when they expand in the early part of the year. In the open border little else besides Snowdrops and Crocuses enliven the bare unattractive ground, when they suddenly spring into life and expand with all their beauty. One reason why this showy and easily-grown plant is so uncommon about London is, that the soil, generally heavy, is liable to become baked during the dry summer months; and this condition is very unfavourable to other members of the family, such as *Iris* and *Schizostylis*, which were almost destroyed in some gardens by severe drought a few years ago. Being a native of North America it enjoys a moist climate, such as the northern part of this island enjoys, and for that reason grows there in company with herbaceous plants, without other attention than the latter receives. In this respect it resembles *Tropæolum speciosum*, so difficult to establish in the south.

The slender rush-like stems and grassy leaves are so graceful in themselves, and withal, so distinct, that every collection of hardy plants might, at least, possess a few clumps. One or two comparatively large flowers are borne on a stem which seldom exceed 10 ins. to 12 ins. high, and the pedicels of the individual flowers are so slender that the slightest breath of air sets them in motion. Several species are cultivated, but none will compare with the handsome and showy appearance of *S. grandiflorum*. A pure white variety has also been in cultivation for many years, but, except by way of contrast, is less desirable than the type for general purposes. It flowers with equal freedom, and is probably equally hardy, although the flowers are more liable to get soiled.

By way of obviating the difficulty with regard to climatic influences in baking the soil, a compost, in which peat should form a considerable part, might be used out of doors. This, if rendered porous with river sand and enriched with well-decayed cow-manure, will do much to overcome the difficulty; moreover, its cultivation in pots may be attempted with even more satisfactory results, supplying it with plenty of water during the growing season. The protection of a cold frame will induce it to flower much earlier than it would out of doors, and there can be no question that with the slightest provocation as to temperature, it may be had in flower very early, as was shown recently at South Kensington.—J. F.

ANEMONE APENNINA.

The Apennine Windflower, *Anemone apennina*, is a near relative of *Anemone blanda*, but flowering much later than that plant; hence it makes a good succession to it, and being, in point of colour, very near akin, the secret in using both plants in the spring garden has the effect of supplying our gardens with a continuance of an exquisite and much-needed colour—a colour of which we can hardly have too much. The flowers are bright sky-blue and erect, smaller than in *A. blanda*, but not less lovely; and the profusion with which they are produced, together with the cheap rate at which it may be purchased, should render it among the most popular of early spring flowers. If words could convey an adequate idea of its real beauty and worth, it is not too much to assume that this Italian beauty would, ere long, grace almost every garden in the British Isles where natural beauty is of the first moment. It can hardly be misplaced, since it is so beautifully adapted for the shrubbery, the herbaceous border, or sunny grassy slopes. In the rock garden it may chastely mingle with our native wood Anemone, as well as in the woodland or wild garden, where, year by year, it will increase in beauty till we have at length one of the most beautiful floral pictures of nature.—J.

STYLE HALL, KEW BRIDGE.

WITH the exception of the mansion itself, little is discernible of a family residence and grounds attached, from the high road leading from Turnham Green to Brentford. This shelter and seclusion is obtained by a high wall and trees all along the north side. The kitchen garden itself is, perhaps, invisible from any point of view, owing to the high walls, but the front of the house, together with the lawns and parterres that are gay in summer, and some ornamental ponds with trees and islands, are all that are visible from the railway on the south side. The extent of the ground is surprising when we consider the locality and the wide-reaching influence of the speculative builder in recent years, and Mr. Beaton, the gardener, with his staff of assistants, must find his energies taxed to keep the work abreast with the times. Much pruning and nailing of wall trees, especially Peaches, has to be got through.

The extent of glass, however, is scarcely adequate for the necessary supply of flowering plants, forced or otherwise, required to keep the large conservatory gay during the winter months. The centre of this latter structure is occupied by large healthy specimens of Camellias grown in pots or tubs, and from which a large quantity of bloom is cut annually. Large conical or pyramidally-trained Azaleas also receive due attention, and appropriately occupy various parts of the house. The principal feature of the house at present, as far as flowering plants are concerned, consist of Chinese Primulas and *Cyclamen persicum*. These are varied in character, but the red selfs and the whites are most desirable and attractive. Some large plants of *Daphne odora* have been gay the whole winter, and diffuse a most delicious odour through the house. No conservatory should be without this useful old greenhouse plant. A variety of *Solanum capsicastrum* named Empress was conspicuous for the great size of its berries.

Cinerarias, in another house, promise well. Amongst the occupants of a stove, *Anthurium Warocquianum* was notable for its deep pea-green leathery leaves, shining with a satiny lustre. *Euphorbia splendens* seems almost universally distributed in gardens, and is nearly a perpetual bloomer when the conditions are suitable. Several specimens of *Dendrobium nobile* were bristling with flower-buds, another instance of the utility of this species, which, notwithstanding its frequency in gardens, will never become tame or uninteresting. Of all the Calatheas, probably none are more widely disseminated in gardens than *C. zebrina*, whose green and bronzy leaves add a charm to the occupants of any stove, and contrasted well, in this instance, with different species of *Adiantum* and other Ferns, such as *Pteris quadriaurita argyrea*, *Phlebodium aureum*, and *Pteris serrulata*. The *Phlebodium* was a large specimen, well furnished with its characteristic orange spores, contrasting remarkably with the deep bluish or glaucous colour of the fronds. A variety of *Pteris serrulata* was notable for the fine tasselling of its fronds. *Selaginella caulescens* is a useful species, but is possibly surpassed by its variety *S. minor*, which

thrives admirably in a greenhouse temperature, and is both dense, bushy and dwarf. We also noted an extremely convenient method of arrangement for the production of Mushrooms. The house or cellar was a large one, divided off in sections along each side. All these sections or compartments can be occupied with Mushroom-beds of different ages for a succession. Those in full bearing order were producing large and handsome specimens of the favourite esculent *Agaricus*. Mr. Beaton is also making a trial of the ridge system of growing Mushrooms, by making the bed in the form of a ridge along the centre of the house.

GARDENING NOTES FROM SCOTLAND.

Vegetables.—The time has now arrived when experienced northern growers make special preparations for crops which do not with impunity admit of late sowing. In cold and late districts, arrears with vegetable crops are not easily overtaken; and it often happens that because of delay some growers assert that it is of no use attempting certain things in their locality, as they never come to maturity. Habit rules many, and no amount of writing or anything else will remove prejudice, or induce a new course of progress. This is, of course, more applicable to amateur growers than to professional men. Ground which has been laid up to frost may now be forked over again preparatory to sowing Onions and Parsnips for the main crops; also a border for Leeks and Parsley, for permanent sowing or for transplanting; and a pinch of early Carrots, between which Radishes can be sown. Spinach can be sown between any other crop, such as Peas and Beans. Preparation of the ground should also be made for planting Shallots and old Onions for seed or for use during early summer. The planting of Rhubarb, when the weather will allow, and the ground is free from frost, should be done as soon as time permits. Jerusalem Artichokes may also be planted; to have them good they must not be left to shift for themselves as is often the case.

The lifting of roots which have been left in the ground to be placed securely in "pits" covered with straw and soil should be done soon. This way of leaving roots in the ground all the winter suits many tastes, and certainly we prefer Parsnips lifted now, to those taken from the ground at any other time. Our own at present, from ground which had been waste for many years, are really finer in quality than we ever had them; so are the Jerusalem Artichokes and Carrots. The latter (Short Horn) covered with ashes have been exceedingly tender and of fine flavour. Some prefer Potatos treated in this manner, but except what are called "new" Potatos, we have never seen them improved by remaining to the present time, in northern gardens.—*Caledonian*.

North of Scotland Horticultural Association.—The usual meeting of the members of this association was held in the Christian Institute, Aberdeen, on Friday evening, 18th inst. There was a fair attendance, and Mr. Alexander Grigor, Fairfield, presided. A communication was read by the secretary, from Mr. J. Maitland, Cawdor Castle, Nairn, on "The Geographical Distribution of Plants." The paper, which was exceedingly interesting, related chiefly to the distinctive flowering plants that are peculiar to different countries. An elaborate paper on "Herbaceous Perennials" was then read by Mr. Cunningham, Kintore Nurseries. He spoke of the great development of these plants during the last thirty or forty years, and their suitability for decorative purposes. They were usually very hardy out of doors, and were less troublesome and expensive than many of the more fashionable varieties of plants. The paper, which was listened to with evident appreciation, concluded with a brief description of various herbaceous perennials. Discussion followed the reading of each paper, and the thanks of the association were heartily accorded to the authors. A specimen of the Primula, that had been in flower all winter, was sent by Mr. Peter Harper, head gardener, Duthie Public Park, for inspection. It was intimated that the next meeting of the association will be held in Marischal College, when a lecture on "Worms" will be given by Professor H. Alleyne Nicholson (Chair of Natural History). A cordial vote of thanks to the chairman terminated the proceedings.

THE AMATEURS' GARDEN.

THE CONSERVATORY.—With the aid of fermenting hot-beds, and a little fire-heat, the conservatory should now be commencing to look gay. Camellias and Azaleas flower late or early according to the varieties; but with the aid of a little fire-heat during the night, and the natural rise of the temperature during the day, together with occasional sunshine, the old greenhouse favourites mentioned should now be flowering freely or preparing to do so. Coronillas and *Cytisus racemosus*, supplemented with *C. canariensis* and *C. filipes*—the latter with slender, white-flowered, pendulous twigs—will do much to render the conservatory an attractive feature at this early period. *Primula sinensis* and *Cyclamen persicum* in great variety, as well as Cinerarias, are indispensable occupants of a conservatory just now. Heliotropes, Daphnes, Eupatoriums, and others not only serve to keep the house gay, but diffuse a delicious fragrance through the atmosphere. Add to these the numerous subjects that have been forced, such as Hyacinths, Tulips, Narcissi, Crocuses, Solomon's Seal, and Lily of the Valley, and there need be no lack of variety, or cause for complaint in the matter of flowers. Freesias are so easily obtained, grown and flowered to perfection, that amateurs should endeavour to possess them.

KITCHEN GARDEN.—The winter has been a severe one for vegetables of all kinds out-of-doors, causing a scarcity that will be felt later on when the supply runs short, and before the season is sufficiently advanced to fill up the gaps by fresh growth. Even the young Cabbages planted out in the autumn have been greatly destroyed, and if there are plenty in the reserve beds the gaps may be made up at the earliest convenience, or whenever the ground is sufficiently dry to permit treading without becoming puddled. After filling up the blank spaces, stir the soil with the hoe, this will help to destroy slugs and assist in drying up the soil. Attend to Cauliflower, Endive, Lettuce, spring-sown Cabbages, and such things that are under the protection of handlights, frames, &c. It is too early and unsafe to plant out yet, but give air on all possible occasions, to keep them strong and healthy.—F.

THE ROYAL HORTICULTURAL SOCIETY.

IN the discussions dealing with the difficulties of the Royal Horticultural Society, and the many suggestions offered for the purpose of lifting it from the slough in which it has so long floundered, I have been surprised to note how little relative attention has been directed to that, which for many years, I have regarded as the primary cause of evil. I allude to its constant want of touch with popular opinion and popular aspiration. For more than forty years, during which period I have noted its course, this has been only too palpably apparent. It was as marked under the lead of Dr. Lindley as under the more recent management; and there were difficulties forty years ago, if not of the same magnitude, at least quite as vital in principle as those of to-day.

During recent years, again and again the good work of the committees—the Floral, Fruit and the Scientific—has been referred to, as entitling the Society to substantial support. I do not care to dispute that that work, on the whole, has not been of great value, though it is very certain there is a widespread—and, I believe, a well-founded—feeling that the methods pursued are lax and imperfect in a very marked degree. This, however, is due to organisation rather than principle, and may speedily be corrected in competent hands. But did the R. H. S. originate these committees? Certainly not. In 1846 the work of the florist was frowned upon as severely and as systematically as in 1876. In 1847 it had become intolerable, and a revolt—led by the late Mr. Edward Beck, the late Mr. Thomas Rivers, and some others—ensued. On the 1st January, 1848, the *Florist* appeared; in the season the Worton Cottage Meetings for the receipt of new flowers, for description and discussion thereupon, were held, and from these, early in the '50's, the National Floricultural Society sprang. Then the R. H. S., finding the damping with indifference inoperative—finding, in fact, that the cold shoulder might be applied to itself—made a virtue of necessity, and magnanimously adopted them. But here, again, true to its unhappy history, it marred in affecting to

make, for it distributed the responsibility over so wide a surface that no sense of it seemed to be left, and the records of the proceedings of the several committees are so imperfect that no outsider can possibly know upon whom it should be saddled.

A similar experience preceded the forming of the special societies. Why has it been thus? Means have not been denied; for in the forty years from which I date, upwards, I believe, of £150,000 have been poured into the coffers of the society and wasted; and men have not been wanting, for enthusiasm has abounded, and horticulture and floriculture have advanced by great leaps and bounds. Provincial societies flourish, special societies multiply, but the R. H. S. alone, the society which should be the glory and crown of horticulture, the admired and revered of all florists, stands bewildered, befogged—for ever, like Mr. Micawber, waiting for something to turn up. To me, the wherefore is not far to seek. It exists in the constitution of the society, which will continue to work its evil until it suffers a radical change. As at present constituted, it centres power in the hands of a virtually self-elected coterie; and that coterie, again (as is the law of all coteries), is not ruled by its best members. Let me not be misunderstood. I impute no personal fault; but the rulers of the society are the victims of a vicious system, and, until that is altered, they will continue to move in a vicious circle.—*E. S. Dodwell, Oxford, February 21st, 1887.*

YUCCA ALOIFOLIA VARIEGATA.

THIS highly decorative plant may be generally seen in most places that have large conservatories or greenhouses that require large plants to fill them up; and from the fact of it having variegated foliage, it forms a very attractive object. When kept clean and slightly elevated it produces an effective relief, from the monotonous green foliage of other plants. To have this plant in the best condition, it should not be allowed to become bare of foliage at the bottom, otherwise it loses a great part of its charms. But how often we see unsightly plants of this variety with bare, and often crooked stems, sometimes several feet in length! Now all this may be avoided with a little forethought, provided the gardener has the use of a stove or propagating house at his command. For winter or botanical gardens it may be necessary to allow this plant to run up and exhibit its proper character, but for general or exhibition purposes, a plant that is well furnished with foliage down to the pot is to be preferred. If any reader should have a plant that has become too tall for his house, and should be in a fix as to what to do with it, he should adopt the following plan, which will succeed satisfactorily. The present time is the best to perform the operation, as neither Yuccas nor Agaves require a great amount of water during the winter months. The plants will be in a dry condition, with very little sap moving in them, therefore the present is the best time to bring the plants into proper form.

The following will seem rather sharp practice to timid people, but a more successful plan cannot be devised, either for quickness or certainty. Take a strong sharp knife and cut the head completely off, just below the foliage. This done, get some grafting wax and rub it on the base of the cutting, being careful that it completely covers the whole surface of the base. Then hang it upside down for a couple of days, at the end of which time it may be potted in damp sandy loam in a well-crooked pot. The size of the pot will have to be regulated according to the size of the cutting. I do not advise the taking away of any leaves from the base of the cutting. With care the foliage may be tied up, so that it will not occupy a great amount of space in the propagating house, where it should be taken and plunged in a bottom-heat of about 70°. Avoid watering the cutting for at least a fortnight, or longer if the soil is not dry. It will soon root, and when it has filled the bottom of the pot should be shifted into a larger size, using good sandy loam. As soon as re-established, remove the plant to an intermediate house, and ultimately to the greenhouse, where it will be a more fitting object, amongst other plants, than it was previously.

An old idea at one time prevailed that these plants rooted better if the stem was cut round or ringed, and some moss or a pot cut in two was tied round the incision. That practice was a safe one, but the time occupied in rooting the head was longer, and after all

the top has to be taken into heat to establish it. This plant can be increased by several other means, such as the strong rhizomes that form at the base of the stem, as well as from side-shoots that naturally break out on the old stem after the head has been cut off. These take a considerable time to make plants fit for exhibition purposes, but are useful for mixing amongst other greenhouse plants, especially in the winter months.—*W. G.*

STEAMING v. FUMIGATING.

It is always pleasing to be able to congratulate anyone on the success of any method or suggestion that enables a difficulty to be overcome, and certainly, thanks are due to Mr. B. S. Williams for the introduction of the new "Thaumatophore," which, so far as we have been able to test, is a complete success. I was greatly interested in watching the experiment carried out at the Victoria and Paradise Nurseries with this apparatus before it was sent out, and the result of the trial was sufficient to prove its usefulness; for to the pests which so trouble us it was indeed true to its name, a sure death giver.

One of the first apparatuses came to us and has since been fairly tried, commencing with a small house in which were placed some Phalaenopsis, Dendrobiums, Cattleyas, Laelia anceps, Odontoglossums, Masdevallia Tovarensis, Saccolabiums and Sophronitis, all in bloom; also some Odontoglossum vexillarium, Cypripediums and Vandas, and a general lot of Orchids; so as to try, with a fair use, its effect on the flowers and plants. There were also some Ferns with young fronds, and Crotons, with both thrip and fly on them, which were put in. In about twenty minutes the fly was done for; the thrip took a little longer, but the steaming was as successful as could be desired.

Carefully watching the plants for some ten days, and finding not the slightest ill effects on either flowers or plants, we tried the Odontoglossum Alexandræ house, with the same result, and since, at intervals of about seven days, we have "steamed" the Odontoglossum vexillarium house, also the Cattleya, Vanda, Lycaste, Cypripedium, Aërides and Masdevallia houses, and so far with the best results. No doubt the apparatus requires care, but to make anything successful care must be taken. If a good bright fire be kept up, and the instructions followed, I am quite sure it will be found a saving in time, and a means of keeping the different pests well under, and this without in any way injuring the plants during the operation.—*St. George.*

HARDY FLOWERS FOR AMATEURS' GARDENS.

AMATEUR gardeners who are imperfectly acquainted with the characters of some hardy flowers are sometimes found asking "What can we grow that will flower continuously during the summer, and be worthy the labour bestowed upon them?" I do not wonder at the question being put, for I know of nothing more bewildering than for an amateur to go through a long list of flower seeds such as one can find in what used to be termed "fat catalogues," and endeavour to fix upon something that would answer their requirements. I am sure they frequently hit upon what disappoints rather than delights, and because I wish to save some from this disappointment, I venture to name some things that can be sown now and during the spring, which, if properly managed, cannot fail to make their gardens gay, and give them something to cut from throughout the summer without danger of robbing their gardens and destroying the effects of their beds and borders.

The varieties of Anemone coronaria can be purchased in the form of dry roots at a small cost; but it is comparatively easy to raise plants from seed. A packet of something good can be purchased for a moderate price, and if sown at once in a shallow wooden box, and placed in a greenhouse, the seed will germinate in due course, and the plants can be placed out of doors as soon as large enough. If the soil is good they will grow sufficiently in size to flower next spring—the spring of 1883. Some seeds of Primrose and Polyanthus, similarly treated, will come into flower at the same time. The pretty blue Cornflower, Cyanus minor, in colours of purple, blue, rose and striped, are easily raised from seeds sown in the open ground; they are hardy, flower freely, and are most valuable for cutting from. So are the annual Chrysanthemums—the double white and yellow forms of C. coronarium; and

what is known as C. tricolor. Coreopsis tinctoria and coronata are excellent and continuous hardy annuals; and C. Burridgii, also known as Cosmidium Burridgii, with its crimson and yellow flowers, is very attractive. In some catalogues Coreopsis is found under the head of Calliopsis. Single Dahlias must not be excluded; the seeds should be raised in heat, and the plants put out in the open ground early in June, bearing in mind that they are of free growth, and in a majority of cases, both tall and branching, so they should have an abundance of room. The varieties of the perennial Delphinium make very fine border flowers, and if seed be sown at once in a little heat, and the plants grown on as fast as possible, they will bloom finely in late summer. No section of hardy plants yield such rich hues of blue as do the Delphiniums. The Indian Pinks are charming annuals, and especially the large-flowered Heddewigii and its variety laciniatus.

The Gaillardias, though classed among the perennials, are really capable of being treated as annuals; at least, those of the G. picta type, and they are very free and extremely showy, including the double-flowered Lorenziana; and it is only necessary to mention the double Helichrysums, as they are well known and furnish an abundance of bloom, but the seeds should be raised in a gentle heat. Seed of Hollyhocks, if sown soon and the young plants taken care of, will flower the same season; but they should be planted out in good soil. The dwarf Rocket Larkspurs are easily grown, as the seeds grow freely when sown in the open ground. Marigolds of the African and French types are frequently objected to on the ground that their perfume is so pronounced; but they are among the freest of annuals. The double Ranunculus Marigold and especially the orange-striped Meteor must not be omitted, as it will flower right up to mid-winter if the weather be fine and open. Then there are the Sweet Peas in great and excellent variety, but they should be sown thinly and in good ground, picking off the decaying flowers so that they do not seed, and then they will go on blooming until August. What showy annuals the large-flowered Salpiglossis are! So richly marked are the Convolvulus-like flowers that they may be denominated the Orchids among hardy annuals. Then there are the double Scabious, which make good annuals if sown early; the tall and dwarf Sunflower; the white, yellow and purple Sweet Sultans; and to wind up with a good foliage plant, the striped Japanese Maize. All the foregoing are what I term satisfying plants, that are persistent bloomers.

Of tender annuals there may be added: Asters, especially the Victoria, the Quilled and Boltze's Dwarf Bouquet, Phlox Drummondii grandiflora in variety, and especially that grand vermilion variety, Splendens; and Ten-week German Stocks.

I have named nothing but what is cheap and good. It would not be difficult to compile a second list of equal length and value; my aim has been to indicate what amateurs and cottagers can grow and be delighted with.

Respecting those in the foregoing list that may be sown in the open ground, I cannot do better than make an extract from Messrs. Sutton & Sons' book on the flower garden. They direct that "The seeds should be sown on a carefully prepared surface, from which large stones and clods have been removed; but it should not be so fine as that the rain will make it pasty. Sow thinly, cover with a very slight coat of fine dry earth—the smallest seeds needing but a mere dusting to cover them; and from the first keep the plants sufficiently thinned to prevent overcrowding, which weakens them, and tends to a poor instead of a bountiful bloom. The soil into which they are transplanted for blooming should be deeply dug, and well broken up, and, if at all poor, should be liberally manured. Spring-sown annuals are worthy of a better soil than they usually have allotted them, as well as more careful treatment. It is not well to sow earlier than March, or later than the middle of April. The most important matter in the after culture is to keep the clumps well thinned; for not only will the bloom of crowded plants be comparatively poor and brief, but by early and bold practice in thinning, the plants will become so robust, and cover such large spaces of ground with their ample leafage and well-developed flowers, as really to astonish people who think they know all about annuals, and who may have ventured, after much ill-treatment of them, to designate them 'fugacious and weedy.'"—*R. D.*

CROOME COURT.

THE SEAT OF THE EARL OF COVENTRY.

THIS is one of the oldest mansions in the county of Worcester, and stands in a beautifully wooded park of about 500 acres. It is situate between the Malvern and Bredon Hills, from either of which it can be seen nestling amongst the trees. Along the top of the deer park splendid views of these hills are obtained; the greatest care having been taken in the planting of the trees, so that here and there vistas allow of extensive ranges; those towards the Bredon Hills being particularly fine as the summer sun is setting.

Worcestershire is noted for the growth of the Elm, and, truly, it grows to an immense size; some of the largest of the specimens rise to a height of 150 ft., the boles at a height of 5 ft. from the ground, girthing as much as 19 ft. Where at times they have been planted rather thickly together to give effect to the landscape, they have grown to a great height, and are as clean and as straight as telegraph poles; they grow

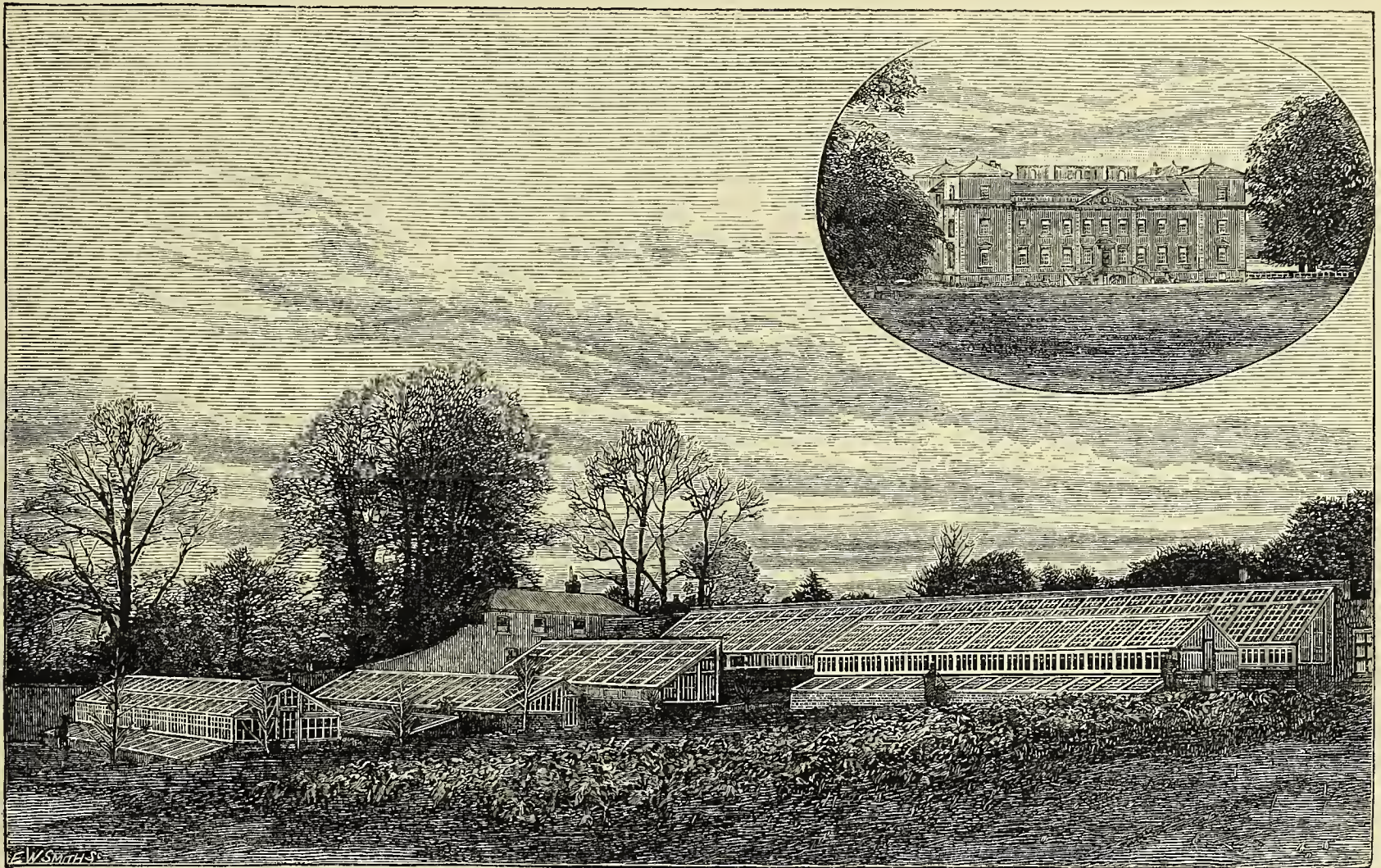
houses, together with stoves, greenhouses, forcing-pits and frames, such as are generally found in a large establishment. At the back of the long range are two spacious fruit rooms, Mushroom house, potting shed and young men's rooms. Nearly the whole of the walks about the houses are paved—a very great convenience. One great feature of the kitchen garden are its grass walks, the main one being about 170 yds. long by 4 yds. wide; another, running from the lower side, joins it about the centre, and is of the same width, but only 120 yds. long. The whole of the garden is intersected by narrower grass walks, rendered necessary for dividing the ground into workable squares.

The pleasure-grounds are about sixty acres in extent, and beautifully laid out, forming as they do an almost continuous belt round the mansion, but so arranged as not to interfere with the landscape. On the southern side is laid out, in serpentine beds, a portion devoted to Roses, with here and there a bed of Rhododendrons, Azaleas and Kalmias planted as a relief, and being

Upon a tablet, fixed in an urn-like piece of statuary, are the following lines inscribed by the successor of the Earl, by whom the pleasure grounds were formed:—

“Sacred to him, the genius of the place,
Who rear'd these shades and formed these sweet
retreats,
With every incense-breathing shrub adorned,
And flowers of fairest hue! His cultured taste
And native fancy bade the scene around
Rise perfect: and the Muse, whom much he loved,
Still joys to haunt it. Crowned with length of
days
He liv'd, one wish alone unsated. Much
His loyal heart had cherished a fond hope
To hail this day of Jubilee, and close
His earthly course in Britain's hour of joy.”

Continuing our walk we next noticed a very healthy specimen of *Pinus ponderosa*, a pair of really grand Cedars and a very fine *Edwardsia grandiflora*; while, at a short distance from these stand a pair of beautifully variegated Elms, which stand out conspicuously from the evergreens amongst which they are planted.



CROOME COURT, WORCESTERSHIRE, THE SEAT OF THE EARL OF COVENTRY.

very rapidly and are very clean in the grain. The Oak, although making good growth, does not attain anything like the same dimensions, but assumes a dwarf-spreading habit as a rule; the diameter of the spread of branches, in some cases, is as much as 45 yds., some of the boles at 4 ft. from the ground, girthing, no less than 23 ft.

The whole of the estate is beautifully wooded, but, still, not so much as to destroy the picturesque nature of the situation. The mansion itself, shown in the annexed engraving, stands in a beautiful valley, along the western side of which winds an ornamental river, continuing its course along the lower side of the deer park, and finally emptying itself into the Avon, of which it may almost be termed a tributary. The kitchen garden and pleasure grounds are, as a matter of course, extensive, the former being six acres within the walls, and situate on a slope with a western aspect. The subsoil being a marl, renders extra attention necessary in the way of deep cultivation to produce satisfactory crops; certainly, all the green kinds were most luxuriant and healthy.

The accompanying illustration shows a part of the glass structures, which are numerous and of modern construction, consisting of vineries, Peach and Fig houses, specially-constructed Melon and Cucumber

sheltered on the north by the garden wall, and on the east by a dense shrubbery, succeed admirably, yielding an immense amount of bloom throughout the entire season; and at the time of our visit baskets of Jules Margottin, Baronne Prevost, Souvenir de la Malmaison, Gloire de Dijon, and most of the best autumn-flowering varieties could have been cut. Many of the finer species of ornamental trees abound, conspicuous amongst them being some majestic Cedars, splendid specimens of the deciduous Cypress, Oriental Plane, *Salisburia adiantifolia*, and the largest specimen we have yet seen of *Pyrus sorbus* or Service Tree.

One group of Cedars we noted as giving a beautiful effect, being planted close by an ornamental building called the Rotunda. From here is obtained the splendid view of the Bredon Hills previously mentioned. In another portion of the shrubberies we noticed a particularly fine pair of purple Beeches, feathered to the ground, and of immense proportions; a grand specimen of the Stone Pine, and what is considered to be the finest example of the scarlet Oak in the kingdom—truly a magnificent tree, and in robust health; a splendid specimen of *Pinus contorta*, another of the Tulip Tree, *Liriodendron tulipifera*, and others too numerous to mention.

Further on we noticed a very fine specimen of *Salisburia adiantifolia*, quite 50 ft. high; and during our walk we noticed several good specimens of *Catalpa syriaca*, which, when in flower, must be truly beautiful. It is rather strange this ornamental-flowering tree is not more extensively planted; its flowers, although rather short-lived, are extremely pretty. We next came to an ornamental lake, the grounds about which, when kept, must have been very beautiful; it is now the home of wild fowl. On a raised marble tablet is the following inscription:—

“To the Memory of
LANCELOT BROWN,
Who, by his inimitable and creative genius,
Formed this garden scene out of a morass.”

The Mr. Brown above alluded to will probably be better recognised as “Capability” Brown. Farther on, we came to what was once a most beautiful piece of rockery with an arched grotto; but through the wanton depredations of visitors, it has been robbed of most of its gems—so much so that the grounds were closed. In this part of the shrubberies are many very fine Cedars and other conifers, and we particularly noticed a splendidly-furnished specimen of the deciduous Cypress; while just above the water's edge close by waved the

boughs of a very prettily variegated Oak, above which towered two splendid specimens of the Scarlet Oak. Mr. Walter Child has had charge of the gardens for the last eleven years, and their highly satisfactory condition proves him to be a first-class all-round practitioner, and reflects the greatest credit upon his skill and ability.

A LONDON SEED WAREHOUSE.

SHOULD a history ever be written of the commercial progress made in this country during the fifty years of Her Majesty's reign, not the least important subject with which the author or authors will have to deal, will be the marvellous development of horticulture in all its branches. The commencement of the Queen's reign practically saw the birth of the horticultural press, and about the same period the foundations were laid of more than one of those gigantic seed businesses, the trading titles of which have become familiar as household words, and whose trading operations extend over the four quarters of the globe.

For the moment we are interested in one famous house only (others shall have our attention in due season) that of Messrs. James Carter & Co., of High Holborn. The founder of the firm, James Carter, erstwhile musical critic and professor in a German university, commenced the business of a seedsman in a modest way, in Drury Lane, about 1833, in which year he issued a broadsheet advertisement of the seeds he offered for sale, a copy of which is carefully preserved by the firm. It is a business-like production for the time, and is remarkable for the accuracy of its botanical and popular names, and perhaps still more so for the fact that in it he guaranteed the quality of all he sold, a proceeding which, at that time, must have required much courage, for the means of cleaning, testing and proving seeds, as we now understand what these terms mean, were of a very primitive character. In 1837, Mr. Carter removed to 238, High Holborn, and here for some time the one house was large enough for the requirements of his trade.

Business, however, continued to increase, and the next house was added. Then came the re-building of the premises on a scale commensurate with the requirements of the time, but which have long since proved inadequate for conducting more than the retail branch of the business. One must visit an enormous block of warehouses, near at hand, between High Holborn and Lincoln's Inn Fields, if we desire to gain any idea of the business done by the firm. It was our pleasure a few days ago to be shown over the establishment, which may now be said to be "in full swing," for it is the height of the seed distributing season, and ceaseless activity reigns in every department. Our courteous guide first took us into the basement where are stored Grass, Clover and Grain seeds, Potatos, &c., in bulk. The former were to be or had been cleaned, while the latter were undergoing sorting and sampling at the time of our visit.

On the ground floor were sacks upon sacks, in great blocks, of flower and vegetable seeds in bulk, waiting their turn to be absorbed into packets by busy hands on the floors above. The second story is devoted to a series of offices, in which the clerical work of the establishment is conducted by a large staff of clerks, and when we say that the average number of letters received per day at this season ranges between 700 and 900, some idea may be gained of the tact and managerial skill required in the conduct of the business with order and regularity.

Proceeding through the offices, we reach the vegetable seed order department, in which the greatest activity is displayed in making up orders, and in getting up the "collections," which during the last few years have become so popular among amateurs. These collections, which range in value from five shillings to a guinea, are made up in numbers as fairly astonishing. The flower seed department is on the floor above, and the first thing that strikes the visitor is the bewildering number of pigeon-holes, each containing a particular kind of seed, neatly put up in packets, with printed labels containing all necessary particulars respecting the seeds within, and which may be said to range in value from 3d. to 5s. Here also is the office of the "resident botanist," a most interesting sanctum, and a most important one, too, for the firm, for here, microscope at hand, the analyst tests the samples for purity and the weight, of all seeds submitted to the firm for purchase, and the bulk of the

stocks bought on the strength of particular samples. These are again tested for germinating power, some in a little glass house on the roof of the main warehouse, but the bulk at the nursery at Forest Hill; and the greatest care is taken in thus proving the quality of every parcel of seeds as received before being distributed among the customers.

On the top-floor the process of hand picking Peas and Beans was being carried on by rows of women, of whom in the season employment is found for 150. When the rush of the flower and vegetable seed distribution is over, the grass seed trade comes on, and this is another of the Messrs. Carter's specialities, the lawn grass seed trade especially being a very large one. In an outlying warehouse are some hundreds of bags of seeds of particular kinds, selected with the greatest care from growers at home and abroad. The whole of the stocks are rapidly being passed through cleansing machines of the best description, and which eliminates dirt and "foreign matters," leaving the samples as free from impurities as human skill can accomplish.

In a brief notice of this description, it is impossible to allude in detail to half the subjects of interest that attract one's attention in this busy hive of industry, and it must suffice to say that the impression left upon us was one of pleasure and admiration; the pleasure of seeing so much industry in a branch of trade in which all are directly interested, and admiration of the care and ability shown in the maintenance of a high standard of quality.

PLANTS OF DWARF AND PENDULOUS HABIT.

THE pleasing appearance of the foliage of this class of plants, and their after indispensable usefulness in the matter of furnishing, render a few notes on their culture, and the best means of bringing them and their beauty into more prominence, not out of place at this period of the year. Many species that thrive in the greenhouse during summer require the temperature of the stove in winter. I have often noticed the pleasing effects produced by a few plants of drooping habit in a stove or greenhouse—where a little care has been bestowed on their culture—overhanging stages or walls, or suspended from the roof in baskets. I shall only mention a few that I think are most useful and easily grown, adding a few notes on their culture.

Perhaps the most useful and easily grown of all is the old *Isolepis gracilis*; for overhanging stages or house furnishing it is indispensable. It will stand more than the ordinary amount of rough usage, and has a pretty effect when intermixed with flowering plants in a wire stand, or overhanging a flower vase. They are most useful in 60-size pots, and to keep up a stock as they become old and unsightly may be pulled in small pieces, and repotted in equal parts of sand, loam and rotted manure. If placed in the shady part of the stove they will root in a short time, and may be placed among the pots on the stages. They will thrive in the greenhouse as well as the stove, hence this handsome sedge may be grown by any who cannot command a stove temperature. I once saw some plants under the name of *Isolepis glauca*, but have never seen or heard of it since. I thought at the time what a valuable addition its silvery foliage would make to that of the old green, *I. gracilis*. Perhaps some of your readers may know something about it.

Panicum variegatum is a showy little grass, whose variegated foliage renders it attractive and pleasing, both in small pots or twining round suspended baskets. It may be easily increased from cuttings, putting five or six in a 60-size pot of half loam and rotted manure, with a good dash of sand; and if kept close and shaded for a few days, will soon root. It thrives best in the stove, although it will do well in the greenhouse if a temperature of 50° is maintained. It is also invaluable for cutting, as the brightness of the colour has a pretty effect if intermixed in a stand or ornamental vase of cut flowers. If wanted for this purpose, it should be planted out under the stages in the stove, or anywhere having sufficient heat and moisture.

Tradescantias are also easily grown, and will thrive almost anywhere in baskets or 48-size pots. The ice-like foliage of *T. discolor* is very attractive. It strikes freely from pieces 3 ins. to 4 ins. long, in moderately light soil, when stood in a shady part of the stove. For covering rockwork in the Fernery it is invaluable.

The variations of colour in the above, and another pretty variety called *T. zebrina*, are more preferable to the old green form. They will grow in either greenhouse or stove; but I find the colour best developed in the stove, or where a humid atmosphere is maintained.

*Torenia*s deserve a place in every stove for the attractiveness of their flowers. The distinct species known as *Asiatica* produces flowers in abundance in 48-sized pots, and the drooping nature of the plant answers admirably for overhanging stages. Probably the best mode of showing it to perfection is to grow it in a basket suspended from the roof. I find they flower more freely when pot-bound; consequently, a little weak manure-water will assist them greatly. I prefer rooting them in small pots, with three cuttings in a pot of equal parts loam and leaf-soil, using a liberal addition of sand. If kept close for a few days in the propagating case they will soon root, after which they may be shifted on into 48-sized pots, or 32's if larger plants are required, using rather more loam than where previously advised. As soon as they take to the new soil the points must be removed, and again later on if need be. They will quickly produce flowers, and being soft-wooded, two or three batches may be struck during the year, discarding the old plants as they become unsightly. The above-named species, together with another called *Fournierii*, are the two best for general purposes.

Libonia floribunda is a showy little plant whilst in flower, and, in my opinion, is seen to best advantage in 48-sized pots. Cuttings of these, if struck at intervals in small pots, and treated similar to that advised for *Torenia*s, will not fail to give satisfaction. It will, however, thrive in less heat, and is admirably adapted for decorative purposes. Its flowers, of a dull red and orange colour, are borne in profusion when the roots become pot-bound.

Many other plants are equally well adapted for furnishing. Dwarf *Tropæolum*s are very showy in the greenhouse, especially the double-flowered variety, and are also useful for cutting. Harrison's Musk is always worthy of a place, and if a batch of this is struck about September, and kept in a little heat during winter, will amply repay the trouble.

Ficus repens, in 48-size pots, is also invaluable for hanging in passages. It is hardier than any of the above-mentioned, and will be found serviceable in many ways, as it stands a good deal of rough usage, and yet maintains its small dark green foliage.—*Wales*.

GARDEN PLANTS ILLUSTRATED.

GLADIOLUS WATSONIODES.

The flowers of this species are bright scarlet, with a pale, longitudinal medium stripe along the back of each segment. The tube is curved, 1½ ins. long, and about four to ten flowers are produced on a lax one-sided spike. As a species it is closely allied to *G. Watsonianus* figured in the *Botanical Magazine*, t. 450. It was discovered during the recent explorations on Mount Kilimanjaro at elevations ranging from 8,500 ft. to 13,000 ft. At the latter elevation it becomes dwarfer, with smaller flowers, and the leaves are convolute at the edges. It flowered at Kew in June, 1886.—*Botanical Magazine*, t. 6919.

CATTLEYA CITRINA.

Few species are more distinct amongst their kind than this popular Orchid. The fine glaucous foliage contrasts well with the golden yellow, fleshy wax-like flowers. The delicious fragrance of this species will always make it a favourite in collections, together with its unique colour. The pendent habit of both flowers, pseudo-bulbs and leaves is another peculiar feature, and one that must be regarded if success in cultivation is desired. In its native habitat, on the mountains of Mexico, it occurs generally on the trunks and branches of Oak trees, in a pendent position.—*Reichenbachia*, t. 20.

CHYSIS BRACDESCENS.

The general appearance of all the species of *Chysis* is very characteristic, having fusiform pseudo-bulbs and large plaited deciduous leaves. They are purely epiphytical, requiring fibrous peat and sphagnum moss in which to be potted or basketed. The flowers in the species under notice are of a waxy or fleshy consistency, and the sepals and petals are cuneate-oblong, concave and white, while the three-lobed labellum is

white externally, and yellow internally, bearing from five to seven ridges on its middle, resembling the jaws of an animal when the whole flower is in a natural position.—*Reichenbachia*, t. 18.

GARDENING MISCELLANY.

A Gardeners' Orphanage.—With reference to my suggestions for a gardeners' orphanage, I may say that I have already received a certain number of promises of support if the idea can be successfully developed; and I shall be glad to hear from any gardener in the country, who is ready and willing to assist me in drawing up the plans. There is an old proverb, that "he gives twice who gives quickly," and, therefore, in the interests of the poor children, I am anxious that whatever is done should be done at once. The first annual subscription promised came from Mr. E. J. Beale, of the firm of Messrs. James Carter & Co.; and the second from Mr. William Bull, Chelsea. Messrs. Sutton & Sons, Reading, promise a donation of £10; and I have had most encouraging letters from Messrs. Veitch & Sons, Chelsea; Messrs. H. Low & Co., Clapton Nurseries; and several influential gardeners, who are willing to join in supporting the scheme.—*C. Penny, Sandringham.*

Todea superba.—Amongst a considerable number of specimens of this prepossessing Filmy Fern at the Royal Horticultural Society's Gardens, Chiswick, forms may be noticed apparently intermediate in character between the type and *T. hymenophylloides*. *T. superba* itself is closely allied to the latter, and differs chiefly in having more numerous and densely arranged pinnae and pinnules. In good typical specimens the pinnules are so numerous that they cannot all be accommodated in one plant, and from this fact many of them project at right angles to the upper surface of the frond, giving the whole a massive and plummy appearance. The pinnae and pinnules of *T. hymenophylloides* are easily accommodated in one plant, giving the frond a thin and membranous appearance, which probably suggested the specific name, *T. pellucida*, sometimes given to it. The intermediate forms have flat pinnae, notwithstanding their much-divided and segmented character. The whole are grown in a house with a northern aspect, kept constantly moist, but without the aid of glass cases.

Osborn's Dwarf Kidney Bean.—I have for the past three years grown this old variety, and have depended entirely upon it for our early and late supply of this much-esteemed vegetable; and although I have at different times given other sorts a trial, none do I find so good and so useful as this. It crops wonderfully heavy, the pods are of medium size, cook well, and growing about 10 ins. high, makes it all the more suitable for growing in pots. We generally grow our first batch in 6-in. pots, but afterwards sow three seeds in 3-in. pots, and as soon as the plants are about 4 ins. high we plant them out in beds, allowing a distance of 14 ins. between each. At the time of planting a few twiggy branches are placed around them to keep the plants upright when bearing. Beans grow and bear freely in a night temperature of 55° to 60°, with a rise of 10° to 15° in the daytime, according to the state of the weather, and with plenty of moisture on bright days.—*H. Markham, Mereworth Castle.*

Lachenalia Nelsoni.—The best examples of this golden yellow *Lachenalia* we have seen are in the gardens of Sydney Courtauld, Esq., at Bocking Place, Braintree. They have each two or three dozen spikes in a 32-sized pot. A specimen of it in a vase in the house well displays its beauty and durability as a plant for indoor decoration, the profusion of golden yellow flowers contrasting well with the green and purple spotted foliage.

Hymenocallis macrostephana.—The flowers of this plant are much larger than those of *Pancratium fragrans*, which is a closely-allied subject, flowering at various periods of the year. The fragrance of *H. macrostephana*, together with its large pure white flowers, aided by the great spreading corona, makes it a favourite at Syon House, where Mr. Woodbridge grows it as a speciality for cut-flower purposes. Their duration is comparatively short, either in a cut or uncut state, but their striking and distinct appearance will always tell in their favour. A great part of one

house is occupied by bulbs in pots plunged in a bed, and the ample and healthy character of the foliage bespeaks the treatment they receive. This species is figured in the *Botanical Magazine*, t. 6436.

Boronia megastigma.—The presence of this plant would hardly be detected amongst others, even when in full flower, were it not for the delicious odour emanating from the small inconspicuous flowers. The latter are brown externally, pale yellow internally, and hang downwards. All of these characters render them obscure and insignificant; so that the sole redeeming feature of this plant for cultural purposes resides in the fragrance of the expanded blooms. By this alone its presence is detected in a house amongst many flowering plants at Syon House, Isleworth.

Cyclamen ibericum.—A cheerful and spring-like appearance is produced by this early-flowering species on the rockery at Chiswick, where it rejoices in the name *C. coum verum*, under which it is figured in *Regel's Gartenflora*, t. 370, and which seems to be the one most generally adopted in this country. The leathery orbicular leaves are deep green zoned, with grey on the upper surface accompanying the rosy purple flowers. The latter are characterised by a more intensified colour at the base. The beautiful *C. Atkinsii*, with white flowers and a purple blotch at the base, is flowering in a cold frame.

Iberis saxatilis.—The flower-buds of this slender, procumbent and truly Alpine Candytuft, are always well advanced in autumn, and consequently require only the encouragement of a cold frame to develop their pure white flowers. It has been, and will continue for many weeks in this condition at Chiswick, in a pit with a north aspect. The plant also succeeds there on the rockery; and the original specimens were brought from the mountains of Greece by Mr. G. Maw.

Camellia reticulata is a grand old variety when seen in a tree state, like that now in full bloom in the Birmingham Botanical Gardens. It is a standard tree in a large tub, its head being quite 10 ft. in diameter, and had fully 500 buds and expanded blooms upon it. The tree is in excellent health, the flowers have been full-sized, and this fine old *Camellia* has been greatly admired.

Primula imperialis.—Mr. J. G. Baker, of Kew, exhibited a dried specimen of this species at a meeting of the Linnean Society on the 17th inst. It has not yet been imported alive to this country, but its advent may be anticipated. Mr. Baker described it as a giant among its kind. That shown was a yard in height, or nearly so. The species is the most outlying representative of the Indo-Chinese types inhabiting the mountains of Java at elevations ranging from 4000 ft. to 7000 ft. It resembles a giant *P. japonica* closely, but the leaves are more finely and regularly denticulate, the flowers are borne in similar whorls, but are smaller, and the calyx is covered with a yellow mealy substance, while the calyx of *P. japonica* has no such covering externally.

Small Orange Trees.—Attempts have frequently been made in this country to cultivate Orange trees from seed with a view to fruit them. This will probably continue to be the case, notwithstanding that the matter is frequently noticed and condemned in the gardening papers. Small specimens, not exceeding a foot in height, with three or four branches and as many fruits, have been very attractive all the winter amongst a varied collection of flowering plants at Devonhurst, Chiswick. These specimens are grafted, as all Oranges ought to be if they are required to fruit in a small state. They are again showing flower, and the effect produced by flowers and fruit on such small specimens may be imagined. Mr. Wright may justly be proud of them.

Ixoras at Gunnersbury Park.—The amount of cut blooms annually obtained from these, and the healthy clean appearance of the plants themselves reflect great credit on Mr. Roberts and his staff. The method of treatment is a good index of the success attained in their cultivation. After the flowering season is over, large and over-grown specimens are discarded to make room for younger ones in different successive stages. These are vigorously cut back, re-potted, and plunged or stood on a hot-bed of cow-manure, under which hot-water pipes are conducted so as to regulate and augment the heat as that of the hot-bed declines. The latter is cleared out annually, and the bed thoroughly cleaned so as to eradicate any

vermin that may have taken up their abode there. Fresh manure is introduced, and the plants after having been pruned and re-potted are stood on the bed or plunged according to the degree of heat. The amount of the latter enjoyed by the roots of *Ixoras* would be fatal to most other plants, but it acts beneficially on these. Convincing proof of this is not wanting in the free growth and abundance of cut-flowers obtained from the plants in the course of the season.

Narcissus moschatus tortuosus.—Mr. Geo. Maw showed some flowering bulbs of this *Narcissus* at a meeting of the Linnean Society on the 17th inst. It differs from the type in the more drooping flower, and in the segments being somewhat twisted or longitudinally revolute at the margin. Mr. Maw says it is the only white Daffodil known to botanists at the present day in a wild state, and his bulbs were collected in the Val d'Arras, Pyrenees. The older botanists knew four or five white species. That under notice is generally grown in gardens under the name of *N. cernuus*, but the *N. cernuus* of Salisbury, figured in Wilkomm's *Illustrated Florae Hispanice*, Tom. I., 1881-85, t. 74, is a very different plant, allied to *N. triandrus*. Mr. Baker pointed out its true affinity as a variety of *N. moschatus*.

Gros Colmar Grape.—Evidently your correspondent, Mr. James B. Ridding, has not as yet tasted this variety at its best, or I feel sure he would form quite a contrary opinion from that which he now holds. There can be no doubt about its not doing well in many places; indeed, it may be said to be the exception and not the rule to meet with it in first-rate condition, hence the frequency of condemnatory remarks in the gardening papers. Some few weeks ago, I had the pleasure of paying a visit to Clarendon Park, Salisbury, and of meeting with it in the very pink of condition, that is to say, the berries were as black as Sloes and coloured up to the footstalks, and I can honestly say, of first-rate flavour. Previously, I had had but a very poor opinion of Gros Colmar, but on this occasion it was greatly modified, and I do not doubt the same will be the case with your correspondent when he has tasted equally well-grown bunches.—*J. Horsfield, Heytesbury.*

Azalea Deutsche Perle.—I send you a bloom of *Azalea Deutsche Perle*, of which we have a large quantity in flower and bud. Is it not a grand thing? better than *Eucharis* or *Camellias*. It can be forced very early.—*D. T.* [*Deutsche Perle* is one of the finest "decorative" *Azaleas* that has ever been introduced, and too much cannot be said in its praise. It is a good free grower, a free bloomer, comes in early, and is well adapted for forcing, and its large semi-double flowers are of the purest white.—ED.]

Why don't Peaches thrive outside now?—I can remember when we used to gather the Royal George, Noblesse, and other Peaches in first-class style, both for size, colouring, and ripening outside; they, indeed, compared equally with many now grown under glass. At this time the trees gave not only a few good specimens of fruit, but literally basketfuls; and the period in question extended from the year 1860 to 1870. Before that time I cannot say, from experience, if they had thriven so well. A marked change took place, beginning about the end of the latter year, and ever since not only did these crops diminish in quantity annually, but now, in the same garden, the trees themselves refuse to grow. Each year saw the verdant trees on the wall torn away piece by piece, leaving only a wretched half dead stem, with few limbs, boldly struggling for existence, at varied intervals, until at length their increasing unsightliness occasioned their entire removal. While undergoing this change, they were devastated by all manner of diseases and insect pests, such as red spider, green and brown aphids, and that strange disease, caused by a fungus, which results in the curling and thickening of the leaves. It was interesting to see the action of this disease upon the leaves in some seasons. As a rule, the whole of them were attacked and ultimately fell off, new ones taking their place; and often many were only affected on one side of the mid-rib, giving that side, in some cases, not less than 4 ins. in breadth.

Not only is this change felt in Scotland, but likewise in the greater part of England. In Herefordshire I noted several instances of this, some cases worse than in Scotland; and the same tale was related to me there,

as above mentioned, regarding the crops gathered from 1860-70. In passing, I may note that in some parts of that country the Apple tree appears to be on the high-road to the same fate. Whole orchards look as if scorched by a mighty thunderbolt. The young wood of last season was mostly dead, and the leaves in general were of a rusty hue. There were some Apples, too, but judging from the appearance of the trees, it would not be difficult to predict that they would be very inferior in quality. Now, it would be interesting to know in what way, or by what cause, this radical change comes about, when it is declared by many who should certainly know, that there is no appreciable diminution of sun-heat.—*D. Chisholm, Edinburgh.*

ORCHID NOTES AND GLEANINGS.

Orchids at Messrs. James Veitch & Sons'.—Notwithstanding the fogs, and damage to the flowers arising from them, a good display of bloom is to be found at the Royal Exotic Nursery. In the large *Cattleya* house some hundreds of good forms of *Cattleya* *Trianae* are in flower, although large quantities of them have been prevented from coming to perfection by the cause named, a mischief which the fine *Vandas*, just coming into bloom, and well-sheathed *Laelia* *purpurata*, *Cattleya* *Mossiae*, and *C. Mendelii* will, however, escape. The bright yellow *Laelia* *flava*, the orange-scarlet *L. harpophylla*, several very large *Dendrobium* *Wardianum*, *Cattleya* *bicolor*, and some very fine *Cymbidiums* are also in bloom or bud in the large *Cattleya* house.

The cool houses are well supplied with the flowers of numerous *Odontoglossum* *crispum*, *O. Pescatorei*, *O. Edwardii*, *O. Cervantesii*, *O. Rossii* *majus*, *O. blandum*, *O. Andersonianum*, *O. cirrhosum*, *O. Oerstedii*; and, for comparison, a grand piece of *O. Oerstedii* *majus*, with six spikes of, in all, sixteen flowers—quite twice the size of the ordinary form; some time ago Messrs. Shuttleworth, Carder & Co. were lucky enough to get a small lot of this fine plant over. Also in bloom, in the cool houses, are some good *Cymbidium* *eburneum*, *Dendrobium* *glumaceum*, *Odontoglossum* *Krameri*, many *Coelogyne* *cristata*, *Epidendrum* *Endresii*, *Oncidium* *Cavendishianum*, *O. unguiculatum*, many *Laelia* *anceps* and *L. albida*, *Zygopetalum* *crinitum*, the charming *Pleurothallis* *ornata*, many *Lycaste*, one large plant of *L. Skinnerii* *alba* having six flowers; and, in bud, several immense plants of *Oncidium* *macranthum*.

In the *Phalaenopsis* house there is a good show of *Phalaenopsis*, especially *P. Schilleriana* and *P. Stuartiana*, together with a plant or two of the rare spotted form of the latter, *P. S. punctatissimum*, *Angraecum* *citratum*, *A. sesquipedale*, several *Odontoglossum* *Roezlii*, and the grand variety of *Saccolabium* *illustre*, previously alluded to by us. The *Cypripediums* have in flower *C. tonsum*, *C. Stonei*, *C. Haynaldianum*, *C. Harrisianum*, *C. Dauthieri*, *C. vermicum*, *C. Dormanianum*, *C. calurum*, *C. Sedeni*, *C. S. candidulum*, *C. calophyllum*, *C. Meirax*, *C. villosum*, *C. argus* and *C. barbatum* *O'Brieni*, which is the handsomest of the *biflorum* section.

The *Dendrobes* in flower are the several varieties of *D. nobile*, *D. crassinode*, *D. Boxalli*, *D. Dominicanum*, *D. speciosum*, *D. endocharis* and *D. Ainsworthii*, with a vast improvement on the last-named in a new variety blooming now for the first time; in habit of growth, size and colour of flowers, and every other respect, it is the best of the section. Another new and lovely *Dendrobe*, *D. enosmum* *leucopterum*, a hybrid between the neat little *D. endocharis* and *D. nobile* is also in bloom. It is white with a dark spot on the labellum, and it forms a very acceptable and pretty addition to the genus.

Orchids from the Woodlands, Streatham.—Mr. R. C. Fraser sends us a box containing a large assortment of different species, presenting a beautiful combination of varied and striking colours. The *Cattleyas* and *Dendrobiums* were simply superb, from their great size and rich attractive colouration. The following are his observations: "The rose colour observable in the lip of *C. Trianae* *alba* diminishes as the flower gets old, but it is a splendid form. Another variety is the finest I have ever seen of a dark *C. Trianae*; it is from an importation of Sander last year, and is a fine plant with eight leads; *C. T. superba* is

from a fine plant with twenty flowers. Enclosed, find the Popayan variety of *C. Trianae*. [The tube is very long with a rich maroon-purple lamina and deep yellow throat.] *C. T. rosea* looks pretty with two or three spikes of bloom as we have it just now. We are rather puzzled with a large plant bought from the Lovat collection as a very fine *Mossiae*; the result is that already three varieties have flowered from the same pot; one is an exceedingly fine *C. T. alba*, the other an equally good dark-lipped *C. Trianae*, and the third before you makes six as distinct varieties of *C. Trianae* as could be got together."

"I send a few varieties of *Dendrobium* *nobile*, mostly from plants imported a year ago. [Very fine indeed.—Ed.] Also fine *D. Ainsworthii*, from a plant bearing over 100 fully expanded flowers; and *D. A. roseum* and *D. A. Leechianum*. Several forms of *D. Wardianum* are also from imported plants. The *Dendrobiums* on the whole have done well of late; they evidently enjoy the new quarters given them last year. Fancy a pseudo-bulb of *D. Ainsworthii*, less than 1 ft. in length, with two dozen blooms open!

"It cost an effort to send the spike of *Laelia* *flava*. The piece consists of twenty-four pseudo-bulbs, bearing at present three spikes of bloom; it is an old plant from the Hanbury collection, and does well here. My belief is that *Coelogyne* *cristata* (Chatsworth var.) and *C. c. maxima* are one and the same thing; seven flowers are the most produced by either with us. *Lycaste* *plana* *Measuresiana* turned up from one of Mr. Sander's importations last year, when it then threw up one weak spike. We were much struck with it, and divided the plant into six, all of which have flowered freely, one bearing ten flowers. The plant shown at South Kensington at the last meeting, and which obtained a Certificate, was part of the original plant. We have *Lycaste* *Skinneri* *alba* in flower just now, and one pseudo-bulb bears fifteen flowers. Some of the scapes are twin-flowered, and both fully expanded at the same time."

Saccolabium bellinum.—This charmingly pretty species is now in flower at Cambridge Lodge, and is a great favourite with Mr. Measures, and, indeed, with everyone who sees it. The curious baggy labellum adorned with its white woolly-looking filaments, the yellow, white and crimson colouration, combined with the umbellate inflorescence, at once arrests attention and commands admiration. *Saccolabium* *Harrisoni* is a white-flowered species of the racemose section, generally seen in small plants, and with poor spikes. Mr. Measures' variety, however, is an admirable one; the spikes are long, and the flowers are large and pure white. The collection at Cambridge Lodge of these lovely plants has come to the front with a rush; less than two years ago the nucleus only was formed, and now there is a really grand lot of plants, some sections being especially fine, viz., *Vandas*, *Cattleyas* and *Cypripediums*. *Odontoglossums* are also well represented, and the whole collection is in admirable condition, exhibiting every sign of good culture. Many fine blossoms had been entirely spoiled by the late fogs, and it is doubtful if the fine spike of "*Phaius tuberculatus*" will survive its influence.—*G. J.*

Calanthes with Branching Spikes.—In reply to your correspondent, Mr. N. Blandford (p. 380), I am able to state that although it is unusual to find *Calanthe* *vestita* with a branching spike, it is not unknown. I have myself found a plant growing wild with a branching spike. I also last year in the Moulmein district found a plant of *Limatodes* *rosea* with a branching spike. As *Calanthe* *Veitchii* is a hybrid between "*Calanthe* *vestita*" and "*Limatodes* *rosea*," it is possible that this may also produce a branching form occasionally.—*E. S. Berkeley.*

Coelogyne lentiginosa.—Amongst the smaller flowered kinds this is one of the more important, possessing in a measure both conspicuous and attractive flowers. The latter are also scented, but by many the odour would probably not be considered fragrant, although it is by no means positively disagreeable. Four to six flowers are borne on an erect raceme, and for that reason the species belongs to the section *Erectae*. The sepals and petals are pale yellow, varying in different varieties with pale green or straw colour; and we have even seen plants exhibiting several shades in the same pot. Probably, however, there were separate individual plants in the same pot exhibiting these various shades of colour. Normally the labellum is pale or creamy yellow, with two large orange blotches near the tip, a few red lines along the centre, and blood-red edges to the lateral lobes. The species is easily managed, flowers regularly about this time, and merits the attention of cultivators where the collection is anything beyond a limited selection. Coming as it does from Moulmein, it requires the temperature of a warm or intermediate house to develop it properly.

A figure of it is given in the *Botanical Magazine*, t. 5958, and flowering specimens may be seen at Gannersbury Park.

Cattleya Percivaliana.—Whatever opinion may be held about bad varieties of this plant, there is no question about the beauty of good ones. A superb form has just flowered with the Rev. Mr. Kinleside at Sunbury House, Tunbridge Wells. It is above the ordinary size, and has sepals and petals of warm rose-pink; the labellum is a rich piece of colouring—in the centre blackish maroon, within the tube orange, the whole shading into velvety crimson towards the broadly frilled edge of the lip.

Cypripedium villosum.—A very fine specimen plant of *Cypripedium* *villosum*, highly coloured, is to be seen at the Botanical Gardens, Birmingham, just now, having thirty-six fine blooms on it. It is a fine form of *C. villosum*, one of the handsomest of the genus. *Phalaenopsis* *Stuartiana* is also in bloom there just now, and is both distinct and beautiful.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

FUCHSIAS.—The batch of *Fuchsias* placed in heat for early flowering, as previously advised, will now be ready for re-potting; be careful to use a light compost. One of the very best materials for the purpose is spent Mushroom-bed manure, with the addition of a good sound light loam; as growth proceeds feed with liquid manure copiously. Let it be borne in mind that this first early batch, after being rested, will come in admirably for late summer decorative work, and well repay the attention bestowed. Where the stock of any variety is short, the pinchings may be made into cuttings, and will be found most useful for the front row in staging; at the same time it is desirable that the main stock should be struck late in the previous season, and kept in store pots until started in the spring. These will be found to make excellent plants for all purposes, and will take the place of many of the older stock.

CHRYSANTHEMUMS.—We have potted off the whole of our *Chrysanthemums*, returning them to a specially prepared place in a heated pit; of course, the valves will only be opened in case of unfavourable weather. We prefer to cover with mats at night rather than resort to fire-heat, as they are so impatient. If the weather is very bright (as now), it will be necessary to partially shade for a time to prevent flagging, always to be avoided in the culture of this plant; dew over with the syringe early in the afternoon, closing the pit at the time, and they will quickly establish themselves in the new soil. Most of the autumn-flowering plants, if plunged as advised, will now afford a full supply of cuttings, which should at once be taken off and inserted in an open compost, the pots to be plunged in a brisk bottom-heat to insure a rapid strike; the quicker they strike root, the healthier will the stock be. As they are sufficiently advanced, they may be removed to make way for others, of which there is an abundance just now.

PETUNIAS.—Where *Petunias* are in demand—and surely they are worthy of every attention—and any selected plants have been kept over for perpetuating, they should at once be placed in a gentle heat, so that cuttings may be taken; after these are secured the old stools may be thrown away. Let the cuttings be closely shaded; in fact, if inserted in sand and water they strike more readily than in any other way, but should never be allowed to flag. We have sown a couple of packets of some of the choicest advertised double-flowering varieties, as we find them extremely useful for summer decoration; many of the flowers, too, are deliciously scented, and extremely useful for cutting purposes; and I would advise all who have not yet devoted much attention to them to give them a good trial.

THE FORCING HOUSES.

VINES.—Seldom, indeed, is the month of February so favourable as has been the case this season so far; little or no rain, with plenty of light and sunshine—it has been, indeed, all that the most ardent "forcer" could desire, insuring, as it does, abundant tissue to the growth made by all plants. *Vines* are particularly benefited by this bright clear weather; and those who may have a house in flower just now, may consider themselves favoured meteorologically, and should have no difficulty in obtaining an abundant "set." The succession houses, too, are making rapid progress, but to keep them in place, extra ventilation during the day may be had recourse to, with a correspondingly low night temperature; but do not go to extremes, as the young growth of the Vine is very tender, as also the clusters of flower which are so prominent in healthy and vigorous *Vines*.

THE SECOND PEACH HOUSE is making good progress, and will quickly be in flower. We keep this house very steady in case of the crop being required by a special date, as is frequently the case; the trees are syringed twice a day, and a comfortable state maintained, and the buds are swelling up satisfactorily. We have

placed in heat another batch of Rhubarb roots to maintain the supply which all through has been most abundant.

MUSHROOMS.—Our first Mushroom bed (rather strange to say) still gives us an abundant cut, but as soon as signs of decay sets in, we shall allow it to become rather dry, and then give it a watering of warm water, previously sprinkling the bed with salt. Cover up with straw, and await the result, which shall be duly given.

THE KITCHEN GARDEN.

THE FRUIT QUARTERS.—Fortunately through the weather continuing so fine, we are enabled to continue digging; in fact we have completed all the vacant squares, and are now busy with the fruit quarters and borders, with the exception of the Gooseberries, which, on account of the attacks of birds, will be left unpruned as long as practicable. The cuttings of both Gooseberries and Currants will be planted during the week, and we hope also to finish all nursery work, as early completion of work in this department cannot be too strongly urged. As occasion will permit, attend to the seed Potato store, and in the case of very firm sets, let the end be cut off, which will be found to greatly benefit the yield as a rule.

ROSES, &c.—The weather continuing so mild, and our Rosery being so sheltered, the Roses are consequently starting into growth; we are, therefore, compelled to prune rather earlier than usual. However, as other ground-work is now well forward, we can devote extra attention to them in the way of giving all the manure possible. See that all the standards are properly secured, new stakes being put where defective. Attention must also be now given to the walks and lawns in the shrubberies, by repeatedly rolling; unless an early start is made a good face is seldom obtained, and should it be necessary, the turning and re-making of gravel walks should at once be proceeded with. We hope this week to put in a good breadth of Ashleaf Potatoes on a warm south border.—*Walter Child, Croome Court.*

FLORICULTURE.

CHINESE PRIMROSES AT PERRY HILL.—Admirers of these beautiful winter flowers will find much to interest them in examining a large collection in a new house, just erected by Messrs. Carter & Co., at their Perry Hill Nursery, near Sydenham. There are about 1,000 plants in 48-size pots, arranged in patches of one variety, all well grown and finely bloomed; and by their habit of throwing large trusses of finely formed flowers on short stems well above the foliage, they are admirably adapted for general market and decorative purposes. The condition of the plants is also all the more satisfactory, because the growing-houses at the Perry Hill Nursery are old-fashioned rather than of modern construction, and not at all well fitted for the production of Chinese Primroses in their best form.

The darkest is a rich-coloured variety named Vermilion, a fine type of the Chiswick Red, with finely fringed petals, bold lemon eye; the flowers having the desirable property of becoming darker in colour with age. This variety appears both in the plain and Fern-leaved foliage. Holborn Magenta is a plain-leaved variety, colour rich rose, flushed with magenta, fine bold pip, fine and effective; in this case the flower deepens materially in colour with age. Holborn Carmine is a variety with large stout pips, colour bright rose flushed with carmine; a fine market strain and strong grower, with bold trusses of bloom rising well above the foliage; the flowers have a well-defined lemon centre, plain-leaved, very robust, and the eye brightens in colour with age. This came from a cross between Vermilion and Holborn Purple. Holborn Fern-leaved Red has large, bold, fringed, deep pinkish rose flowers, with bold eye, and small spots of white on the florets, very robust, with the flowers thrown well above the foliage. Holborn Salmon is of a charming colour, but to do it justice requires a temperature of not less than 50° by night; a low temperature affects the edges of the florets and discolours the blooms; the colour is bright carmine-salmon; it is plain-leaved, and the trusses of bloom are thrown well above the foliage. There is a semi-double form of this, named Prince of Wales, which comes true from seed, the flowers well thrown above the foliage, and a capital decorative variety. Holborn Favourite is of a pale lilac-rose colour, distinctly margined with white, plain foliage, very pretty and distinct; the flowers open quite pale, but deepen in colour with age.

Elaine is a pure white variety with plain foliage and dark leaf stems. It may be mentioned, as a fact, that the purest white Primulas are invariably found on plants having dark leaf stems; very pure and fine, a robust grower, and a good market variety. There is a variety of this with Fern-leaved foliage, larger flowers, smoother and better fringed; stout dark stems, extra fine. Improved Holborn White is said to have come from a cross between Holborn White and Tomkins' Queen; and from this cross came both the Fern-leaved and plain-leaved types, and both take on a very delicate tinge of the softest blue; fine large trusses of bold pips thrown well above the foliage. The old Holborn White

has smaller flowers, but while the improved form keeps pure white, this comes tinged with delicate blush—a common occurrence with white Primulas; it is yet a good useful variety, with the flowers well above the foliage.

Holborn Pearl has dark leaf stems, colour pure white, taking on a very delicate tinge of silvery blue; large bold pips, very delicate and pretty, a robust grower. There is a Fern-leaved form of this, the flowers a little larger in size and deeper in tint, very pretty and distinct, and well fringed on the edges of the blossoms. Holborn Blush is a plain-leaved variety, flushed and flaked with rose, the leaf stems white, and the plant having an excellent habit of growth. Holborn Venus is a charming striped variety, the leaf stalks quite dark, and the flowers striped and spotted with pale rosy purple; fine pip, and bold truss. This variety appears to be quite persistent in character. Some of the blossoms are splashed with purple, and in this form they are particularly pleasing. Lastly comes Holborn Blue. The credit of giving this great novelty to the public belongs to Messrs. Carter & Co., and by careful selection they have succeeded in developing a very fine form of it, the large stout-fringed flower having a bold and striking orange eye.

We are all the more glad to bear testimony to the value of these Primulas after a personal inspection, because we think that when they were shown at South Kensington, on the 8th inst., they were seen at a great disadvantage. On a keen frosty morning they were brought all the way from Sydenham in a van, and suffered from the cold in consequence. They were then placed in an unheated corridor in a bad light, through which they also suffered greatly. It is due to Messrs. Carter & Co. that this much should be stated.

POLYANTHUSES, GOLD-LACED.—From all parts of the country I hear of the slaughter among these through the frost, and one in the north of England writes to say that he thinks plants will be very scarce indeed in the autumn. Plants that, just previous to Christmas, appeared to be in the rudest health are found to have rotted away at the collar. I presume there is some inherent weakness in the propagated plants, and a time of severe frost proves too great a strain upon them.—*R. D.*

LAW NOTES.

JACOB AND OTHERS v. MANSFIELD.—In the Queen's Bench Division on Monday last, before Mr. Justice Wills and a common jury, the case of Jacob and others v. Mansfield came on for hearing. It arose out of the following circumstances:—The defendant was a grower of flowers for market, at St. Clears in Carmarthenshire, and in the autumn of 1884 he purchased of Mr. Schultz, a grower at Berlin, 150,000 bulbs or "crowns" of Lily of the Valley, with the intent of forcing them for flowers for the Christmas market. The terms were that the bulbs should be of the first quality and have flowers in them, that one-third of the price should be paid in cash, and the remainder at six months. 50,000 bulbs were sent over on the 27th October, and £90 was paid. On the 8th November 100,000 more were sent, and the case for the plaintiffs was that £179 10s. was due for them, and a small amount for interest in addition. Mr. Schultz had assigned his right of action to the plaintiffs, and it was in that way that they claimed to have a right to sue. Mr. Murphy, Q.C., and Mr. Ashton Cross were for the plaintiff, and Mr. Philbrick, Q.C., and Mr. Reginald Brown for the defendant.

The case commenced on Friday and continued until Monday, and a great deal of evidence was laid before the jury. The substance of the case for the plaintiffs was, that to be of first quality and in flower the bulbs must be three years old, and that those supplied answered this description. A skilled person, it was said, could, by looking at the bulbs, see whether they had flowers in them, and that those in question were examined and found to be flowering plants. A good deal of evidence was given as to the way in which the flowers should be forced for the early market, and something also was said as to the frost damaging the bulbs when they were in the open ground. Mr. Justice Wills thought that they were very hardy plants, for he knew a spot 4,500 ft. above the sea level where they grew very well. For the defence it was said that the bulbs were not of the quality bargained for, and were probably two-year-old plants. About 75 per cent. of them, it was said, did not flower; whilst if the plants had been good, the percentage of flowering bulbs should have been from 75 to 90 per cent. Other evidence was that 40 to 50 per cent. was a fair proportion of flowering plants. Mr. Justice Wills, in summing up, said that the present belonged to a class of case that was always difficult to decide; for on behalf of each party there was made out a case that, taken by itself, seemed to be unanswerable, whilst, of course, one or other must be wrong, because the two were inconsistent. The jury, having heard all the evidence, must say what conclusion they had come to upon it. The jury, having considered the matter for twenty minutes, gave a verdict for the plaintiffs for £179 10s., and his lordship gave judgment in accordance with the finding.—*Daily News.*

Obituary.

Another gardener of the old school has just passed away, in the person of Mr. WILLIAM NORTH, of Lee, Kent, the raiser of the well-known bedding *Calceolaria aurea floribunda*. Mr. North commenced his gardening career more than fifty years ago, and for many years was gardener in a private establishment. About twenty years ago Mr. North purchased the nursery and florist's business of the late Mr. G. Stanley, Manor Lane, Lee, and in conjunction with his son, carried on the business until recently, when the partnership was dissolved, his son retiring from the business. Mr. North, who died on the 20th inst., was much respected for his many social virtues.

WE have also received intelligence of the death, at Berchem, near Antwerp, on the 17th inst., of MADAME LE GRELLE, a warm supporter of horticulture, and a most successful prize winner at the leading Belgian Horticultural Society's exhibitions.

QUESTIONS & ANSWERS.

FLAVOUR OF TOMATOS.—*R. M.*: Undoubtedly they are of the best flavour when allowed to attain maturity on the plants.

BOOKS.—*W. W.*: Kemp's "How to Lay Out a Garden," published by Bradbury, Agnew & Co.

A GARDENERS' ORPHANOE.—*ERRATUM*: At page 392 the word "more" after "300" should be omitted.—*J. Udale.*

FLANNEL FLOWER.—*J. H.*: Next week. It requires some looking up.

THE RE-DISCOVERED DAFFODIL.—*A. G. H.*: Many thanks, but we have already given the information in recent numbers.

ALOYSIA CITRIODORA.—This is generally known as the scented Verbena, and is very frequently grown in cottage windows. I have heard it is hardy in some parts of England, and would like to know if this is the case, and whether it would flower out of doors in Hampshire.—*Hants.*

LILIES OF THE VALLEY.—*D. T.*: A very poor sample, and especially so if the crowns really were of the German variety; but as the flower stalks are shorter than the leaves, and the upper flowers are unopened and greenish, detracting from the appearance of the white bells, it would rather seem to us to be the Dutch variety. See "Law Notes," in the preceding column.

FRUITS TO NAME.—*J. M. H.*: The Apple is Annie Elizabeth; the seedling Pears had gone too far past their season to enable us to form any opinion of their merit.

QUASSIA AND SOFT-SOAP.—*Forgetfulness*: The decoction of Quassia and soft-soap can hardly have been recommended for destroying fungus [Lichens?] on Apple trees, for which lime-wash is the best remedy. It is made, however, by boiling 4 ozs. of Quassia chips in a gallon of soft water for ten minutes; strain off the chips and add 4 ozs. of soft-soap, which should be dissolved as it cools. Stir it up well before using for the destruction of aphids of all kinds.

GUIDE FOR AMATEUR FLORISTS.—*Weekly Subscriber*: You do not state what branch of floriculture you intend to pursue. There are many books bearing on the subject, many of which are devoted to one plant or class of plants only. If you want a guide for hardy florists' flowers generally, you could not do better than get "Hardy Florists' Flowers," by James Douglas. The "Amateur Gardeners' Calendar," by Mrs. Loudon, published by Frederick Warne & Co., gives a great amount of useful information on gardening matters.

PLANT HOUSE.—*F. M., Didsbury*: You must provide for front and top ventilation if you want a useful house for general plant cultivation, and as you have to rebuild the house, we think you should reduce the height in front by at least six inches. The top of the roof should not be carried higher than the top of the wall, unless you want to grow large plants, and you would find it more economical to have a fixed roof with a continuous ventilator along the top than to have sliding lights. Troughs should certainly be put on the pipes, but these alone will not supply at all times a sufficient amount of humidity, but must be assisted by sprinkling the paths, walls, &c. The tank would not assist you at all unless the hot-water pipes ran through it, and we could not recommend you to adopt that plan. We cannot advise you to grow climbing plants to provide shade for such subjects as you intend to cultivate. It is better to have a roller blind that can be used at pleasure, or to wash the glass with some shading mixture when the sun gains too much power. You do not say what the size of your boiler is, but if you do not unduly lengthen the house, it would probably be sufficient for your requirements.

TUBEROSES.—*A Beginner, Turton*: Pot your bulbs singly in 5-in. or 6-in. pots, according to the size of the bulb, using a compost consisting of equal parts of loam, peat and cow-dung, to which has been added some sharp clean river-sand, to keep the compost open. Plunge the pots, or stand them in the warmest part of the house at your command. If the soil is sufficiently moist, the bulbs will require no water till they have started, after which the supply should be augmented as growth proceeds. The bulbs may all be started at once, and part of them removed to a cooler house at different times, or they may be introduced to heat in two or more batches at your option. Be careful, however, not to water the bulbs when potted and kept under cool treatment.

DOUBLE WHITE NARCISSUS.—*R. M.*: We have noticed recently transplanted bulbs of different forms of *N. poeticus* behave in the manner you have described. It arises from weakness after transplanting, while in other cases it is the result of overcrowding. Never transplant them till the leaves have perfectly died down; but after that you may plant the bulbs in small clumps, separating them from one another, in well dug and enriched soil. Put them in about a depth of 3 ins., and if you pursue this plan there will be no difficulty in flowering them.

RICHEA PANDANIFOLIA.—Seeing a plant under this name the other day I was struck with its appearance, and although it resembled some of the Pine Apple family, I found on referring to the Gardeners' Dictionary that Richea belongs to the Epacris family. Can any one say whether the plant I saw was likely to be correct, seeing that the habit is so different from an Epacris?—A. L. G.

NAMES OF PLANTS.—R. C. K.: 1, Odontoglossum Lindleyanum; 2, Odontoglossum odoratum; 3, Dendrobium heterocarpum Philippinense. A Subscriber: Dendrobium crumenatum; flowers white and sweet scented; stove treatment. W. T.: 1, Asplenium flaccidum; 2, Pteris quadriaurita argyrea; 3, Lastrea Filix-mas cristata; 4, Polystichum (Aspidium) aculeatum angulare; 5, Pteris cretica albo-lineata; 6, Pteris serrulata. The others next week.

COMMUNICATIONS RECEIVED.—K. L. D.—W. E. B.—J. D. & S.—W. & J. B.—E. W.—W. D.—J. F.—J. B.—G. F.—A. G. H.—J. W. S. (next week).—J. U. (next week).—Paeony (next week).—N. B. (next week).—W. H. B.—T. W. S.—W. G.—J. M. (many thanks. In an early number.)

TRADE CATALOGUES RECEIVED.

THOMAS S. WARE, Tottenham, N.—Illustrated Catalogue of Choice Hardy Perennials, and Special Lists of Chrysanthemums Hardy Florists' Flowers, Paeonies, Hardy Plants, &c.

WEBB & SONS, Wordsley, Stourbridge.—Abridged Spring Catalogue of Seeds, and Annual Catalogue of Farm Seeds.

JAMES VEITCH & SONS, King's Road, Chelsea, London, S.W.—Catalogue of Agricultural Seeds.

E. J. JARMAN, Chard, Somerset.—Catalogue of Choice New Flower and Vegetable Seeds.

GEO. BOYES & Co., Ayleston Park Nurseries, Leicester.—Catalogue of Florists' Flowers, Bedding Plants, &c.

BIDDLES & Co., PENNY PACKET SEED COMPANY, Loughborough.—Complete List of Flower and Vegetable Seeds and Dutch Bulbs.

JOHN FORBES, Hawick, N.B.—Descriptive Catalogue of Florists' Flowers, Stove and Greenhouse Plants, &c.

LONDON SEED TRADE.

February 23rd, 1887.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance and slow trade at to-day's market. Country dealers are in no hurry to buy, and supplies of all varieties of Clover Seeds being fairly large, prices remain without alteration; Rye Grasses firm. Bird Seeds unchanged.

COVENT GARDEN MARKET.

February 24th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	2 0	5 0	Pine-apples, St.		
Grapes..... per lb.	2 0	6 0	Michaels, each	1 6	6 0
Kent Cobbs... 100 lbs.	60 0	65 0	Pine-apples, Eng., lb.	1 0	1 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussels Sprouts, per lb.	0 3		Onions, per bushel	4 0	5 0
Cabbages per doz.	2 0	2 6	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	3 0	5 0	Sea Kale .. per basket	1 6	2 6
Celery, per bundle	2 0	2 6	Small salad, punnet	0 4	
Cucumbers, each	1 0	1 3	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	2 6
Herbs, per bunch	0 2	0 4	Turnips.... per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	3 0	5 0	Marguerites, 12 bun...	3 0	6 0
Azalea, 12 sprays	0 6	1 0	Mignonette, 12 bun...	4 0	6 0
Bouvardias, per bun.	1 0	1 6	Parma Violets (French), per bunch	3 0	4 6
Camellias... 12 blooms	2 0	4 0	Pelargoniums, scarlet		
Carnations, 12 blooms	1 0	3 0	12 sprays...	0 6	1 0
Cut Tulips, 12 blooms	0 9	1 3	Primula, double, bun.	0 9	1 6
Czar Violets (French), per bunch	1 6	2 0	— single ... 12 bun.	4 0	6 0
Daffodils... 12 blooms	0 6	1 6	Roses (coloured)	3 0	6 0
Epiphyllum, 12 blms.	0 6	1 0	Roses, Tea per dozen	1 6	4 0
Eucharis, per dozen	3 0	6 0	Roses, red (French), per doz.	1 6	2 0
Gardenias, 12 blooms	12 0	30 0	— Saffron (French), per doz.	1 0	2 0
Heliotropes, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Lapageria, red, 12 blooms	1 0	2 0	Tuberose, per dozen	2 0	4 0
Lapageria, white, 12 blooms	2 0	4 0	Violets .. 12 bunches	1 6	2 6
Lilies of the Valley, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9
			Xmas. Roses, 12 blooms	0 4	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 6
Arum Lilies, per doz.	18 0	24 0	Foliage Plants, various, each	2 0	10 6
Cyperus, per dozen	4 0	12 0	Hyacinths, per doz. pts.	6 0	9 0
Daffodils ... 12 pots	8 0	10 0	Lily of the Valley, 12 pots	12 0	24 0
Dracæna term., doz.	30 0	60 0	Marguerites, per doz.	6 0	12 0
— viridis, per dozen	1 0	24 0	Palm in variety, each	2 6	21 0
Epiphyllums, per doz.	18 0	30 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Erica hyemalis ... doz.	12 0	24 0	Primula sinensis, p. dz.	4 0	6 0
— Regenerians ... doz.	9 0	12 0	Solanums ... per doz.	9 0	12 0
— various .. per doz.	8 0	24 0	Tulips ... per doz. pots	6 0	8 0
Evergreens, in var., per dozen	6 0	24 0			
Ferns, in var., doz.	4 0	18 0			

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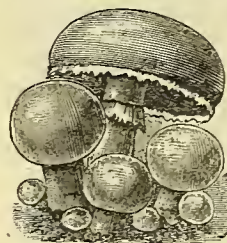
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Four varieties.....separate, 1s. 6d., post free.

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ROYAL BOTANICAL and HORTICULTURAL SOCIETY of MANCHESTER.
The FIRST SPRING FLOWER SHOW of the present season will be held in the Town Hall, Manchester, on MARCH 15 and 16. BRUCE FINDLAY, Royal Botanic Gardens, Manchester.

Shropshire Horticultural Society.

SUMMER SHOW (open to all) August 17th and 18th. Twenty Plants, £25, £20, £15. Collection of Fruit, £10, £6, £3. For Grapes, £44. Collection of Vegetables, eight sorts, £5, £3, £2, £1. Schedules and full particulars from MESSRS. ADNITT & NAUNTON, Shrewsbury, Hon. Secs.

Sheffield and Hallamshire Gardeners' Mutual Improvement Society.

THE Tenth Annual Chrysanthemum and Primula Show will be held at the Skating Rink, Glossop Road, on November 14th and 15th. Open to all England—First Prize for 24 Cut Blooms, Incurved, Diss., £10; second do., £5; third do., £2 10s. For 24 Japanese, Diss., first, £10; second, £5; third, £2 10s.—E. AUSTIN, Secretary.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m., in the Lindley Library; Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, MARCH 8th.
N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

MONDAY, March 7th.—Sale of Lily Bulbs, &c. at Stevens' Rooms.
TUESDAY, March 8th.—Meeting of Fruit and Floral Committees of the R. H. S. at 11 a.m.
WEDNESDAY, March 9th.—Sale of Roses, Fruit Trees, &c. at Stevens' Rooms.—Sale of Lilium auratum, Greenhouse Plants, &c., at Stevens' Rooms.
THURSDAY, March 10th.—Sale of Orchids at Stevens' Rooms.
FRIDAY, March 11th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.
SATURDAY, March 12th.—Sale of Roses, Plants, &c., at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 5, 1887.

THE PROPOSED GARDENERS' ORPHANAGE.—The suggestion recently made in our columns by Mr. Udale, and elsewhere by Mr. Penny, respecting the establishment of a Gardeners' Orphanage, is one which naturally attracts the sympathy of generous natures, and therefore is all the more difficult to deal with as a public question. For ourselves, we may say at once, that if a hearty desire is evinced by gardeners generally to support such a scheme, it will have our assistance and warmest support. We cannot, however, ignore the fact that up to the present time the promoters of the scheme have received but a very limited amount of encouragement, and practically none from the class whose children the proposed orphanage is specially intended to benefit. The reason for this is not far to seek, and suggests some observations, which we think it right should be introduced for the earnest consideration of those who may interest themselves in the subject.

We cannot disguise from ourselves the fact, as we take it to be, that of all the demoralising influences of the day, none are more insidious than are appeals to good nature, and the pro-

motion of purely charitable objects. Good sense urges that the aim of all charity should be to lift up and stimulate to self-respect and self-helpfulness, all seemingly needing help; while the tendency of the age seems to be to crush out all such virtues by piling up charity upon charity, until one-half of humanity is becoming in danger of depending on the other for a livelihood. In connection with established charities we see already in every direction financial difficulties of the gravest kind growing up. True, in the case of certain charitable adventurers, who spend hundreds of pounds annually in advertising eternal appeals for subscriptions and which return in thousands, the game goes on apparently as brisk as usual, but even that style of business cannot endure for ever, and that the public are beginning to tire of these eternal appeals and exactions is evident by the frantic efforts shown on every hand to secure the needed help for deserving established institutions.

Presently there will be an awful collapse of many of the apparently substantial charities. They have been lavishly maintained, and in their prosperity have proved fruitful sources of profit to some of their promoters, and now that charitable sentiment is either waning, or those who previously gave are now less able to do so, it may well be asked: Is it desirable to add yet another drain upon the pockets of the good-natured? Is it advisable to promote the establishment of an orphanage at a moment when so many similar charitable institutions are in danger of collapse? Another question which suggests itself is: In what way has it ever been shown that an orphanage is needful? For ages, literally whilst gardening has existed, no such need seems to have displayed itself, and, inasmuch as gardening is one of the healthiest of all vocations, and the least subject to accidents and sudden death, it seems to us to require much force to show why thus suddenly the demand has arisen.

To establish an orphanage or, indeed, any other charity, now-a-days, without a considerable endowment fund, would be an act of cruelty towards those entrusted with the conduct of its fortunes hereafter. Is the gardening community in a position to provide such a fund at the present time? Is it in the mood to do so, granting that the money is available? We do not believe that the gardening profession is so prosperous an one that it can afford to burden itself in this way, or gardeners in greater numbers would contribute to the funds of the charity which already exists—the Gardeners' Royal Benevolent Institution. We have, of course, heard over and over again another and a different reason for the indifference shown by the majority of gardeners to the institution—*i.e.*, the uncertainty of election by vote; but if that objection still obtains largely, and we believe it does, is it not better that gardeners should become members of one or other of the great provident societies, which have widow and orphan funds, rather than entrust their little ones—when orphans, to the chance of election by vote—to the cold hand of charity and the vicious influence of an orphanage, where the children would in all probability be reared as machines, and not as loving human beings.

There seems, to us, to be insuperable difficulties in the way of establishing a really good institution of the kind proposed; but where there is a will there is a way, and it rests entirely with gardeners themselves whether it shall be done or not. As we observed before, if any great desire is shown to raise such a fund as would be required, it shall have our influence and co-operation, but we claim first a full discussion of all sides of the question.

MESSRS. LUCOMBE, PINCE & Co.'s tenth annual EXHIBITION OF HYACINTHS takes place at the Exeter Nursery on Friday next, and a fine display of spring flowers is anticipated.

MESSRS. LITTLE & BALLANTYNE, Carlisle, have received a Royal Warrant, appointing them seedsmen to H.R.H. the Prince of Wales.

THE LIVERPOOL HORTICULTURAL Co. (John Cowan) has received instructions from E. Harvey, Esq., Riversdale, Aigburth, Liverpool, to offer his valuable collection of Orchids for sale. Mr. William Lee, Downside, Leatherhead, also announces a sale of his duplicate specimens.

WE regret to hear that Mr. JAMES VAIR, who for so many years had charge of Lady Dorothy Nevill's fine collection of plants at Dangstein, died at Stillyans Tower, Sussex, on February 24th, aged sixty-two years. Mr. Vair was taken ill when cutting Raspberry canes in the garden, was taken into the house, and died shortly after.

THE many friends of Mr. Henry Cannell, of Swanley, will warmly sympathise with him on the death, last week, of his youngest daughter under very sad circumstances. It seems that at Swanley Junction goods-yard there is a receptacle for London manure, which the young girl approached too near some three months ago. She was taken ill on reaching home, and died on the 24th ult, never having rallied from the poisonous effects of the stench.

WE regret to hear of the death, on Saturday evening last, of Mr. J. D. PERRINS, Davenham Bank, Great Malvern. Mr. Perrins was a partner in the famous Worcester sauce firm of Lea & Perrins, and a great lover of horticulture. At his charming residence, Davenham Bank, he had a fine collection of Orchids, which his able gardener, Mr. Jaques, has for some years cultivated with great success.

MESSRS. MESSENGER & Co., Horticultural Builders, Loughborough, have just published a new catalogue of designs for horticultural structures of all kinds, ranging from the palatial conservatory to the small general utility sort of house that meets the wants of amateurs. Boilers, pipes, connections and other necessary fittings are also freely illustrated, and their various merits described.

At a meeting of the Royal Botanic Society, held last Saturday, a communication from Mr. H. M. Edwards was read respecting the WHITE CUSHION SCALE INSECTS, lately so destructive to the Orange groves in California and other countries, and the means and appliances used for their extermination. This peculiar coccus—*Icerya Purchasi*—which also attacks other crops, is supposed to have been introduced from Australia, and appears to be extending itself over the warmer parts of the globe.

At the annual meeting of the SCOTTISH HORTICULTURAL ASSOCIATION held on Tuesday night, the following office-bearers were elected for the ensuing session:—Hon. president, Mr. James Buchanan, Oswald House, Oswald Road; president, Mr. D. P. Laird; vice-presidents, Mr. Dunn, Dalkeith Palace, and Mr. Milne; secretary, Mr. Robertson Munro; treasurer, Mr. Alexander M'Kenzie. The report stated that twenty-seven new members were added to the roll. Mr. Grossart, Oswald Road, received a Cultural Certificate for *Lycaste Skinneri alba*, and Mr. M'Hattie, Newbattle, one for *Pleurothallis scapha*.

THE council of the ROYAL HORTICULTURAL SOCIETY have definitely arranged with the Commissioners of the 1851 Exhibition for the occupation of the Conservatory at South Kensington for the society's meetings and shows—pending negotiations with the Royal Albert Hall Corporation. The entrance to the conservatory will be by the north-east Orchard House in the Exhibition Road, and exhibitors' entrance on the east side of the Royal Albert Hall. Fellows of the society will be admitted at 12 noon on presentation of their last year's ticket, and the public at 1 o'clock on payment at the door. Until further notice the price of admission to the public will be 1s. to the ordinary meetings, and 2s. 6d. to the larger shows.

WE have before us the schedule of prizes offered by the SHROPSHIRE FLORAL AND HORTICULTURAL SOCIETY for competition at its spring show on March 31st, and great summer show on August 17th and 18th. The latter is one of the leading exhibitions held in the provinces, and, financially, one of the most successful in existence. The prizes for plants are on a most liberal scale, as usual, chief in this section being £25,

£20, and £15 for twenty stove and greenhouse plants and £10, £6, and £4 for nine specimens of the same character. The splendid prizes of £10, £4, and £2 are again offered for six bunches of black Grapes, two bunches of three varieties, and which should bring out a rare competition. £8, £6, and £3 are also offered for a collection of twelve dishes of fruit, besides a number of other good sums in minor classes. The most liberal prizes for vegetables are offered by Messrs. Webb & Sons, viz., five prizes, ranging from £5 to 10s., for a collection of eight distinct kinds.

FOR early furnishing, some of the freest-growing kinds of *ACHIMENES* should now be potted, care being taken that the pots used are not too large; about half-a-dozen corms put into a 5 in. pot will make a most useful plant for house decoration. We find Sir Treherne Thomas by far the best for early work, and the colour, a violet-purple, is good also.

THE ART OF PROPAGATING.—I.

PROPAGATING may be considered an art, for it requires skill and a great amount of knowledge to comprehend the whole routine of a season's work, and to bring the whole of the subjects treated to a successful issue. The various modes of increasing a stock of plants may be summed up in the following. They must be either raised from seed or by cuttings, by layering, grafting, inarching, or divisions of the roots or crowns.

BY SEEDS.

Propagating by seeds can be easily effected provided you obtain good sorts from which you expect to raise your stock. The great fault of many of our smaller seeds not germinating successfully in the hands of the inexperienced may be traced to the fault of burying the seed too deep. Very fine seeds should have the surface of the soil in the pan or pot made very even, and a thorough good soaking of water should be given a few hours before the seeds are sown on the surface of this even soil, when a covering of dry silver sand, sufficiently thick to just cover the seeds, is as good as anything that can be used. Larger seeds should have soil sifted over them through a very fine sieve, just enough to cover them. If the soil has been well watered before sowing the seed, no moisture will be required after covering the seed over; but the pots must be placed in the quarters prepared for them, and in the case of the smaller seeds, sheets of glass should be laid over the pots, and the whole covered up with good sheets of paper. This prevents evaporation of moisture from the soil, and in many cases the seed so treated will have germinated before any more water is required to be given. As soon as the seedlings are well above the surface, the papers must be gradually taken away, and the young growths thus brought to bear the light by degrees.

BY CUTTINGS.

A very popular mode of obtaining stock is by cuttings. It is to what are generally termed soft-wooded plants that I intend first to direct attention in giving what information may be useful to many through the coming spring months. The pots and their drainage are the first thing to be considered. Whatever size they are, they must be clean, and in draining these pots, care must be taken to see that the layers of crocks are properly laid. At all times, and for whatever class of soft-wooded cuttings, the pots should be at least half full of crocks, the large ones at the bottom, the very small ones at the top. The soil to be used for this class of cuttings should be composed of equal parts of loam and leaf-soil well broken up, and passed through a fine riddle of not larger mesh than $\frac{1}{4}$ in. The particles that will not go through this mesh will be found useful to place just on the top of the crocks. To this loam and leaf-soil must be added as much silver sand as the two combined, and the whole must be well mixed together, when it will have a very sandy appearance.

This soil when ready for use should be in a nice equable condition as regards moisture, neither too wet nor yet too dry. If it is in a condition to be handled without soiling the hand, it will do. Making up the pots preparatory to inserting the cuttings is the next thing to be done. The pots being drained, and the crocks covered over with the lumpy soil that would not go through the riddle, the next thing is to place some of the fine prepared soil in the pot, filling up to the top at once, and then give the pot a gentle tap on the

bench. This has the effect of settling the soil in the pot, and leaving room for a covering of sand on the surface. If the soil has been placed perfectly level across the surface of the pot when it was put in, after the knock on the bench, it will still be level, and need no further pressing with either thumbs or by knocking.

The sand to go upon this surface of soil should be perfectly dry, so that it will run through the hand or through the hole of a small pot. Run the sand on, till the pot is perfectly full and level, when the pot may be considered ready for use. After sufficient pots are made ready, the next operation will be to obtain the cuttings, then make and insert them. No cuttings should be allowed to lay about long after they are made; therefore, the sooner they are inserted, and the plumper the cuttings can be kept till in the cutting pot, the better will be their chance of rooting.

SOFT-WOODED PLANTS.

Cuttings of all such things as Fuchsias, Heliotropes, Coleus, and plants of this class should be taken off the stock plants with about three joints—nice, sturdy, healthy young bits. Dress—that is, cut—the stem close across just under the bottom pair of leaves; then cut the two leaves off close to the stem without in any way injuring the bark, when the cutting will be ready for insertion. The quicker they are put in the better; and now comes the advantage of having the dry sand upon the surface. By using this the dibber is not necessary, and the cutting being firm and fresh, you take hold of it and gently press it into the dry sand at the edge of the pot. The base of the cutting at once rests upon the sandy soil, and the dry sand runs into and fills up any cavity that may have been caused by pressing in the cutting.

The advantage to be derived from inserting cuttings in this manner, where a lot have to be put in, is an immense saving of time—a great object in some places. Another benefit is that the base of the cutting has a solid mass of sand around it, a matter that cannot be guaranteed where the dibber and wet sand are used. As soon as a few pots are filled with cuttings they must have a gentle watering overhead with a fine-rosed watering-pot, and after standing to drain for a short time they can be placed in the warm cases of the propagating house, where, with care and proper attention, they will very soon root.

Show and zonal Pelargoniums may be inserted without the aid of the dibber, and often do better when so put in, either round the edge of a pot, or one cutting in a thumb-pot. These must be made up as previously advised, and filled loosely, when the cuttings can be inserted round the edge; then take the pot in the hand, as if you were going to insert an ordinary plant, pressing the soil firmly to the cuttings with the thumbs at the same time. In the case of putting them into thumb-pots, the same rule applies, except that the cutting is placed in the middle of the pot instead of round the edge. These soft-wooded cuttings do not require the aid of cases, but generally root well if placed upon a shelf in a stove and shaded from the sun.—*W. G.*

GARDENING NOTES FROM SCOTLAND.

Fruit Trees.—PEACHES, NECTARINES AND APRICOTS.—The time has now arrived when attention may be more specially directed to these trees. In the northern and later districts there is not the same necessity for retarding them as in warmer and more southern situations. While one is accustomed to read of the use of screens, frigi domo nets and other means of protection, as being very essential in averting the destruction of flowers and the embryo fruit by frost, others have written that all such protection is a decided evil, and helps to defeat the object in view; but we believe in the use of protection of some kind. Over-doing or under-doing it is objectionable, and we think that nets of the hexagon, or any other kind somewhat close in the mesh, are useful at this season during the day, when the sun is powerful, to ward off heat in order to avoid exciting the buds, as the sun is often powerful in the daytime, and at night the frost is sharp.

I remember once seeing a splendid set of Apricots in the county of Suffolk, and during April there was much frost and strong sunshine. One day the thermometer stood at 72° in the shade, and was followed at night by 12° of frost; though the trees were covered with garden

mats that severe night the blooms did not sustain the shock, and were all cleared off except a few. This happened to the Apricots on a south wall, while Peaches—also on another south aspect—produced that season, as they invariably did every year, a splendid crop, and the cultivator had much reason to be proud of them. I once asked how it was that he could always rely on such success with his Peaches. His words were few—namely, “High planting, pruning in March, and nailing up not before April.” No covering of any kind was used for the Peaches.

The clever gardener referred to always aimed at having short thoroughly-ripened wood. He had practised gardening in Belgium and France, and had many resources which added greatly to his success in fruit culture. Apricots may now be pruned; but if they were well attended to last season during the period of growth by stopping and thinning the young wood, little will be required now. Retain the shoots best placed against the wall, and if short and stiff, so much the better. If well under the protection of larger branches something will be gained; they, in a measure, escape wet, and are decidedly sheltered from frost. Horizontal training, and keeping the leaders—right or left—about 1 ft. or less apart, with the bearing shoots fastened closely to the wall, so as to stand clear of each other when foliage is fully developed, may be considered a very safe method. With trees on walls, training may be done according to fancy. We favour every system, and object to none. Evils arise oftener from crowding, the injudicious use of the knife, and gross growth from roots in loose and over-rich soil, than from any particular method of training. There need be no great hurry with Peach pruning in northern parts yet; but if pruning is desirable, keep the wood free from frost.

If all other trees are trained and finished, a syringing of soft soap, sulphur and tobacco juice may be given over the wood, and it can be repeated until the flower buds begin to open. On old walls, where nailing and un-nailing has been performed, there are many holes where vermin can reproduce themselves unmolested. On such walls much difficulty is experienced; we prefer wire fitting close to the walls, to which the shoots may be tied. They should be close to the walls, but not resting on metal of any kind; a twist of tying material will keep this right. Nails placed permanently—where manipulation of the trees is done skilfully—will avert the formation of nests for aphids, &c.; when one shoot is removed another takes its place exactly. If nails are in the way, it is greater economy to break them over than to draw and clean them, and the walls are thus saved.

Examine shoots of young trees especially, to see that the ties are not too tight. The branches necessitate the renewal or removal of the fastenings, so that mischief may not be done to the bark. Soft matting is preferable to most other material for tying trees. Gooseberries, Currants and dwarf Apples should be pruned, if not already done, and if they are becoming stunted in wood, and weakly in foliage, they should have a good top-dressing all over the roots. The planting of Apples and Pears may yet be done where such work has been retarded by continuous frost. A good break of dwarf Apple trees which are certain fruiters should be planted in every place; they will be valuable when orchards fail.—*Caledonian.*

Fyvie Horticultural Association.—The annual spring show of early flowers, under the auspices of the Fyvie Horticultural Association, was held on Friday, 25th inst., in the Town Hall, Fyvie, Aberdeenshire, and was attended with great success. It was only last season that these spring shows were again resuscitated after a lapse of several years, and the committee deserve the thanks of the community for affording them such an excellent opportunity of seeing the harbingers of spring in all their beauty. The entries were considerably in excess of those of last season, which might be accounted for to some extent by the favourable nature of the weather this year compared with that of last year. The exhibits were tastefully laid out on three rows of tables running along the entire length of the hall, with ample space between for promenade. On the platform was placed a magnificent white Camellia, sent for exhibition by Mr. Frank Stewart, Rothiebrisanne. The specimens forwarded were uncommonly fine in every class; nothing could have exceeded the beauty of the Hyacinth blooms belonging to Mr. William Beattie, Gordonstown; the Tulips and

Lily of the Valley sent by Mr. A. Milne, Fyvie, or the Snowdrops and Christmas Roses entered by Mrs. Forbes, Mains of Fyvie. There was a fine display of Cinerarias, specially worthy of notice being those sent by Mr. Beattie, Gordonstown and Mr. A. Milne, Fyvie; Mr. Milne was also first for Camellias and greenhouse plants and a basket of vegetables. Mr. William Sim had the red ticket for Potatoes, and Mr. James Beaton, Little Millbrex, for Carrots. The Leeks were of extraordinary size and quality, Mr. Beattie taking the premier position, and Mr. Charles Gammons second. Amongst the other successful competitors were the Rev. Dr. Milne, Mr. D. W. Greig and Mr. A. W. Haru, Mill of Tifty. The judges were Mr. Robert Farquhar, Fyvie Castle, and Mr. Smith, Rothienorman. There was a large attendance of visitors throughout the day, and the whole arrangements were admirably carried out by Mr. Adam Mackie, the secretary, and the committee of management.

THE AMATEURS' GARDEN.

VEGETABLE SEED SOWING.—With the continuance of favourable weather the ground is getting into excellent condition for seed sowing. If it has not already been done, the main crop of Onions should be sown without delay, even in the more northern parts of the Island. In the latter case especially, advantage should be taken of a day when the drying influence of sunshine, or a moderate breeze renders the soil workable without becoming puddled by the necessary operation of treading. If the soil has been trenched, and now lying in ridges, or merely roughly dug up, it should be carefully, but not necessarily, deeply forked over in order to level and further break or pulverise it. Tread it all over equally, as Onions grow and ripen best on a firm surface. Whether the ground is laid off in beds or not, shallow trenches or furrows should be made with a hoe, 9 ins. or 10 ins. asunder, in which the seeds should be sown. The advantage of sowing them in lines is apparent when they come to be weeded, as the Dutch hoe can be run up between the lines, facilitating and hastening the work greatly.

The preparation of the ground for Carrots, Parsnips, Beet, Peas and Beans is the same as for Onions, with the exception that the soil for such does not require treading. The main crops of the above need not be sown thus early, as Parsnips and Beet especially are liable to become coarse and almost valueless for table purposes. Early Horn Carrots should be sown on warm borders to succeed those in frames where such have been sown. In some old gardens the Carrot Maggot proves very destructive to the plants when in a young condition, even killing them; good dressings of soot applied at the time of sowing generally assist greatly. Peas and Beans, if sown on warm borders, will form a succession to those already sown, especially those sown in pots, boxes or in turves; give the latter all the air and light possible to prevent drawing. A cold frame with a position near the glass will suit them well at this period.

VEGETABLES IN SEASON.—Owing to the exceptionally severe winter green vegetables have been very much cut up, especially in the neighbourhood of large towns. Amongst those that have stood the trying ordeal best may be mentioned Purple Sprouting Broccoli and Chou de Burghley; the latter, notwithstanding its comparative neglect, is an excellent-flavoured vegetable and resists the atmosphere of towns well; Borecole is rather cut up, but as the temperature rises the young shoots produced will be both delicate and much appreciated. Turnips are still plentiful, and the tops a little later on will prove acceptable to many; Carrots, Parsnips, Beet, Artichokes and such roots are still good, and will continue so for some time where they have been stored in sand. Celery has not yet become useless, and Leeks, where they have been well grown and earthed up, will prove very serviceable at this season where a scarcity of green vegetables is felt.—*F.*

AMATEUR GARDENERS' NOTE BOOK.—Under this title Mr. F. Topham, 11, Fox Street, Preston, is publishing a cheap little primer for beginners in fruit, vegetable and flower gardening, a special feature in which is a series of useful selections made by various nurserymen of flowers, fruits, &c., for different purposes and different districts. It contains also a good deal of useful information for tyros.

BEGONIA GOGOENSIS.

THIS ornamental species is not generally met with in gardens. It is nevertheless well worth growing where handsome foliage plants in variety are in constant demand for decoration. The leaves are nearly round, and borne on stout leaf-stalks from the base or creeping rhizome. This species is quite distinct, with foliage of a deep velvety green, with a very pleasing bronze metallic hue, while the mid-ribs and veins are of a slightly paler colour.

Large plants have a coarseness about them that detracts very much from their beauty and effectiveness for decoration, but in a small state they are very conspicuous, and few plants are more telling amongst Ferns, mosses, and other similar subjects. The flowers possess no beauty, and are only produced on plants after they attain a fair size in 5 or 6-in. pots. These should be removed as soon as they are visible.

Symmetrical little plants can be had in 3-in. to 5-in. pots, which are the most suitable for furnishing purposes. Fortunately there is no difficulty in raising or maintaining a good stock of small plants; but for this purpose a plant should be grown on, and the matured leaves can be removed from time to time and pegged on the surface of pans. From the centre of each leaf a young plant will be produced.

We have cut the mid-ribs of the leaves, and although they callused no further signs of growth took place; but as each leaf will produce a plant, there is no difficulty in maintaining a stock of charming plants suitable for any position. Plants raised from leaves in autumn are just now very ornamental in 3-in. pots. If a batch of leaves are pegged at once on the surface of sand in pans or boxes, young plants will issue in a very short time. To grow this plant well it requires stove treatment, and does not appear to be very particular about soil.—*W. C.*

THE CHRYSANTHEMUM.

SEASONABLE NOTES.—The time has now arrived when growers should pay special attention to their plants. Cuttings inserted during November and December should now be nicely rooted and ready for potting off into 3-in. pots, in a compost consisting of two parts of good turfy loam to one part of well-decayed manure, and enough coarse silver sand to keep the whole porous. Before potting, the grower should look over his stock and sort out those varieties that he intends to grow for specimen blooms, and keep them separate from the varieties required for training or for ordinary greenhouse decoration. Having done this, the varieties intended for training into specimens or ordinary culture for greenhouse decoration, should be stopped to induce the formation of side shoots, which they will do in about a week, when they should be potted off. Those intended to be grown on for specimen blooms must not be stopped, but should be potted at once into 3-in. pots. When the plants are potted they should be placed in a cold frame and be kept close for a few days, after which air should be given on every favourable occasion; varieties that are required for standards should be kept steadily growing until the required height is attained, when they must be stopped to induce breaks to form the head, keeping any shoots that may appear up the stem well pinched back.

For ordinary greenhouse decoration cuttings may be inserted as late as April with very good results; therefore the stock should be looked over, and a note made of any sorts that the grower is short of, so that they can be inserted in due course. Cuttings of Pompons for cut bloom purposes should now be inserted. They will soon strike and make nice plants. The following varieties should be included in every collection, especially where it is intended to grow for exhibition:—Black Douglas, Caractacus, Exposition de Chalon, Madame Marthe and Golden Madame Marthe, Marabout, Mdle. Elise Dordan, President and its pale rose sport Mrs. Mardlin, White and Rose Trevenna, Sanspariel, Sablon (good), Rubra perfecta (good), and of Anemone-flowered varieties Antonius, Briolis, Eugène Laugault, Jean Hatchett, Madame Chalonge, Madame Montels, Maria Stuart, Mr. Astie and Queen of Anemones (good).

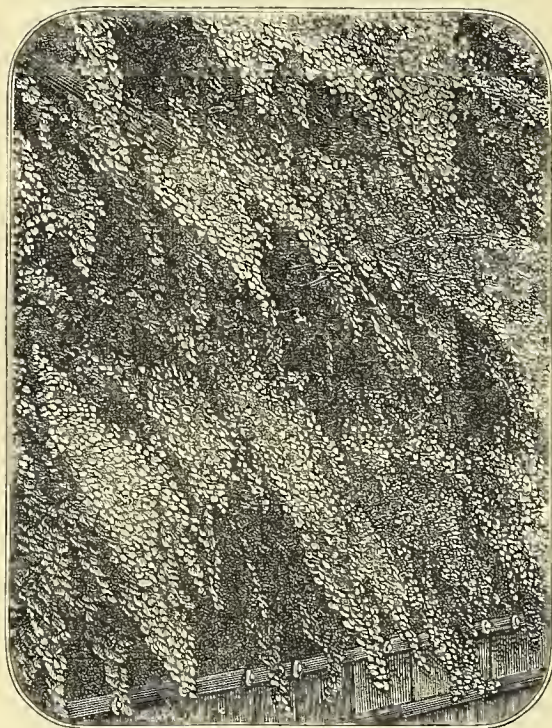
The early-flowering varieties should not be forgotten, as these will amply repay the grower for the time and space devoted to them; there can generally be found room in the borders for a few, and if cuttings are inserted now, they will make nice plants fit to put out

in April. A few select varieties if grown on in pots will be found very acceptable during September and October for decorating the greenhouse, until the ordinary November varieties commence to bloom.

Any borders intended to be planted with Chrysanthemums, should now be well dug and manured.—*W. E. Boyce, Archway Road, Highgate.*

FERN WALL TILE.

MESSRS. ARTHUR BOOTY & Co., High Harrogate, have sent us some samples of what appears to be a practicable and useful invention for covering bare or unsightly walls with living vegetation, especially Adiantums and other Ferns. This is to be accomplished by the use of ornamental tiles of unglazed pottery-ware. These are made in such a way that they can be fixed to walls by the means of nails with India-rubber washers or brass screws. The tiles are each complete in itself, or is open at the ends so that any number can be added, forming with the wall a receptacle for soil in which plants of a drooping character can be planted, covering the wall, and producing an immediate and striking effect. Our illustration shows part of a wall furnished with tiles in rows about 7 ins. apart, one above the other. These tiles are filled with Adiantum, the drooping fronds of which hide all but a few of the lowermost ones. This plan of covering walls will doubtless recommend



ADIANTUMS GROWING ON A WALL.

itself to those who experience the trouble and labour expended on the back walls of greenhouses, where wire-netting and moss is used in which to grow Ferns and other plants. Both moss and plants are liable to die in winter, when it is necessary to keep the house dry and cool. The tiles, from their more retention, however, would naturally require less watering.

HERBACEOUS PÆONIES.

THE herbaceous section of Pæonies, as distinguished from the P. Moutan, which has an arborescent habit of growth, is only now, after many years of comparative neglect, engaging the attention of all who can appreciate true beauty. No class of plants, to our mind, are more worthy our best attention, and very few yield such excellent results in proportion to the time and labour expended. They are both varied in character and colour, the latter ranging from pure white to the deepest red or purple, and the seeds laid open to view in the rough hairy follicles are, in many of the species, bright coral red—almost as beautiful, and certainly as interesting, as the flowers. Many of the groups vary through all the stages of semi-double and double, a few almost as large as a well-known vegetable—a blaze of colour. What, however, will recommend them most to the readers of this paper is the ease with which they may be grown, almost any ordinary garden soil giving a fair measure of success. Indeed, all through their exile, when discarded from the leading establishments,

they were to be found in plenty in a sunny corner of the peasant's little garden, mingling with Rosemary, Mint, or other sweet herbs, and far out of the reach of the carpet-bedding mania.

We have seen a group of these Pæonies, single and double, that had been handed down from the great-grandfather, cared for and tended with the greatest regularity, and they were the pride of the neighbourhood. What can be done in one garden can surely be done in another, and as Pæonies are now becoming the fashion, they should receive more attention. The market growers have already taken the hint, and many of the double forms are being cultivated on a large scale, and we are told they are highly appreciated for decorative purposes. One essential to their success should not be overlooked, and that is a deep well-drained soil, which may be yearly enriched by a top-dressing, the manure being merely forked into the surface with care, so as not to disturb the fleshy tuberous roots. The present will be found a good time for this operation, as the buds or young growths are now appearing above the soil, clearly marking the locality of each plant. They can be propagated or increased to almost any extent by subdivision of the tubers, and the best time to perform this will be between the end of October and January.

The full blaze of the sun seems to be the most natural position for the majority of the species, but we have also seen them flower exceedingly well in the dense shade of a wood, planted in large groups, and in this way they continue in bloom three weeks or a month later than those more fully exposed. All through the growing season they require an abundance of water; indeed, the most successful cultivator we know subjects his plants to a periodical irrigation, and the healthy robustness of the foliage and size of flowers speak volumes in favour of the process. Every grower, however, is not in possession of an irrigating apparatus, but everyone can give his Pæonies a plentiful supply of water during the active season, and they will, undoubtedly, be greatly benefited thereby. The following are a few good doubles:—Amabilis, Faust, Globosa, Grandiflora carnea, Delache, Eclatante, Fulgida, Comte de Paris, Charles Binder, &c., &c. Good singles are Anomala, Albiflora and the varieties rosea and r. pallida, Arietina, crimson and white Decora, Officinalis and its varieties, Corallina, Peregrina, Paradoxa, Wittemanniana, &c.—*Pæony.*

PLANTING UNDER YEW TREES.

Now and then there crops up in our garden papers the unanswerable question, "What shrubs will succeed beneath the shade of Yew trees?" I say unanswerable, and shall, perhaps, be called to task for making use of such an expression with its present bearings, but I cannot help that, for certainly one of the stiffest, most unsatisfactory, and never-to-be-forgotten jobs that I ever took in hand was to make—or rather attempt to do so—the ground surface beneath a couple of lines of stately, far-branched Yew trees, that guard in a most majestic manner the roadsides leading to our village church. The ground, as might be supposed, was pure and simple, composed of little else than masses of tiny, branching, matted rootlets, with an inch thick top-dressing of decaying and decayed Yew leaves. Several plants of low growth had from time to time been tried but with little good, the ever penetrating roots of the Yew soon finding out and monopolising the freshly imported soil that had been placed around their roots. The dryness of the soil, too, considerably retarded growth in fresh transplants, and altogether it was deemed, if not an impossibility, certainly something near akin to it, to get any plant to succeed beneath the shade of these trees.

Ivy was next tried, but with little better results, the unfavourable condition of the soil telling very markedly even on this plant so tenacious of life. As a last trial, the lesser Periwinkle, *Viola minor*, was planted thickly over the surface, and this time with a fair amount of success; for even to-day, after the planting has been done a number of years, there are a few patches in a semi-flourishing condition, and these only in the more open places and midway between the pairs of trees. Altogether the work is by no means satisfactory, and unless a great deal of expense and trouble in removing a considerable depth of the soil is incurred, and the branches shortened so as to admit of more light, the getting up of a green carpet beneath these trees is an impossibility. By doing as above recommended, two

evils would have to be tolerated, namely, injuring the roots and spoiling the fine contour of the trees by pruning.—*A. D. Webster.*

CHALLENGE CUPS AND TROPHIES.

COMMITTEES are certainly busy framing their schedules—as your correspondent, Mr. Udale, states—for the coming year, and his few remarks upon challenge cups are most opportune. I myself consider these cups and trophies, as now offered, are undesirable for several reasons. They might remain in the society's hands for a number of years, and this is where the flesh is extracted from exhibitors; secondly, when it remains thus even for three years there are naturally three successful competitors, and the one who gets possession of it at the end of that time cannot be termed the rightful owner; the second has really a share in it. Give the successful exhibitor his hard-earned money in pounds sterling, with a good horticultural book; his domestic calls, or, if he be a prudent man, the savings bank, will tell him what to do with it.

But I dissent from Mr. Udale in the suggestions thrown out, where these cups or trophies are already in existence. These suggestions are, no doubt, well meant, and at first sight appear feasible; yet on a closer scrutiny they reveal another side, which cannot be well overlooked. The hints to committees are not sufficiently broad to inspire or induce them to adopt giving cups or trophies of 20 or 25 guineas annually; I fear if such were the case it would be at the expense of the smaller classes. There are not many Chrysanthemum societies in the kingdom which could do it unless well supported, or old-established societies having good funds at command unless on special occasions.

Mr. Udale, further on, shows a little inconsistency when he says it is all very well when their possession depends not upon an individual but collective effort. Such valuable prizes cannot be given annually unless societies combine together. The trophies could then be competed for in districts, an outcome which, like Mr. Udale, I should be pleased to see.

Your correspondent is rather hard and unfair upon newly-born societies. They are seemingly determined, as he says, to have their pound of flesh in return for their trophies offered. Well, if it extends over a period of three years it will give them a start, to which exhibitors would not object. Now, we will take it for granted that such a society offers a cup valued at 20 guineas to be twice successfully gained before it becomes the property of the exhibitor, this represents £7 for three years, which would not be considered poor for such a show, and is, perhaps, as much as the society can afford to give; but Mr. Udale asks whether this £7 is a fair equivalent for the wear and tear of body and mind of an exhibitor for twelve months, and to this he gives an emphatic "No." But although this £21 is here divided by 3, it is quite possible that one of the exhibitors could work this sum by 2. It would then be on a par with most of the prizes given at the principal Chrysanthemum shows throughout England.

Again, Mr. Udale says there are few gardeners who like to do their work twice or thrice over. I most heartily support him; individually, I never did, nor ever will; but work done, and work half done are two different things. Yet this is an every-day occurrence.

When an exhibitor is successful the first year, he does not consider it won, but only half won, with the value of £10 sunk in it. It requires yet another twelve months at least before it can be claimed or becomes due.—*A Northern Committeeman.*

MR. JOHN GIBSON, formerly Superintendent of Hyde Park, and latterly of Regent's Park, has been transferred to Victoria Park; and Mr. Jordan, lately of the latter park, has gone to Regent's Park.

IMPATIENS HAWKERII.

So far as I am capable of judging, this variety cannot be compared in compactness of habit with the free-flowering *I. Sultani*. It may be somewhat premature to arrive at a very reliable conclusion about this matter, for it may improve in this respect during the summer months, when it can be grown on under the influence of more light and air. The close confined treatment of the stove is not the most suitable for any of the varieties, for they grow too rapidly, and thus become weak and straggling. Therefore I have some hopes that *I. Hawkerii* will improve when more suitable treatment is accorded it.

This variety being sent out only in autumn, the conditions for seeding it to raise fresh stock have not been very suitable. Up to the present time it has shown no inclination to seed, even with artificial fertilisation; but this, without doubt, is attributable to the moist condition under which our plants have been grown. I have removed one plant to a drier atmosphere, and now hope to succeed.

From the other two plants, which have produced several side-shoots, cuttings have been taken to increase the stock. From all appearances, plants raised from cuttings will not branch so freely as those raised from seed. This is the case with the other varieties; but if they do not they will be effective amongst other plants



ODONTOGLOSSUM CRISPUM LEOPARDINUM.

for decoration, and will prove invaluable for seed-bearing later in the season.

Our plants have flowered with greater freedom than was expected would be the case at one time. The flowers, which are large and strikingly brilliant in colour, will prove very useful for the embellishment of stoves and intermediate structures. How it will do for conservatory decoration during the summer remains to be proved; but we do not doubt that it will do equally as well as the other varieties.—*D. G.*

ODONTOGLOSSUM CRISPUM LEOPARDINUM.

The sepals of this handsome and striking variety are oblong-lanceolate, broadest about the middle, and heavily blotched with a lively chestnut or somewhat reddish brown on a pure white ground. The petals are rhomboid, irregularly toothed or jagged from the middle upwards, profusely blotched with the same shade of brown as the sepals, but the blotches are smaller and more numerous, especially towards the base. The labellum is cordate or auricled at the base, oblong, finely and shortly fringed and crisped at the margin with a few reddish brown blotches on a white ground, except at the base and crest which are yellow; the crest has two long processes in front with shorter teeth radiating towards the base on each. The wings of the

column are spotted with brown, and the stigmatic disk edged with that colour. This variety was exhibited for the first time at South Kensington, by H. M. Pollett, Esq., Fernside, Bickley, on February 8th, when it deservedly obtained a First Class Certificate. The plant was a fine healthy specimen, with a long many-flowered raceme, which rendered it a very conspicuous object.

GROS COLMAR v. LADY DOWNES.

It is very gratifying to know that someone has read what one has written; and still more agreeable to know that one has written something that has proved worth answering. I have yet a great deal to learn in the matter of Grape growing, as of many other things; and I have no doubt I shall be able to learn something of Mr. Riding, if he will be good enough to impart to your readers a little of his experience in the cultivation of Grapes, and of the varieties, Gros Colmar and Lady Downes in particular. By way of giving him something specific about which to write, I ask him to kindly tell us first why Muscats, in a mixed house, are not "favourable company" for Lady Downes? Secondly, why Gros Colmar would "revel" in such a house? Thirdly, why Lady Downes, "grown in a late vinery," should "carry off the palm," against Gros Colmar grown in the Muscat house—a place in which they "revel"? Fourthly, why it is, that in a vinery treated specially for Lady Downes, Gros Colmar should prove superior in flavour; the Lady Downes at the same time being fully up to the average quality of that variety? I hope Mr. Riding will favour your readers with lucid answers to the above four questions, which incidentally arise out of his general statements on p. 394.

It has become a custom in recent years to depreciate varieties of Grapes that do not conform to the general treatment accorded to other varieties whose peculiarities have been studied for years ere they were brought to the height of excellence in which they are now sometimes seen; and because of this, good varieties of Grapes have received condemnation, and been cast aside. The best flavoured Grape grown, Chasselas Musque, or Jostling's St. Albans, is hardly ever seen in private gardens, and is only to be found mentioned in the best catalogues. The Duke of Buccleuch is a splendid Grape in every sense, and we know that it is far from being commonly grown, because of its liability to "spot." Mrs. Pince's Black Muscat is the best late Muscat extant, and yet it is rarely seen; why this is so is to me a problem. I know that fault has been found with its "finishing" properties. I well remember seeing a young plant of this variety, only a few months old, carrying a crop of about twenty-five bunches of well-finished Grapes, and I believe that I am within the mark when I say that each bunch weighed upwards of one pound and three quarters.

I may be wrong, but I think that the culture of varieties of Grapes has been very much on the wane of late years, and that changes are being constantly rung on Black Hamburgh, Muscat of Alexandria, Alicante and Lady Downes (by no means a bad quartette), with occasional introductions of Foster's Seedling, Barbarossa, Mrs. Pearson, Alnwick Seedling, Trebbiano, Madresfield Court and Gros Colmar; whilst the Frontignans, Mrs. Pince's Black Muscat, Duke of Buccleuch, Cannon Hall Muscat, White Tokay, Black Monnukka (the seedless Grape), Muscat Hamburgh, each having its particular flavour, are simply "nowhere." It is doubtful whether the limitation to a few of the easiest managed and common varieties is the most satisfactory policy in the long run when growing for private consumption. Of course, a given weight of fruit is required for the season, and it is necessary that this quantity be provided, but I would ask whether variety and quality in regard to flavour are incompatible with a sufficient supply of fruit?—*J. Udale, Elford, Tamworth.*

REDLEAF, PENSHURST.

THOSE who have recently visited this fine place have, no doubt, been struck with the practical manner in which the various branches of gardening are managed, both in and out-of-doors. The grounds are very extensive, and contain many fine views of various parts of the surrounding country. They are likewise beautifully undulated, and in various parts fine examples of cultivation meet the eye. The place abounds in fine timber trees, beautiful coniferae, and a very extensive collection of hardy-flowering trees and shrubs, amongst which are some very fine specimen Rhododendrons and Azaleas.

Spring gardening is well done, and ordinary summer bedding is carried out in a very extensive and practical manner. In addition to these there is a fine rockery, well planted, which looks remarkably well in the spring. The views from the terrace are very fine. Amongst the various trees and shrubs *Lilium auratum* is planted extensively in suitable situations. These at the proper season do well, and flower very freely. Herbaceous and alpine plants likewise find a place in situations well adapted for them. Therefore, at all periods of the year, something is found worthy of the attention of those interested in gardening.

I have before alluded to the magnificent house, designed by Mr. Hills, the enthusiastic owner, for Orchids when in flower. It is impossible to find a prettier and better place suitable to the purpose for which it is constructed. Sparing no expense, everything is of the best material, in addition to which, this, as well as the conservatory and Fernery—which are all attached to various parts of the noble mansion—are illuminated, on special occasions, by the electric light. The effect must, indeed, be charming. Great attention is also paid to the cultivation of plants in baskets, which are suspended from the roofs of the various houses, and when used with discretion, as they are here, have a very charming effect. This flowering house, previously alluded to, had the following in flower, beautifully arranged with Ferns and various foliage plants:—*Angræcum sesquipedale*, and *Calanthes* in all the leading sorts, were well flowered; *Cœlogyne cristata*, well grown and nicely flowered, including the Chatsworth variety; a fine spotted variety of *Cattleya amethystoglossa*; many fine forms of *C. Trianae*, *C. Percivaliana*, and *C. chocoensis*; *Cypripedium Lawrenceanum*, the almost perpetual-flowering *C. Harrisonianum*, the first hybrid, and *C. venustum* were all flowering finely. Amongst *Dendrobiums* were *D. nobile*, the old favourite and well-grown plant, beautifully flowered; the conspicuous *D. Wardianum*, and the charming *D. Bensoniæ*; *Lælia harpophylla*, *L. anceps*, and many *Lycastes*; *Masdevallia Harryana*, and the weird-looking *M. chimæra*; and the curious *Oncidium Kramerii*, with its long, livid, butterfly-looking flowers, all furnish endless variety. *Odontoglossum Alexandræ* had many fine spikes of good bold flowers in fine variety; and together with *O. Pescatorei*, *O. Hallii*, *O. gloriosum*, *O. Roezlii*, *O. Rossi majus*, *O. odoratum*, *O. maculatum*, *O. luteo purpureum*, *O. triumphans*, and *O. cordatum*, are all represented more or less in flower. *Phalænopsis amabilis*, *P. grandiflora*, *P. Schilleriana*, the old *Phajus grandifolius*, and the bright and glorious *Sophronitis grandiflora*, were beautifully arranged with *Anthurium Scherzerianum* and *A. Andreanum*, *Dielytras*, *Primulas*, *Fuchsias*, *Hyacinths*, and other bulbs, *Boronia megastigma*, and *Begonias*, forming a most charming and beautiful picture, which it is impossible to accurately describe.

The fernery is also well planted and contains many fine specimens of the familiar Ferns mostly seen in such places, and which are pictures of health. Suspended from the roof is a magnificent specimen of *Goniophlebium subauriculatum*, with fronds over 6 ft. long; this is one of the very best of basket Ferns. The conservatory contains fine specimen *Dracenas*, *Phormium*, *Yuccas* and tree Ferns. These are either planted out or plunged out in the various beds, as are also the smaller flowering plants. Thus the pots are hid from sight. Baskets from the roof here are planted with Ivy-leaf *Pelargoniums*, and *Cobæa scandens variegata* adorns the same, festooning it in a manner that is light and pleasing. A splendid crystal fountain is very conspicuous in this house.

Another flowering house, or conservatory, overlooking the American garden, contains fine specimen *Camellias*, *Azalcas*, some exceedingly fine *Callas* well flowered; and such good useful old plants as *Sparmannia*

africana, *Libonias*, *Coronilla*, *Eupatorium*, *Agapanthus*, *Echeveria retusa*, and *Chorozema*. *Cinerarias*, *Primulas*, *Dielytra*, *Hyacinths*, *Tulips*, *Crocus*, *Lily of the Valley*, *Solomon's Seal*, *Azalea mollis*, *Ericas* and *Epacris*, all well flowered, occupy the side stages. I was also struck with the freedom with which *Clematis indivisa* was flowering; some plants in 48-size pots were literally covered with the starry-white flowers. This is worthy the attention of growers for conservatory decoration, either in this way or planted out. It is invaluable to the bouquetist. This house was very gay and its effects evident.

Other houses are devoted to the cultivation of stove, foliage and flowering plants, of which there is a good collection. The cool Orchid house contains a good collection of all the most useful and popular kinds well done and showing innumerable spikes; and the *Cattleyas* in the *Cattleya* house are showing sheaths in a manner that convinces one that a grand treat is in store for the future. *Dendrobiums* are also well cared for, as are also *Vandas* and *Ærides*; other houses are devoted to the culture of useful greenhouse and soft-wooded plants. The vineries and Peach houses are promising well, and the forcing department is satisfactory. The kitchen-garden is well stocked with fruit trees; and vegetables of all the most useful sorts are grown extensively. The admirable condition in which every department is kept shows that this place is managed in a thoroughly practical manner. The credit of all this is due to Mr. W. Holah, Mr. Hills' enthusiastic gardener. It must be gratifying to the owner to find everything so admirably managed as it is here. —*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway.*

CYCLAMENS AT GUNNERSBURY PARK.

COMPARING the forms of this the largest flowering *Cyclamen* (either in a wild or cultivated state), as we now see it, with that of the wild plant, we can realize but scarcely account for the great improvement wrought upon it by cultural or other artificial means. The flowers now are twice the size of the original, or even more; and we have a wealth of colour and other qualities or characters which the earliest cultivators, however sanguine, could scarcely have anticipated; and this, as in the case of the Chinese *Primula*, without hybridisation with other species. Selection must first have exercised an influence in adding to the forms of what was probably an originally variable species, even in a state of nature. Latterly crossbreeding of varieties has come into play, influencing the range of variability considerably. The species has been in cultivation since the beginning of the eighteenth century, and the ardour of cultivators seems to increase.

A good idea of the perfection attained by this useful greenhouse and conservatory flower may be gleaned by inspecting those grown at Gunnersbury Park. For a private place the number of plants grown is both extensive and representative of the variety at the cultivator's command, and reflects great credit upon Mr. Roberts. The corms vary in age, but are mostly last year's seedlings, and would be somewhat over twelve months old. The favourite system adopted here, as elsewhere, probably is to save seed from the best varieties, marking them when in flower. Those grown represent both the ordinary and the *C. p. giganteum* type; the leaves of the latter, although somewhat variable, are distinctly thicker and more leathery than in the ordinary form; and the white or grey marbling is generally handsomely attractive and extremely liable to variation in all of them. The self-coloured flowers are the most admired, although that most nearly representing the original, which was white with a deep claret-purple base, very handsome—size alone constituting the improvement in this case. The pure white forms will always recommend themselves, and their value is increased when the flower-stalk is moderately long and stout. This is well seen in a strain that is sometimes designated as *C. p. giganteum compactum*. The intense rose, purple or almost crimson shades never fail to find admirers, and the manner in which these were distributed about the house was productive of the most charming effect.

Some of the whites were most deliciously fragrant, and it is to be hoped that development along these lines will form the next feature of improvement. It is not a little surprising that more attention has not been given to scented *Cyclamens*, seeing that flowers possessed of

this quality seldom fail to beget numerous admirers when made sufficiently well known. A race of fragrant *Cyclamens* has been recorded as early as 1811 in *C. Alcpense*, a variety of *C. persicum*, originally from Alepa, and sent from thence to the garden of one Cels. We have further record of it from Paris in 1851, in which city it was cultivated for its odorous flowers.—*J. F.*

GARDENING MISCELLANY.

A Gardeners' Orphanage.—This scheme, mooted in such an able manner by Mr. J. Udale and Mr. Penny, should surely be appreciated by all gardeners, and active steps taken without delay to carry out such portions of their suggestions as may be found feasible; for the necessity and utility of such an institution must be patent to all. Amongst the multitudinous orphanages with which we are surrounded, it seems strange that we should fail to recognise a building of the above-mentioned description, connected in some manner with gardening and the gardening world. Look at the Freemason's and the Licensed Victuallers' orphanages!—truly splendid places. I admit they are supported by munificent subscriptions and backed up by rich donors; and I merely refer to these leviathan establishments as examples, for there are infantile homes too numerous to mention in every county, where the orphans of all sorts and conditions of men have a good home and are well fed and looked after. The majority of these are entirely dependent on the benevolence of the British public for help. Cast a glance at Dr. Barnardo's gigantic undertakings!—all supported by voluntary contributions. It certainly seems incredulous that this object, which Mr. Udale has suddenly flashed into our minds, should have remained stagnant so long and “never brought to mind.” Equally ludicrous the idea would seem that the future issue of such an admirable undertaking—which would convey in its development such a long-sought boon, and in its utilisation such wide-spread blessings to the gardening fraternity—should for one moment be in doubt, either from a practicable or monetary point of view. Surely amongst gardeners, their employers (and their name is legion), and those connected directly or indirectly with gardening operations, the necessary funds would be forthcoming. Doubtless the pecuniary nut would be the hardest to crack, otherwise the problem is easy enough to solve. It is not a case in which to “halt between two opinions.” “To be or not to be” is not the question here. “To be” should prove the unanimous verdict. The *modus operandi* of floating the concern and getting it into working order must be left to more experienced heads than mine; but I would suggest the formation of an energetic and influential committee to collect subscriptions and well advertise the venture in all the gardening papers, and such acts and deeds that they may think expedient to further the plan of operations. The inauguration of such a project would be a grand event to chronicle in gardening annuals, and also an everlasting memento in ages to come of the gardeners' observance of the auspicious epoch in our history (Jubilee is right, but I abominate the word through its hackneyed popularity) which we celebrate this year, in honour of our Gracious Sovereign's long and glorious reign.—*Albert George Hull, Forest Gate, Essex, February 22nd, 1887.*

MR. PENNY's suggestions to establish an institution for the orphans of gardeners is, I think, one that deserves our very best support. I think that besides gardeners, all market gardeners and nurserymen should be invited to support it, the same as they do the Gardeners' Royal Benevolent Institution. If the sum of five shillings from each head gardener, and two shillings and sixpence each from under gardeners will support such an institution, I think all gardeners should make an effort to contribute, especially when we see how willing nursery firms are to assist us in all movements intended more for our benefit than it possibly can be for their own. I would suggest that each gardening paper should open a subscription list at once (for no time must be lost), and that every gardener should do all in his power to persuade others to join in supporting the scheme. The gardening papers will reach almost every gardener in the United Kingdom, and many that are not included in any list of gardeners yet published. I hope such an appeal will be successful, and shall be pleased to contribute my mite.—*Salopian.*

The Effect of Stock on Scion.—Enclosed you will find three samples of *Aralia Veitchii*. No. 1 is the ordinary type; No. 2 is the growth made after having been worked on the roots of *Aralia Guilfoylei* some years back. At the commencement of its growth it began to assume a larger character; but I let it run on for a considerable time, when I cut the top off and grafted it on the usual stock—*A. reticulata*. You will perceive by the specimen No. 3 it has lost none of its coarseness after the blood of *A. Guilfoylei* has been instilled into it, and the scion had been brought back to *A. reticulata*. I have just cut both plants back again, and intend to let them break again to see what character they will assume; but I rather expect they will never come back to their original form of *A. Veitchii* (true).—*W. G.* [*Aralia Veitchii* is a garden name for a plant that has not yet flowered in this country, so that its true relationship has not been determined. Furthermore, we cultivate the juvenile state of the plant only for the beauty of its leaves. As the plant grows older it entirely loses its juvenile form and ornamental character. We have seen plants about 6 ft. to 8 ft. high with leaves altogether different from those sent by our correspondent. The leaflets of the type sent were a little over $\frac{1}{2}$ in. in breadth, while some of No. 2 and No. 3 were nearly $\frac{3}{4}$ in. On the plants we mention having seen the leaflets were shorter, broader, flat, and almost worthless compared with the true form of *A. Veitchii*. We also believe that no matter on what stock the broad-leaved forms were grafted they would not revert to the original, but retain their coarse character, or even become coarser as the plants increase in size. See a similar instance described in *THE GARDENING WORLD*, December 25th, p. 267, where the juvenile state of *Elaeodendron orientale* is grown in gardens under the name of *Aralia Chabrieri*.—*ED.*]

Double Cyclamen persicum.—This seems to take place in two different ways—namely, by the development of normally-aborted parts, or by the duplication or multiplication of those at present existing. In the first case, we have a feature of interest for the botanist. The stamens in the whole of the natural order to which the *Cyclamen* belongs are opposite the segments of the corolla, and the theory is that an outer series of stamens are suppressed, or that the corolla itself is an outgrowth from the stamens. When the corolla develops ten instead of five segments, one set occupies the place where we should expect stamens. This favours the idea that one set of stamens is normally aborted, and occasionally becomes developed in the form of petals; this is sometimes only partial when some of the pieces take the form of small but distinct scales. Doubling of this kind is pretty frequent at Devonhurst on some plants, and Mr. Wright intends saving seed to try the constancy of the doubling. The increase of parts by multiplication is of less frequent and less constant occurrence even on the plants that produce them than in the process above mentioned. In the specimen recorded in another column from Gunnersbury Park, corollas and stamens were several times repeated alternately, one within the other, in a somewhat broken or irregular manner, similar to what we see in many varieties of double Daffodils.—*J. F.*

Lenten Roses from Devon.—Mr. George Stamp, Bishop's Teignton, Devon, sends us a box of beautiful Hellebores, generally known as the Lenten Lilies or Lenten Roses, from their habit of flowering during Lent. They have been flowering in the open air, however, since December, and stand the frost and cold winds without showing signs of distress, and both leaves and flowers were in fine healthy condition; they, however, prefer a sheltered situation in rich soil. *Helleborus antiquorum majus* was conspicuous for the size of its white flowers, with distinctly incurved sepals, and semi-globular appearance. Another form named *H. guttatus sub-punctatus* had smaller, purer white flowers spotted at the base. *H. g. Gretchen Heine-mann* is, undoubtedly, a fine and showy variety, with rosy flowers, densely spotted with purple on the inner face. A pleasing shade of purple was exhibited by *H. orientalis purpureus*, but the rosy pink flowers of *H. o. roseus* were more conspicuous from their size, measuring when fully expanded somewhat over 3 ins. A beautiful new variety named *H. punctatissimus* is desirable for its fine shade of purple, spotted internally with a darker colour. *H. purpurascens* is one of the perfectly deciduous species whose flowers appear best when half expanded. They are of a peculiar slaty purple colour.

In our opinion, the best of all purples is *H. colchicus* when seen in its best and most perfect state. The depth of colour is remarkable, and the flowers become suffused with a peculiar glaucous bloom. Taken collectively, they present peculiar and unusual shades of colour, and should be represented in every collection of hardy plants.

Asparagus plumosus and plumosus nanus.—On January 18th I had a box of flowers given me, and amongst them were sprays of the above, which have lasted perfectly green in water up to the present date, showing how useful they are for decorative purposes. Another good useful long-lasting plant is the *Myrsiphyllum* (*smilax*) *asparagoides* for festooning, and where a twining evergreen is wanted, it will be found most useful.—*A. O.*

Hippeastrum aulicum.—The huge flowers of this handsome Brazilian species require no improvement, at the hands of the florist, for those who can appreciate natural flowers left by the finishing touch of nature. Two is almost the invariable number of flowers produced on a scape, but these are of such dimensions when well grown, as to leave further improvement in that direction unnecessary. When grown in a temperature varying from 55° to 65°, the flowers expand of an intense scarlet or crimson colour, with a green mid-rib to each segment. Flowers are also produced at a lower temperature, but the colour is very much duller, detracting from the value of the flower. Several strong bulbs have been flowering for some time in the Royal Horticultural Society's Garden at Chiswick.

Hebeclinium ianthinum.—Good old-fashioned neglected plants are well cared for at Hothfield, Ashford, amongst them being the above. Some fine well-grown plants of various sizes are nicely in flower just now, with fine trusses of its bright lavender-coloured blossoms. It is very attractive, easily grown, and of a colour that is welcome amongst other spring flowers at this season of the year, and should be seen more often than we meet with it. To those in search of a good useful thing, let me advise them to try it. Mr. Craik, the gardener here, finds it most useful for decorative purposes.—*A. O.*

Altheosmia macrophylla.—In this we have a very interesting member of the Honeysuckle family not hitherto introduced to cultivation. In its native habitat, the Northern Island, New Zealand, it is a shrub attaining a height of 6 ft. to 8 ft.; but a plant flowering at Kew is under 12 ins. in height. It is figured in *Hooker's Flora of New Zealand*, i., t. 23. The flowers have a pink or pale red tube, with a white, toothed, regularly five-lobed limb. They are produced in axillary or extra-axillary clusters from the stem, and are deliciously fragrant. Sir Joseph Hooker says the plant when in flower may be detected from a great distance by its sweet odour alone. It thus promises to be a useful greenhouse or conservatory plant.

Osborn's Forcing Bean.—This Bean is certainly a good bearer and forcer. We grew it in winter and spring for a number of years, and were pleased with it until we gave *Ne Plus Ultra* a trial. The latter is, however, considerably the better forcing Bean of the two varieties, producing not only the greatest number of pods, but they are the larger in size also. So well pleased were we with the first trial that we have grown no other kind since. If Mr. Markham has not already grown it, I would advise him to do so, and should he be disappointed with the result, he either grew Osborn's more successfully than we did, or cannot do *Ne Plus Ultra* so well as we do.—*Mon.*

Skimmia japonica.—This is a grand subject, either cultivated in pots or planted out in suitable situations. Growing as I saw it recently at Ashburnham Place, Battle, it is very attractive, and some of the finest plants I have ever seen are here planted out in the borders, fully 3 ft. high and as much through, forming nice compact bushes, literally laden with their bright scarlet berries. Well-grown plants in pots are also very useful for window-box decoration. The species is very hardy, and a good evergreen.—*A. O.*

Herbaceous Calceolarias.—In reply to "Improver," p. 396, I may say that about twenty-eight or thirty years ago, very fine specimens were shown at Brighton by the late Mr. W. Holman, Stanmer Park, Lewes. The late Mr. Parsons, nurseryman, Brighton, also used to grow and show them well. There are no such plants grown in that part of the country now.—*W. H.*

Acacia Drummondii.—Many of the species of *Acacia* soon outgrow the limits of small greenhouses or conservatories, but in *A. Drummondii* we possess a plant handsome both in its foliage and flowers, which can be grown by anyone with the aid of a small greenhouse, but having limited means at disposal. Batches of it can be grown for grouping in the conservatories of the wealthy, where it can also be kept in a serviceable state by occasionally propagating it from cuttings. The pale or canary-yellow flowers are produced in dense cylindrical spikes in great abundance. Flowering plants may be seen in the greenhouses at Syon House.

Young Gardeners and the Press.—Lest the few lines concerning the address which I had the honour to give to the members of the Chiswick Gardeners Society recently, and found in your columns last week should convey an incorrect impression, I ask permission to give my own interpretation. It might be thought that I advised young gardeners to endeavour to become press writers. So far from that being the case, I rather showed that too much attention in that direction might prove harmful; but I did strongly advise every young gardener to perfect himself in literary descriptiveness for his own special benefit, so that his notes on any topics to be used for study or reference should be thorough, interesting and exhaustive, for such notes if thus well prepared would always possess exceeding value in after-life. I also showed that when a young man found some discussion was proceeding in the papers, in which he felt special interest, and wished to intervene, he would find himself placed at a great advantage if he had prepared himself for such intervention by literary practice and study. I even advised young gardeners to study oral expression, as being a valuable acquisition also, for too many men brimful of practical information lack the power to express their thoughts in plain language. In the course of the discussion which followed, and in which several members joined with great promise, it was suggested that not only was little encouragement given to young gardeners to write to the gardening papers, but that they naturally felt very diffident also. I suggested, in reply, that perhaps some editors might be found willing to place a column at the disposal of young men, under the heading "Notes from Young Gardeners," or something in that way. I believe already one of your contemporaries prints "Babbings from the Bothy," or something of that character; and were other papers disposed to adopt alliterative headings we might have columns of "Growls from a Greenhouse," "Whines from a Winery," "Orchid Oracles," &c.—all very attractive, no doubt, but not necessarily instructive. On the whole, it is better to keep to simple matter-of-fact headings and plain *bonâ fide* correspondence; and if there is such a wealth of literary talent amongst young gardeners, no doubt their sayings and doings would form interesting and meritorious reading. However, before there is any prospect of getting young men to become intelligent correspondents, we must induce them to become readers, and they may think the lucubrations of their elders but sorry slow stuff after all. I am not in the confidence of young men, and therefore can give no evidence on this point; but if we are dry and uninteresting, then all the more reason why they should practise their 'prentice hands.—*A. D.*

Peach Culture in the Open-air.—Why Peaches do not thrive so well in the open-air as they did twenty years ago is a question of great interest to every gardener. Probably there may be an increasing decline in the sun's power, but surely the decline is not so rapid, unless aided by some other cause, to be so apparent in the short space of twenty years. I attribute one thing which counteracts surface radiation, that is, where coal and other mining is carried on, which must, in time, lower the temperature of the surface soil. Where the coal measures exist the evil is more apparent. But who can tell, with the rapid extension which coal mining has undergone during the past quarter-of-a-century, that the evil is slowly and gradually extending beyond the limits of the coal formation? The many ramifications of a coal mine has to be thoroughly ventilated for the preservation of life, and the many improvements made during the last twenty years for the better ventilation of mines has increased the evil, I maintain. The rush of air through the working of a coal mine is great; drawing heat and matter from the surrounding solids, which must in time be made good from the adjacent strata,

causing eventually an increased speed in the direction of the workings; draining, as it were, heat and other matter that would otherwise permeate the earth's crust and find its way to the surface, instead of throwing it up one common shaft. Perhaps some geological friend will throw some light upon this matter.—*A. M.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.—*Saccolabiums*, *Aërides*, *Phalenopsis* and all those things usually denominated East Indian, should now be attended to, and such of them as require re-potting or basketing done. The *Vandas* of the *V. tricolor*, *V. suavis* and *V. insignis* section, however, are better when re-potted in the autumn, unless any of them are not sound in their pots, when they should now be done. From henceforth, the growing *Dendrobies*, *Aërides* and all plants usually grown with them, require keeping in a warm growing temperature, as from now commences their active growth. It is the bane of *Phalenopsis*, *Aërides* and other allied plants, that they are usually kept too hot and moist in winter, and in a too dry atmosphere, not conducive to free growth, in summer. Shade, too, is highly essential to these plants, and if not well protected from the sun's rays, their growth is always stunted and the flowers poor.

The blinds should now be put up on all the houses—those of thickest texture on the East Indian and cold-house plants; thinner will do for the *Cattleyas* and *Lælias*, the Mexican *Lælias* and *Barkerias* being left unshaded for some time to come. In all cases care must be taken that the blinds are only let down when absolutely necessary to protect the plants from bright sunshine, or thin weak growths will be the result.

THE TEMPERATURES FOR THE MONTH of March should be:—Warm or East Indian house, 65° to 70° by day, 60° at night; *Cattleya* or intermediate house, 60° to 65° by day, 55° at night; Cool or *Odontoglossum* house, 55° to 60° by day, 50° at night; all the houses being allowed to range somewhat higher by sun-heat.—*James O'Brien.*

Cattleya Trianae, “Lady Tennant.”—So has been named a grand variety which has just flowered with Sir Charles Tennant, Bart., at The Glen, Iuncleithen, N.B., and flowers of which are before us. The fine rose-coloured blooms are over 7 ins. across, the petals 2½ ins. wide, the labellum is of a glowing violet-crimson, and the tips of the petals are heavily marked with the same colour; so vivid, indeed, is the colour that the plant would show up prominently among a thousand *C. Trianae* in bloom. Not the least of its attraction is its powerfully sweet odour of honeysuckle, which even from the cut flowers before us fill the room with fragrance. The plant came out of an importation received direct by Messrs. William Thomson & Sons, Tweed Vineyard, Clovenfords, by Galashiels, N.B.

Calanthes with Branching Spikes.—I beg to thank Major-General Berkeley for the information given at p. 412, and which is valuable as affording growers of the species mentioned some idea of what the plant is capable of producing. I shall now hope for a branching spike of *C. Veitchii*. Perhaps the Orchid grower who shall be so fortunate as to get one, will be kind enough to publish the fact after seeing these notes. We really had two this year on *C. nivalis*; one of them was sent to a neighbour's collection, but unfortunately it was kept too cool, and too wet at the root, and soon came to grief. The other we have now in fine condition.—*N. Blandford, The Gardens, Moor Hill, near Southampton.*

Cœlogyne cristata Lemoniana.—This plant is exceedingly well grown by Mr. Stanton, gardener to John Noble, Esq., Park Place, Henley-on-Thames. At the present time a specimen in a large pan is bearing 230 flowers on fifty spikes; other good pieces are also in bloom, the total number of flowers open being about 600—a sight not often seen in a small collection like this.

Cattleya Trianae Backhousiana.—Mr. G. Hardy, Pickering Lodge, Timperley, Cheshire, sends us a spike, bearing two flowers, of the magnificent *Cattleya* above mentioned. They are from the original plant, and measure over 7 ins. across the expanded petals. The latter organs are pale rose, with a large, fine, deep, rosy purple, wedge-shaped blotch on the upper half. The labellum is also a conspicuous part

of the whole flower, and is characterised by an intense rich purple limb, heavily shaded with crimson or maroon towards the orifice of the tube. The column is purple at the base and white upwards.

Dendrobium nobile.—A moderate-sized plant of this useful species will soon be an attractive feature in a small stove at Chiswick, in the gardens of the Royal Horticultural Society. It is of stubby compact habit, requiring little or no artificial support, and bears over 250 blooms or flower-buds in various stages of development. Although by no means the most conspicuous or showy species of *Dendrobium* in cultivation, it is one of the most useful for general decorative purposes. Its appearance, in the present instance, is greatly enhanced by being isolated amongst a group of plants of *Anthurium Scherzerianum* and *A. Andreanum*, also flowering more or less freely.

Odontoglossum Alexandræ.—Messrs. Ireland & Thomson, of Edinburgh, send us a flower of the above of remarkable size and purity. It was taken from a plant having two spikes, each bearing twelve flowers. The wavy sepals and jagged petals are pure white, with the exception of a rosy pink stripe along the mid-rib externally. The labellum has a yellow disk striped with brown at the base, and the column is pale brown in front with a purplish blotch behind. The flower measured 4½ ins. across the petals and 5 ins. across the sepals; while the latter organs were 1½ in. at the broadest diameter, and the petals 1½ in. These figures should speak for themselves.

Lycaste grandis.—A plant of this was flowering the other day in Mr. Peacock's fine collection at Sudbury House, Hammersmith. The flowers, which are produced singly, are notable more on account of their size than any brilliancy or attractiveness of colouration. The upper sepal alone measures over 3 ins. in length in good specimens, while the lateral ones are somewhat shorter. The petals stand erect as in other species, and the whole flower, with the exception of the labellum, is of a pale or creamy yellow colour. The latter organ has a large brown blotch in the throat. The various segments are rather narrow, otherwise the flowers would have a more telling effect on account of their great dimensions.

Orchids at Westbrook, Sheffield.—At all times there are objects of interest to be seen amongst the fine collection of well-grown Orchids at the above establishment; but just now there is a special feast for the eyes of the lover of this interesting family of plants. The flowering house is a span-roofed structure, 20 ft. by 12 ft., with the walk down the centre, there being a stone bench on each side for staging the plants whilst in bloom. At the time of my visit the following were in flower, and the effect was charming:—*Ada aurantiaca* and *Cattleya Trianae* were well represented by several very fine varieties of various shades of colour; *C. Percivaliana* was a fine specimen and extra good variety; *Cymbidium eburneum*, *Cœlogyne cristata* and its varieties, *alba*, *maxima*, and *Lemoniana*, together with *Cypripedium insigne* Maulei, *C. Boxallii*, *C. Harrisianum*, *C. villosum*, *C. venustum*, and *C. hirsutissimum* were flowering freely. *Dendrobium fimbriatum oculatum*, *D. Wardianum* and *D. W. album*, *D. nobile*, several large well-bloomed plants; *Lælia anceps*, *L. a. Percivaliana*, *L. autumnalis*, *L. harpophylla*; *Masdevallia Lindenii* and *M. tovarensis* constituted endless variety. *Odontoglossum crispum* is well represented, and amongst them are some of the finest varieties possible, with excellent spikes of bloom. Other species were *O. Rossii majus*, *O. cirrhosum*, *O. blandum*, *O. Coradinei*, *O. Hallii*, *O. gloriosum*, *O. Insleayii leopardinum*, *O. cordatum*, *O. Pescatorei*, *O. Sanderianum*, *Oncidium macranthum*, *O. Weltoni*, and *O. Forbesi*. *Lycaste Skinnerii alba* is an extra good variety, lately purchased from the Handsworth Nursery, and which was found amongst some newly-imported plants.

In the East Indian house there are some nice pieces of *Phalenopsis* in flower—namely, *P. amabilis*, *P. Schilleriana*, *P. Sanderiana*, and *Vanda suavis*. In the *Cattleya* house there are a number of fine plants of different species showing freely for a good display for some time to come. A. Wilson, Esq., the owner of this fine collection, is a keen observer of the best varieties of Orchids, and none are purchased but what are of a meritorious quality. The general collection of plants is in good condition throughout, which is a proof that careful and good management is carried out by Mr. E. Pidsley, the gardener.—*J. W. S.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

SHADING AND VENTILATING.—The sun has now obtained considerable power, consequently more care must be exercised in the ventilating; shading must also be given to those plants of tender growth, or they will be apt to suffer if fully exposed, but whatever material is used, it must not be of too heavy a texture, and must be removed early in the afternoon to prevent drawing or weakly growth; such things as *Coleus*, the various flowering *Begonias* and such-like seldom require this care, the foliage being of sufficient substance, and they quickly establish themselves.

PROPAGATING, &c.—Look over the stock of these, and if any doubt exists as to quantity, insert more cuttings at once. It will be advisable also to take off a few potsful of *Deutzia* cuttings; if this is done every second or third season, a good stock is always secured; this plant too is much admired when in 60-sized pots, staged in the greenhouse or elsewhere, but allowed to come on naturally. A few pots of *Lilium auratum* may be started in a gentle heat, that is if large structures are to be furnished; in small houses the scent from these flowers, even if used sparingly, is objectionable unless fully ventilated.

AZALEAS AND CAMELLIAS.—As the Azaleas which have been forced go out of flower, let them be placed in a nice genial heat where they may make an early and good growth; those that require potting should be attended to at once, and by all means if they are to be staged in Vineries or Peach houses, let them be syringed thoroughly with the mixture of paraffin oil as previously recommended, always being careful to use soft water. To induce them to flower earlier, if necessary, some of the freest Camellias may be similarly placed; but if—as is very frequently the case—they are troubled with scale, do not put them in either vineries or Peach houses, but let them be cleaned with a small stiffish brush kept dipped in the mixture, which we find the most effectual means of removing the pest.

SEED SOWING.—Particular attention must now be given to the sowing of seeds, as March is the most critical month in this respect. Of course, successional sowings of such things as *Celosias*, *Cockscombs*, *Petunias* and such-like must be made according to requirements; but in case of failure, lose no time in repeating the sowing. So far, all our seeds have germinated remarkably well, the result of dealing with good firms only. Let the potting on of all *Pelargoniums* of the show or fancy type be completed without further delay, or they will not become established sufficiently to flower well.

THE FRUIT HOUSES.

THE MUSCAT VINES, as well as succession vineries, are breaking very freely. Still, care must be exercised not to unduly hasten them, or the bunches will be apt to run out; particularly is this the case with Muscats. As a preventative, as soon as forward enough, go over the whole house with a pair of scissors, and remove the extreme point of the clusters, and if straggling, the points of the shoulders too, which will greatly tend to make them compact, and, in my opinion, assists in obtaining a better “set.” Disbud in good time, and remove all superfluous bunches as the work goes on, so as to relieve the Vines as much as possible. In the early house good progress should now have been made, and, when swelling, water must be freely applied to the roots, taking the precaution not to use cold water, as although the weather is so mild, the season is not sufficiently advanced for such liberties to be taken; we always use our water on the warm side to all early forced houses, and to the Muscat house all the season through.

TOMATOS.—We have potted on a strong batch of Tomatos, including Mikado, Hackwood Park and Dedham Favourite; these require to be kept near the glass, or they draw and are quite spoiled. As they advance in growth they may be kept cooler, but should never be allowed to become pot-bound until they reach the fruiting size, for which a 10-in. or 12-in. pot, as a rule, is quite large enough.

THE KITCHEN GARDEN.

SOWING AND PLANTING.—What a glorious month we have had! Even the most dilatory cannot well help having affairs in this department in “Apple-pie

order." We have planted out Tripoli Onions, and made our main sowing of spring ones, too. It is rather earlier than usual, but the weather has been so tempting, and the ground in such capital condition, that we could not resist the inducement of taking time by the forelock. We are now busy with Potato planting, and we hope this week to complete the putting in of all early and second early varieties. We hope also to plant Jerusalem Artichokes, which, through force of circumstances, will be put in later than usual.

The first batch of Peas are coming through the ground well, and we have given a coating of burnt refuse over the drills, which will stop the slugs. Should cold winds prevail, we shall place Spruce-twigs on one side of each drill as a protection until sufficiently advanced for sticking. Run the Dutch hoe through the winter Spinach and Cabbage squares, afterwards earthing up the latter to protect from the winds.—*Walter Child, Croome Court.*

FLORICULTURE.

ALPINE AURICULAS WITH WHITE CENTRES.—Already there is a brisk movement towards the time of which the poet Bryant sings—

"—the changed winds are soft and warm,
And heaven puts on the blue of May,"

For all along the line in my Auricula house I can observe the onward movement; but they have yet to run the gauntlet of stormy March. Who cares! for though March winds are loud and bleak, and there is a rushing of the cold blast through the valleys, March is yet a welcome month, for does it not, with all its rudeness, "wear the gentle name of spring," and leads on the gentler and more tender April? The time is fast coming when the Auricula grower reaps the rich reward of his labours.

How slowly our really good white-edged Auriculas increase. When Mr. R. Gorton raised his lovely delicate Mauve Queen, I hoped it would have become the progenitor of a section of charming flowers; but it does not appear to have done so. I remember the Auricula dinner at Gildebrook, Eccles, when Mr. Gorton first showed us this beauty in all its soft sheen of creamy white and delicate mauve, and I have never since seen it so charming as it was that day. It is of delicate constitution, and I find that seedlings from it partake of the parental character. Last summer Mr. James Thurstan gave me a plant of old Conspicua. They occasionally show this very finely in the north; it is a white ground flower with pale silvery blue shading, but compared with later developments, rather coarse. Still, I think this and George Lightbody—one of the most lovely white-ground flowers Mr. Turner ever raised—should bring a promising family of white grounds. When George Lightbody is in good form, I think that it comes as near to perfection in a white ground Alpine Auricula of any I know. I may say that I am using the term ground in the same sense as centre. Tenniel is another of Mr. Turner's white centres, and very pretty it is, too, when caught right. I had it last year in charming condition, and everybody was delighted with it who saw it. Beatrice and Queen Victoria are two good old white centres well worthy a place in a collection. Duchess of Connaught and Mr. Phipps are two of Mr. Turner's newer white centres. The former is of a rich reddish maroon margin shaded with rosy violet; the latter maroon shaded with violet, and both are of that fine quality that distinguishes the Slough flowers.

I think we are far from having perfect white-centred flowers yet. We want white centres that are persistent like the white, or, say, grey edge George Lightbody, only minus the meal; a white that will hold on to the last, and make the most marked contrast to the mauve-violet or blue which forms the shading on the circumference of the pips. So many white grounds open pure, but only to quickly change to sulphur or lemon, and something darker, and then they appear to lose half their attractiveness. Meanwhile, we will be thankful for what we have, and believe that we shall surely get something better ere long.

I have a large number of seedlings of last year that I am hopeful will, in another season, give me something good. They were pricked off in September from the seed pans into store pots in which they have remained all the winter, and they are beginning to start into

growth. They will be potted off in May, and I hope to see many of them in bloom in the autumn.

Let it not be forgotten there is one main and essential difference between the alpine and a show Auricula; the ground or the centre of the former is, and should be, absolutely mealless; but the white paste of the latter must be covered with a snowy farina which florists term meal. But those of us who raise seedlings occasionally find among them flowers with meal centres and shaded margins. These are of an intermediate type; they cannot be admitted either into the show or alpine divisions, and if they are really of first-class properties, they must be put into that all embracing, but somewhat indefinite group termed "fancies."—*R. D.*

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.—*Feb. 24th.*—Mr. Bruce Findlay, the president, took the chair at this meeting, and Mr. E. G. Hughes read a paper on "Horticultural Manures." Mr. Hughes said the composition of horticultural manures, and the sources from which suitable manures are obtained for the use of plants and the better production of vegetables and fruit, must naturally be of great interest and importance to all who are concerned in gardening and fruit-growing. He thought it might be safely asserted that the success of horticulturists as a rule, is not so great as might be expected in an enlightened age like the present, and that this is owing to the fact that as yet many very practical gardeners are not intimately acquainted with the natural laws which govern the formation and growth of plants. There are fourteen elements, from which are built up all the innumerable varieties of plants, and the withholding of any of these will materially interfere with the healthy development of the plant. The distribution of the mineral elements is not a matter of chance, but is at all times subjected to a fixed law, so that in each part of the plant may be found certain mineral substances, concentrated as if by preference for its special requirements. In the stem and bark of the tree will be found an accumulation of the minerals which are superabundantly present in all good loam soils, and which are necessary to give solidity and strength; whereas the fruit and seed draw to themselves those minerals which are indispensable to the first acts of plant life, and which have to be supplied artificially, as the soil does not contain them in quantities sufficient to produce good results in either fruit, foliage, or flowers. In the leaves of all plants except evergreens, there is a large accumulation of mineral matter, which is accounted for by the absorption of sap and the evaporation of the moisture from the surface, leaving the solid matter, which comes up in larger quantities than is required, and made use of by the plant for its natural growth and the development of seed as it re-opens in the autumn. This fact enabled him to point out the importance of leaf-mould as a valuable source from which is obtained the mineral substance so essential to the cultivation of pot plants, and which should in a large proportion enter into the composition of all potting plants.

After describing the chemical properties of the various elements upon which plant growth depends, he said it was not his intention to bring before them anything which was not practicable; he would rely on the testimony of facts made known by actual experiments, and so put before them such particulars as would be sufficient for all practical purposes, and render it unnecessary for the horticulturist to concern himself about the choice or excellence of the innumerable varieties of unknown substances which are offered as "the best of all manures." Phosphorus enters the composition of plants as phosphate of some base; but, as a rule, it is applied either as phosphate of lime, which is very insoluble, or as superphosphate of lime, which is soluble. The phosphoric acid which is contained in bones as phosphate of lime is liberated in the process of decomposition, and enters into the substance of vegetation in quantities more or less according to the nature of the plant; but the process of natural decay in bones is very slow, and therefore the liberation of its elements is not quick enough to supply the requirements of heavy crops when used for vegetables or fruit. It should therefore be supplied in a more easily assimilated form, such as superphosphate of lime, in order that plants or vegetables may, during their short period of development, readily absorb the quantity which they require. Next in importance to the phosphates is potash, which for all horticultural purposes will be found in the most convenient form as saltpetre—a compound of potash and nitric acid—and in this state it can be used with every degree of certainty. It will be readily assimilated by those plants and fruit trees in which it forms the dominant constituent, such as Grapes and Potatoes.

It is necessary that all manures for the growth of vegetables and fruit for the purposes of food should have a liberal percentage of potash, because on its presence their quality and flavour depend to a great extent. Lime, which also plays an important part in vegetation,

should for all gardening purposes be used as a sulphate or plaster of Paris; in this form it becomes more easily absorbed as plant food, and much more so than when applied as slacked burnt lime or old mortar. Having now considered the whole of the elements which enter into the composition of all vegetable substances, they would see that there were only four which required their special attention, viz., superphosphate of lime, saltpetre, plaster of Paris and sulphate of ammonia. After describing how, by various experiments, they could discover the relative proportions of these elements necessary to successful cultivation of vegetables and other garden produce, he said that all practical gardeners should, as far as possible, make themselves acquainted with the theory of the laws of vegetation, and then by actual experiments, learn to understand the predominating requirements of the different varieties of plants and vegetables which they have under cultivation.

The President, Messrs. W. J. Upjohn, R. Tait, H. Driver, A. Stansfield and Lunt took part in the discussion which followed.

QUESTIONS & ANSWERS.

ALOYSIA CITRIODORA.—*Hants*: In reply to the above query, p. 413, "Hants" may plant out the lemon-scented Aloysia with reasonable hope of success. In case of exceptionally severe winters, a reserve plant or two should be kept in stock. It should be planted against a wall, house or other object in a sunny position, where the shelter afforded will induce flowering; so treated it thrives and flowers in several parts of the Isle of Wight as well as in Surrey.—*A. D. F.*

COWSLIPS.—*M*: Seeing that your plants are yet quite small, we would advise you not to plant them out till towards the end of the month, especially if they are not particularly well hardened off. Plant them out with a ball of soil if possible when the weather becomes a little warmer and more settled.

CINNAMON.—*A Subscriber*: If your plant is the true Cinnamon (*Cinnamomum zeylanicum*), it must needs attain some considerable age and size before it will flower. You may manage to grow it in a greenhouse, but stove temperature is essential to its best development; the foliage when growing freely is very handsome. Good fibrous loam mixed with a little peat or leaf-soil and sand will meet its requirements when it wants re-potting. The flowers are small, produced in large clusters, and are probably fragrant.

EUTOCA VISCIDA.—*M*: The flowers of this annual are numerous, comparatively large, and of a fine deep blue colour. For border decoration it is certainly very showy, and well worth growing. The viscosity of the plant and the odour of the stems and foliage hinders it becoming a favourite with some people.

FRENCH HONEYSUCKLE.—*M*: The plant in question, *Hedysarum coronarium*, is a hardy herbaceous perennial, not a climber like the true Honeysuckle. Sow the seeds in the open ground in April, and the seedlings will flower in the summer of the following year; they bear numerous heads of crimson flowers and are very showy. There is a white variety in cultivation.

FRENCH MARIGOLD.—*M*: French Marigold (*Tagetes patula*) may be sown in pans or boxes on a hot-bed or in a cold frame or in the open air in April with about equal certainty of success. By putting the seeds in heat—as on a hot-bed—they will germinate much sooner, and flower much earlier when finally planted out, than when allowed to come on slowly by the aid of sun-heat alone.

WHITE CZAR VIOLET.—*M*: Seeds of Viola sometimes lay a long time in the soil before germinating. We would advise you (as you say the seeds are still good) to give them another three or four months, during which we should expect they would make their appearance. Cover the exposed seeds lightly in order to keep them moist, and do not allow the soil to become dry.

RICHEA PARDANIFOLIA.—*A. L. G.*: No mention is made as to where the plant noticed was grown, but in all probability the one so named would be correct, as there are now numerous seedlings of this strange Epacrid in the country; it is closely allied to the Epacris itself, but has foliage like some Bromeliaceous plant produced in tufts terminating naked stems and branches, resembling a Cordyline, Dracena or some similar-habited plant.—*F. H.*

TUBEROSES.—*James Moir*: Removing the side shoots would favour the development of the flower stem rather than hinder it, and the cause of failure should be sought elsewhere. We cannot tell with certainty without inspection or further information, but would suggest that they had received a sudden check when removed from the plunging material; furthermore, if they have been forced too hard since potting them, the leaves and flower stem may have been produced at the expense of the bulbs without a proper development of the roots; or they may have been over-watered when in the plunging material.

FUNGUS ON CAMELLIA LEAVES.—*H. G.*: The filthy condition of the leaves sent us is due to the presence of scale, possibly aided by other pests. It first makes its appearance on those leaves overhung by others affected with scale, whose excrement drops on the leaves beneath. The outer leaves are clean—another significant fact. The excrement accumulates, both in a solid and viscid or adhesive form, and fungi or moulds, finding it a suitable medium, grow there, producing the white appearance you mention. The fungus is not parasitical, and does not affect the leaves beyond what dirt of any sort would. Oranges are often similarly affected. Give a good washing with soft soap, Gishurst Compound, or Fir-tree Oil. The Camellia branches sent us are perfectly healthy.

STAPHYLEA COLCHICA.—*G. D.*: Allow your plants to flower, and then cut them back. If you cut them back now you will have no flowers. After cutting back encourage young wood, which will make the plants close and bushy, and flower next season.

STANDEN'S MANURE.—C. D.: Your Azaleas will profit best by a weak application of the manure about twice a week when watering, just as the flower buds commence to expand. The size of the flowers will be greatly assisted if the manure is applied sufficiently early.

VINE LATERALS.—C. D.: Do not rub off the leaf beyond the bunch by any means. Encourage as many leaves as you have room to expose properly to light. On all occasions leave one leaf, and, if possible, two. The berries are greatly assisted by large well-developed leaves, and cannot be expected to attain any size without them.

ACACIA DEALBATA.—*Careybi*: Plants of this fine species grow to a great size before flowering if raised from seeds; they would flower in a much smaller state if propagated by cuttings. The shrub, or tree if you like to term it, will stand any amount of pruning or cutting back. The best and only time it should be done is when the flowering period is over in spring, and before young growth sets in. This will allow it to develop flowering wood during the course of the summer.

NAMES OF PLANTS.—A. L. M.: *Rhododendron dahuricum*. P. W. F.: *Odontoglossum crispum*, one of the poorest forms we have seen. W. P.: 1, send when in better character; 2, *Cordyline indivisa*; 3, *Cordyline australis*; 4, *Croton multicolor*; 5, *Dracena congesta* probably; 6, not recognised. R. R. F.: *Cœlogyne speciosa*. *Levenshulme*: *Eria clavicaulis*. W. T.: 7, *Onychium japonicum*; 8, *Pteris serrulata cristata*; 9, *Adiantum capillus-veneris*; 10, *Adiantum cuneatum*; 11, *Lygodium scandens*; 12, *Aspidium (Cyrtomium) falcatum*; 13, *Lomaria polypodioides*; 14, *Grevillea robusta*; 15, *Asplenium (Athrium) Filix-foemina* var. J. C. Cowley: *Angræcum citratum*. J. H.: The Flaunel-flower is *Actinotus Helianthi*.

COMMUNICATIONS RECEIVED.—M. & Co.—T. S.—J. S. F.—W. B. H.—F. C. G.—Saxon.—W. J., Junr.—W. E. G.—C. H.—Mrs. D.—L. G.—M. T.—N. B.—W. H.—W. P. R.—J. T. & Sons.

TRADE CATALOGUE RECEIVED.

TOOGOOD & FINLAYSON, Southampton.—Farm Seed Catalogue for 1887.

LONDON SEED TRADE.

March 2nd.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report much more doing in all kinds of Seeds. The ground being in such a workable condition most of the farmers are now ready to sow. Prices still remain very low. Red Clover, Alsike and Trefoil are still the same as last week, while White Clover shows an improvement. Spring Tares more slowly. There is no change in Bird Seeds or Blue Peas.

COVENT GARDEN MARKET.

March 3rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	20	50	Pine-apples, St.		
Grapes.....per lb.	20	60	Michaels, each	16	60
Kent Cobbs...100 lbs.	60	0 65	Pine-apples, Eng., lb.	10	16

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	20	30	Horse Radish, bundle	30	50
Beans, French, per lb.	20	26	Lettuces ..per dozen	16	
Beet, per dozen	20	30	Mushrooms, p. basket	10	20
Brussel Sprouts, per lb.	03		Onions, per bushel	40	50
Cabbages....per doz.	20	26	Parsley, per bunch	06	
Carrots, per bunch	06		Radishes, per dozen	16	
Cauliflowers, English,			Sea Kale ..per basket	16	26
per dozen	30	50	Small salading, punnet	04	
Celery, per bundle	20	26	Spinach, per strike	20	
Cucumbers, each	10	18	Tomatos, per lb.	10	26
Endive, French, doz.	26	36	Turnips....per bun.	06	
Herbs, per bunch	02	04			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	30	50	Marguerites, 12 bun...	30	60
Azalea, 12 sprays	06	10	Mignonette, 12 bun...	40	60
Bouvardias, per bun.	10	16	Parma Violets (French),		
Camellias, 12 blooms	20	40	per bunch	30	46
Carnations, 12 blooms	10	30	Pelargoniums, scarlet		
Cut Tulips, 12 blooms	09	13	12 sprays...	06	10
Czar Violets (French),			Primula, double, bun.	09	16
per bunch	16	20	— single	12	40
Daffodils ..12 blooms	06	16	Roses (coloured)	30	60
Epiphyllum, 12 blms.	06	10	Roses, Tea per dozen	16	40
Epithymum, per dozen	30	60	Roses, red (French),		
Gardenias, 12 blooms	12	30	per doz.	16	20
Heliotropes, 12 sprays	06	10	— Saffrano (French),		
Lapageria, red,			per doz.	10	20
12 blooms	10	20	Tropæolums	10	20
Lapageria, white,			Tuberose, per dozen	20	40
12 blooms	20	40	Violets ..12 bunches	16	26
Lilies of the Valley			White Jasmine, bun.	06	09
12 sprays	06	10	Xmas. Roses, 12 blooms	04	09

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	60	180	Ficus elastica, each	16	76
Arum Lilies, per doz.	180	240	Foliage Plants, vari-		
Cyperus, per dozen	40	120	ous, each	20	106
Daffodils ..12 pots	80	100	Hyacinths, per doz. pts.	60	90
Dracena term., doz.	30	60	Lily of the Valley,		
— viridis, per dozen	10	240	12 pots	120	240
Epiphyllums, per doz.	180	300	Marguerites, per doz.	60	120
Erica hyemalis...doz.	120	240	Palms in variety, each	26	210
— Regerminans...doz.	90	120	Pelargoniums, scarlet,		
— various ..per doz.	80	240	per dozen	60	90
Evergreens, in var.,			Primulasinensis, p. dz.	40	60
per dozen	60	240	Solanums...per doz.	90	120
Ferns, in var., do	40	180	Tulips...per doz. pots	60	80

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4.29 " of Alkaline Salts, containing	
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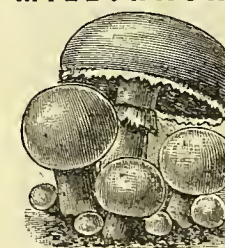
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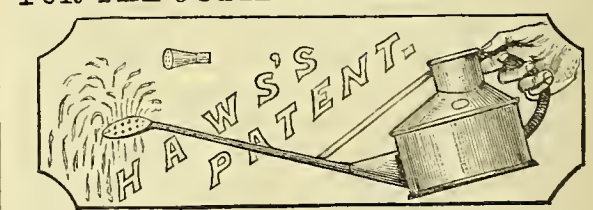
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ROYAL BOTANICAL and HORTICULTURAL SOCIETY of MANCHESTER
The FIRST SPRING FLOWER SHOW of the present season will be held in the Town Hall, Manchester, on MARCH 15 and 16.
BRUCE FINDLAY, Royal Botanic Gardens, Manchester.

CRYSTAL PALACE GREAT ANNUAL
SHOW OF SPRING FLOWERS, Saturday, March 26th.
Schedules on application to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

BIRMINGHAM BOTANICAL and HORTICULTURAL SOCIETY.—A Rose Show will be held in the Gardens, Edgbaston, on the 14th and 15th of July, 1887.
For Schedules apply to W. B. LATHAM.

Wilt's Horticultural Society, Salisbury.
SHOW ON AUGUST 25th, 1887.
PRIZES AMOUNTING TO £150.
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12 Stove and Greenhouse Plants, distinct—6 Foliage and 6 Flowering—First Prize, £15; Second, £10; Third, £5.
Schedules may be had on application to
W. H. WILLIAMS, Hon. Sec.
The Nurseries, Salisbury.

Next Week's Engagements.

MONDAY, March 14th.—Sale of Freehold Nursery, Plants, &c., at Woodford, by Protheroe & Morris.
TUESDAY, March 15th.—Flower Show in Town Hall, Manchester (two days); Sale of Carnations, Roses, &c., at City Auction Rooms, by Protheroe & Morris.
WEDNESDAY, March 16th.—Spring Flower Show at Liverpool; Special Sale of Orchids in Flower at Stevens's Rooms; also Sale of Liliun auratum Bulbs at same place (two days); Sale of Lilies, Roses, &c., at Protheroe and Morris's Rooms.
THURSDAY, March 17th.—Sale of Imported Orchids at Stevens's Rooms; Clearance Sale at Bell Lane Nursery, Hendon, by Protheroe and Morris.
FRIDAY, March 18th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.
SATURDAY, March 19th.—Sale of Greenhouse Plants at Stevens's Rooms; Sale of Roses, Plants, &c., at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World, SATURDAY, MARCH 12, 1887.

SPRING AUGURIES.—The month of March is usually big with the fate of the year's gardening. It can do much to mar the season's prospects, just as it may also do much to help them. The old proverb, that March comes in like a lion and goes out like a lamb, has this year been signally contradicted—at least, as far as the first part of the proverb is concerned—for it came in a veritable lamb, and, still more, enveloped in a white woolly coating of fog. And here comes in another and peculiarly depressing proverb, which asserts that for every fog in March we shall have a frost in May; well, if the frosts are to be as severe as the fogs were dense then have we a poor outlook indeed.

Fogs are not of modern origin, but they seem, unhappily, to become all the more frequent with time. That is, again, a bad look-out, as not only are they obnoxious to human life, but are peculiarly so to vegetable life; and besides producing tangible injury, promote such a degree of cold moisture in the air as to be exceedingly harmful in many unlooked-for directions. Perhaps we have fogs because we are densely populated—perhaps for reasons as wide from that proposition as can be conceived. Certainly they are obnoxious to gardening; and those who have to produce early fruit and flowers do so, within the fog-range, under peculiar difficulties. If there are regions where

sunshine is abundant and fogs rare, there, indeed, are blest locations for gardens; but it will well be conceived that even fogs, obnoxious as they are, are much less to be dreaded than late frosts. We may well hope that the last-quoted proverb will prove false—to be as intangible as the fog itself, which may be seen, but cannot be felt. We have, in the present month of March, one or two elements of hope in spite of the proverbs; the first is that the weather keeps cold, hence all forms of vegetation remain restful.

As compared with what has been seen in some preceding years, when even in February vegetation has been as forward as it promises to be even a month hence, we have much to be thankful for, and a continuation of the cold until the month is out will be welcome. Then the month, so far, has been dry; and although a dry March recalls to mind another old and stupid proverb, yet we may pass that by, and be thankful that the ground universally never was in better working order, or more fitted to receive seeds and roots of all kinds, than now. How diverse is this from some preceding years, when the month of March found the soil saturated, and either clogged with moisture or baked by harsh winds. We can plant and sow with good hearts now—at least, as far as the soil is concerned—and a crop well got in almost always means good results later. If the heavy shadow of a possibly frosty May did not sit like black care on the minds of gardeners, we might look forward for the rest of the season with light and expectant hearts; but beyond May frosts, there is a dark spectre hanging over much of our garden work, in the shape of utterly unremunerative returns for produce.

Gardening is not absolutely a luxurious vocation. A wonderful industry in this direction has grown up in our midst, which is absolutely dependent upon market returns for its prosperity or failure. Wonderful competition at home and abroad, very unfavourable seasons, an apparent incapacity on the part of the masses to purchase freely, and a decided declension in the capacity of the richer part of the nation to indulge in those luxuries so largely as in the past to which gardening administers, have all tended to endanger the welfare of market gardening in all its branches. That much we know, because we are, from many quarters too, continually being reminded of it. We cannot say so much as to the prosperity, or otherwise, of our nursery and seed trades; these are very important ones, but those engaged in them keep their own counsel, and wisely. We trust there is no lack of business—and good profitable business, too—in those quarters.

These interests are as indissolubly bound up with good seasons as are those of general gardening; and to all universally the coming season must be viewed with hope or fear, or with comparative satisfaction, just as it proffers elementary goodness or otherwise. There is one class to whom the spring should bring hope, and that is the large body of gardeners who just now—and, indeed, for several weeks past—have been so urgently seeking employment. They naturally look for openings in the spring which have been closed all the winter. Still, if there are several hundreds of gardeners wanting places, it is difficult to see how they are to find them, except by the displacement of other men. Whether the area of employment is expanding or decreasing is a question difficult to answer. In some directions there is undoubted contraction—products of hard times—with many presumably, but not really, rich people. Then it is feared the supply of gardeners is a little beyond the demand just now, so that many will be doomed to disappointment. Gardening may, a little later, take a fresh upward leap; and with the spring-time of the year with us, so may we well feel the spring-time of hope expanding and cheering us.

At a meeting of the LIVERPOOL HORTICULTURAL ASSOCIATION held on the 5th inst., Mr. Harrison, of Knowsley, read an excellent paper on SALAD PLANTS AND THEIR CULTURE, the substance of which we hope to publish in our next issue.

At the monthly meeting of the Council of the ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER, held on Monday, the 7th inst., Mr. Joseph Broome was unanimously elected chairman of the Council, in place of the late Dr. John Watts. A plan, submitted by Mr. Samuel Deard, of Harlow, Essex, was adopted, for the erection of glass structures on the plot of land near the Old Trafford Railway Station, upon which will be held the Annual Whitsuntide Horticultural Exhibition of 1887. These erections will be 300 ft. long, and connected and heated so that tender plants will be quite safe.

The general Committee of the NATIONAL CHRYSANTHEMUM SOCIETY met on Monday evening last, at the "Old Four Swans," Bishopsgate Street. The president, Mr. E. Sanderson, was in the chair, and after the transaction of some business of a routine character, but of no public interest, Mr. G. Stevens moved:—That the Society's silver and bronze medals be offered for competition at each of the meetings of the Floral Committees, for the best twelve new Chrysanthemums of 1887, Pompons allowed. After some discussion, the motion was adopted.

The number of CHRYSANTHEMUM SOCIETIES now affiliated to "The National" is twenty-seven.

THE NORTH LONSDALE ROSE SOCIETY, which is affiliated to the National Rose Society, will hold its annual exhibition at Ulverstone on July 22nd.

At a meeting of the Chiswick Gardeners' Mutual Improvement Association on Friday, the 4th inst., Mr. Richard Dean, of Ealing, read a very interesting and (to young gardeners especially) instructive paper on THE FLORIST'S TULIP. He described the derivation of the name, traced the history of the Tulip, and its introduction through Constantinople to the rest of Europe, and finally to Britain. He also traced its life history from a seed to the flowering stage, which occupied from four to seven years.

BEFORE us is a prospectus of the Horticultural Congress to be held at Paris in May 1887 by the NATIONAL HORTICULTURAL SOCIETY OF FRANCE. It contains the titles and purport of forty-two papers to be read, or as they are termed "questions proposed." These embrace subjects relating to almost every branch of horticulture, and many of them will, doubtless, be productive of much good. One of these questions is to consider "In what measure and in what sense would it be convenient to develop the teaching of horticulture in the primary superior schools, and in the schools of agriculture?" Another, proposed by the Royal Horticultural Society of England, and Dr. Wittmack, Professor of Botany at Berlin, is "Rules to follow for the nomenclature of plants in general, and Orchids in particular."

At the Royal Observatory, Greenwich, last week, the MEAN TEMPERATURE of the air was 35.9°, and 4.5° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average throughout the week. The coldest day was Friday, when the mean was only 33.2°, and showed a deficiency of 7.3°.

THE PROPOSED GARDENERS' ORPHANAGE.

I do not quite agree with the tone of your article in last week's issue, in reference to the movement that has been started for raising a fund to render help and assistance to the orphan children of gardeners. It seems to me to be one of the best and most deserving propositions that has been brought forward for a long time, and as such it secures my sympathy and will receive my best support. Surely there is not a gardener in the country who can refuse to help in giving comfort to the poor little ones who may be left to the tender mercies of this cruel world.

It cannot surely be necessary to prove by stern realities that such a thing is needful, or that it would not be beneficial. There are few amongst us who do not know of many sorrowful cases, and which at the present time there is no means of assisting. That the movement has the sympathy and will have the hearty support of the gardeners of this country I feel assured.

In a letter received from Mr. Penny, he states that he has received nearly a hundred letters promising support.

So far as I understand, it is not by any means to be assumed that because the word "orphanage" has been used by the promoters, that it must necessarily take that form. I should rather say not. I do not think Mr. Penny, or those who are working with him, have any intention of wasting the money in bricks and mortar. Everybody knows how the money is squandered in institutions of this kind—the greater part being swallowed up in management expenses. No! even were the money forthcoming, this kind of thing must not be. Many other ways suggest themselves, however; the most feasible to my mind being that of raising a "fund," and working it on the same lines, and in conjunction with the Gardeners' Royal Benevolent Institution, the children who may be elected being "farmed out"—placed with relations it may be, or in some respectable household where they could be brought up with something of home comforts. There are many respectable people throughout the country who would be glad, for a few shillings per week, to undertake the custody of one or more children. In this way could the poor children be reared up and trained, not "as machines," but "as loving human beings."

All these, however, are mere matters of detail, or suggestions which may be considered hereafter. Our duty now seems clear, and that is, to support the proposition made, and raise a fund for the benefit of the orphan children of gardeners.—A. F. Barron, Chiswick.

I HAVE read your leader, at p. 421, with mingled feelings of surprise and pain, and I cannot but assume that you have overlooked the initial object of this charity—namely, to provide, not for men or women, but for little children who may be left, from one circumstance or another, more or less unprovided for, and who, I am sure, it is not your desire to consider deserving of the severe moral censure your article contains. But beyond this, the article brings a very powerful argument to bear in favour of the charity when it says that "good sense urges that the aim of all charity should be to lift up and stimulate to self-respect and self-helpfulness all seemingly needing help." Well, sir, unless I have very seriously misunderstood the intentions of Mr. Penny and others, this is the very object to be gained; for after being responsible for the existence of these "morsels of humanity," the author cannot be better "stimulated to self-respect and self-helpfulness" than in making reasonable provision for his children in case he should be called away before they had reached an age enabling them to take care of themselves.

If, on the other hand, he weathers the storm, and his children have no occasion to call upon the funds of such an institution as this proposed, he will again have earned his right to a claim of self-respect in having contributed his mite to save from poverty, and, perhaps, something worse, the children of his fellow-gardener who is less fortunate. There is probably a great deal of truth in the statement that many Institutions, already in existence, are finding it difficult to tide over the present period of universal depression which is, no doubt, affecting all and every Institution in the country; but does not this very fact again support Mr. Penny's suggestion inasmuch that the chances of orphans, or little children of gardeners, at present left unprovided for, obtaining help from any kindred Institution already in existence, is from these circumstances most remote, and it seems to me all the more necessary that some provision should be made of a definite nature to meet the requirements of a section of our common humanity, that has hitherto been totally unprovided for.

That an orphanage for the children of gardeners is necessary nobody will doubt, and I am sure that once it is seen by the employers that gardeners are ready and willing to contribute, in a fair proportion to their means, to such a deserving object, the employers will not be backward in giving it liberal support; and as every prudent man cuts his coat according to his cloth, so I take it that in any plans that may be suggested as a commencement of this Institution, due regard will be taken by the promoters that the responsibilities contracted for shall not exceed the supplies. At any rate, I think another of your reasons for condemning the scheme, in my opinion, provides a powerful argument in support of the thorough thrashing out of the subject

with a view to obtain the feeling of the gardeners of England.

You argue that the existing depression and the unprofitable nature of all occupations at the present time are against the experiment; now I think otherwise, and as a careful and prudent man very frequently prefers to commence business when he knows the work in which he is to be engaged is probably at its lowest ebb, so I think Mr. Penny and his friends cannot be far wrong in endeavouring to start this admirable Institution at the present time, when, as we all hope, commercial depression, with all its unfortunate surroundings, has reached its lowest pitch.

With this experience the promoters will not move in the dark, they will know with much greater certainty the amount of support they may reckon upon, and with a knowledge of the unfortunate surroundings that accompany the inception of their designs, they will be better prepared to estimate future support and to guard against future contingency.

I trust, therefore, sir, you will, with other editors of papers in the interest of gardening, support the objects of this Institution, not only by advice in your columns, but by opening subscription lists, so that by the time Mr. Penny and his committee are in working order, a good substantial nucleus for a fund will have been provided, sufficiently important to justify these gentlemen in carrying out the objects sought to be attained by "The Gardeners' Orphanage."—*C. H. S.*

MR. HULL is very sanguine as to the results of a call upon gardeners to support an orphanage, and quotes Dr. Barnardo's success. Does he know that Dr. Barnardo must expend annually many hundreds of pounds in advertising appeals alone, and also that he appeals specially to a class which usually have ample means. If we could induce gardeners' employers to subscribe liberally, the proposed orphanage might become a reality; but they rarely have any interest whatever in gardeners, beyond their mere service. A few of the more highly paid gardeners might be able to subscribe, but in all cases such subscriptions would be entirely contingent upon their keeping their places; and can any gardener assert that in any place or anywhere he is absolutely safe. The fact is, gardeners being on the whole a very poorly paid body, have no spare means. Every penny earned is needful to live, and to attempt to burden them with greater responsibilities is to break their backs. The enthusiastic few make themselves heard, the cool calculating mass are silent and hold back. My own experience of orphanages is that they find life a very hard struggle indeed, and become dependent upon constant appeals to public sympathy, to bazaars, concerts, collections and similar aids, so that the committees are in a perpetual state of fear lest their institutions should collapse. We have but to take a look at the present pecuniary conditions of those great popular institutions, our London hospitals, to see how treacherous is the financial basis of any institution which depends absolutely upon voluntary contributions. Even this year so many and serious are the demands being made universally in aid of special Jubilee objects that a feeling of alarm is spreading, and ordinary good nature is fast becoming cramped and soured. The great body of our middle classes live right up to their incomes, and can find nothing for special objects. Gardeners are in the same boat, but their incomes are miserably poor in comparison. An orphanage with a limited income would be productive of little good, and even the most worthy of children may not get elected after all. Really we are, in our haste to be benevolent, fast pauperising thousands of children by means of our orphanages.—*A. D.*

I HOPE the promoters of this scheme have now received sufficient proof of support to induce them to adopt some mode of operation that will be the means of raising a lump sum, sufficient to complete the work that may be decided upon, so as to obviate the troublesome duty of collecting yearly subscriptions, as this will entail heavy labour and expense and become a wearisome business hereafter. Besides, under such conditions it would never look a sound going concern such as would encourage the introduction of new subscribers. Many insurance companies prosper by the yearly premiums regularly paid, but the case in hand is somewhat different, and I fear there are many who would not pinch for the sake of paying to an orphanage, especially after their families had grown up to help themselves.—*J. H. Goodacre.*

GARDENING NOTES FROM SCOTLAND.

Seasonable Hints.—STRAWBERRIES are in many parts requiring attention. Those for late forcing have kept in capital condition with us, but would be all the better to have the pots moved, clearing off decaying leaves, and pressing the roots in other positions, the frost having raised the plants a little; the roots are, however, sound, and a solid white mass. They would be the better to have the inert surface soil removed, and a surfacing of good rich loam pressed neatly over the surfaces.

Our plants are standing on coal ashes with leaves packed round the pots. Where the system of "stacking" is preferred, it is well now to see that the roots are not suffering from dryness, and the shelter of frames or similar protection is advantageous after this season. The plants are now about to move into growth, and severe March winds, as often experienced in some cold districts, are against the well-being of Strawberries. Earlier lots forcing in pots offer well, but the absence of sun and the damp weather cause extra attention, especially to guard against over-watering and too much artificial heat; it being a good system in late northern districts (when last season's plants can be spared) to lift a quantity, place them over a bed of leaves with gentle warmth, and then pack firmly good soil between the balls of roots. Ordinary frames with glass lights placed over the plants, will bring them into use a month earlier than those in the open ground.—*Caledonian.*

Cottagers' Kale.—There are evidently varieties of this vegetable which have not attained the popularity of the old Scotch Kale—I suppose the appearance may be against the Cottagers' Kale. A quantity which we have growing in an auxiliary garden are decidedly the best of that class of edibles which have come under our notice. Testing them by cooking the other day, has raised the most favourable opinions concerning them, as they have a dark green colour and are of such substance which gave them the appearance of well-cooked Spinach. I had the seed from an English firm as a special variety, and will be induced to give them the best cultural attention in future; but I do not suppose Scotch cottagers would be induced to defile their famous broth by such "mongrel" stuff, still a trial would prove that this coarse looking Kale is an excellent vegetable. It is true that ground and other circumstances change the quality of vegetables, for we have plenty of proof regarding this, as a high-class grower denounces Village Blacksmith Potato, while in this country it is valued by peer and plebeian. We having it in excellent condition in one garden, while in another, divided only by a river, it is not so good. Parsnips come under the same criticism.—*Caledonian.*

Pruning of Trees and Shrubs.—The pruning of evergreen and deciduous trees and shrubs is generally performed immediately before growth commences. It must be remembered, however, that these do not all push into growth at the same time, and to be "orthodox" in pruning at the season indicated, one must begin at once. Many old trees we have pruned any time between cessation of growth and the renewal of it, and found little difference, if any, in the appearance of the trees at the end of the following season.

In well-managed ornamental grounds, there is adjusting and pruning, more or less, every season—keeping one tree or shrub from destroying its fellow, or when tops may have been destroyed, a vigorous top-shoot is lashed in the place of the defunct leader, and the adjoining branches cut back a little, to help the new "leader" to make headway. We often have practised this, with Coniferæ especially, and been rewarded for our trouble. When there is much dead wood, it may be well to cut back severely, slanting the cuts, and painting them over with tar or styptic to throw off wet. We can now look upon numbers of old Thorns, Hollies, &c., which have been served so of late years, and are now bushy heads and in good health. If a mulching of manure can be given to reach the roots of such old trees, much benefit will result from the application. The time is at hand when removal of trees to give room to their fellows must have attention. We have been taking every opportunity during the last six months to advance such work, believing in planting thick and thinning early as being true economy.—*Caledonian.*

THE AMATEURS' GARDEN.

POTATO PLANTING.—The weather for the past few weeks has been exceptionally fine for forwarding work of all kinds out of doors, so that by this time all such work as pruning, nailing and digging has been completed or nearly so. The ground is in excellent condition, and for that reason Potato planting of all kinds may be prosecuted with vigour. This applies especially to the southern part of the Island, and to all but the coldest and wettest places north of the Tweed. In clayey soils in the latter part of the country, it may be advisable to delay planting a little longer, especially if the soil is sodden or wet from recent rain or snow. Such wet soils should be manured and dug in autumn, and if the trenches have not been levelled down, they may be forked over now to level them, which will aid greatly in drying the soil.

There are several methods pursued in planting, and no single method can be advised in all cases, as everything depends on circumstances. On light borders that have been manured and dug in autumn, a line may be stretched across where it is desirable to plant; holes may be made with a large dibber at regular distances apart, the Potatoes dropped in and the holes filled in with a Dutch hoe or rake. Another method, which could be prosecuted expeditiously by two persons, is to take out a trench alongside of the line, by one party working a spade from the walk and the other working from the ally behind the border. By adopting this method the work can be expedited without treading on the border. This is to be avoided in any case where possible. Where large pieces of ground have to be planted, trenches may be taken out as above recommended, where the soil has already been manured and dug, the Potatoes planted out and the trench again filled up as work proceeds.

In some gardens, where the soil is heavy and has been regularly ridged in autumn, the Potatoes are planted in the furrows when the soil is suitably dry in spring. The ridges are now levelled down and finely broken with the spade, when the process is complete. A very common practice is to leave the ground undug till spring, when the manure is either spread equally over the ground, or put in the bottom of the trenches. This latter custom with regard to manuring is not recommendable. A line is stretched across the ground and shifted backwards, as the digging proceeds, to that distance which it is required the lines should be apart. Having planted a line of Potatoes in the trench last made, the line is again shifted, and another width of ground marked off. This method leaves the dug ground quite loose, and occasions no treading whatever on that planted. Twelve inches to 15 ins. between each Potato is a good distance, and for dwarf-growing sorts, 15 ins. to 18 ins. between the lines will suffice. For general crop 2 ft. is a good distance apart, but exceptionally tall-growing sorts should have 27 ins. to 30 ins. between the lines.

CUTTING THE SETS.—It is often argued whether whole or cut sets yield the greatest produce. By experiment it has, however, been proved that cut sets, and that taken from large Potatoes, produce the greatest return of usable tubers. If whole tubers are planted, small ones must necessarily be used, and the buds produced by such are necessarily weaker than those from large Potatoes having large buds. The buds or eyes on uncut tubers will also be more numerous than is desirable, consequently there would be a crowding of small weak stems. In cutting large Potatoes for sets, leave a sufficient depth of the tuber around the bud to support it, and further the development of strong stems. Very weak eyes should be rejected, using the waste for some other purpose. Some like to cut the sets some days previous to planting, in order to dry them, but this is not necessary.—*F.*

"THE AMATEUR'S GREENHOUSE GUIDE."—Under this title we have a book of modest pretensions, consisting of fifty-eight pages of plain, practical and concise directions for the cultivation of various greenhouse plants. The book has reached its third edition, and would seem to meet a want felt among amateurs, by whom only its contents are meant for perusal. It commences by giving a description of the soil best suited for plant-growing in pots, and goes on to describe potting, watering, liquid manure, the sizes of pots and the numbers under which certain ones are obtainable, seed-sowing, heating, insects and cuttings. A list of plants in season is given for every month in the year, and a list of Chrysanthemums is given under their respective classes, with cultural information. General treatment with regard to propagation, after-attention, and the best compost for the different kinds is given. Large groups, such as Ferns, Cacti, greenhouse climbers, Roses for pot culture, &c., are treated collectively, with mention of the leading sorts. The use of capital letters for specific names is not a very happy feature of the book. Messrs. B. Morley & Co., Preston, are the publishers.

NEW PLANTS CERTIFICATED

BY THE FLORAL COMMITTEE OF THE R. H. S.

March 8th, 1887.

RHODODENDRON LA BELLE.

THIS is a hybrid between *R. ciliatum* and *R. Forsterianum*. Out of a large batch of seedlings *La Belle* was the only one that differed from *R. ciliatum*. The flowers are large, broadly or openly campanulate and pure white, with the exception of a greenish yellow maculated blotch on the lower part of the upper segment of the corolla. They were deliciously fragrant, and seven were produced on a seedling about 16 or 18 ins. high. The leaves are those of *R. ciliatum* but smaller. Exhibited by Messrs. James Veitch & Sons, Chelsea.

AMARYLLIS NESTOR.

The bulb shown had two stout short scapes, bearing four large handsome flowers each. These stood out horizontally from the top of the scape, and were almost as round as the compasses could make them. Irregularity, however, is still a prominent feature of the flower, inasmuch as the stamens and style are declinate, and the lower segment is much smaller than the rest. The other segments are very broad, and of an intense scarlet or crimson colour, tipped with greenish white. These tips become almost white; the lower segment is paler, and the throat green. Exhibited by Messrs. James Veitch & Sons, Chelsea.

TEA ROSE, THE BRIDE.

Under this name was shown a white sport from Catherine Mermet, of American origin, and which promises to be of great value for cutting purposes. The flowers are of medium size, with a firm bud-like centre, much in the way of *Niphetos*, and as they get older the outer petals hang away loosely from the firm central part, which, in the eyes of rose fanciers, may lend additional interest. The petals, under the dim light of South Kensington, appeared of a very pale cream colour, fading almost to white. The young leaves were more or less tinted with bronze colour, especially on the underside. Exhibited by Mr. Duncan Gilmour, Junr., Sheffield.

FUCHSIA HEDGES.

THESE would be inadmissible where something of the nature of a fence was desirable or absolutely necessary. The freedom they must enjoy during the summer season will also militate against their use where neatly clipped hedges of Yew, Privet, Hawthorn or Box is necessitated on account of limited space or their proximity to narrow paths, where it is desirable to keep them within a prescribed area, against dewy mornings and wet days. Their utility, however, for ornamental purposes, or for screening undesirable or unsightly objects in the immediate neighbourhood of houses, the flower garden, and above all, for securing seclusion and immunity from the public gaze, where villa and other residences skirt or overhang the highway, is not only apparent, but fully realised by those who have visited some of the more favoured western parts of this Island, or the sunny south.

Their cultivation in the more inland and northern parts of the Island becomes more and more impracticable where the temperature sinks, and the winters are protracted and severe. In the latter case Fuchsias even of the hardiest kind get too much cut up in winter to create any display during the comparatively short growing season. It is useless to attempt forming hedges under such conditions, although I have seen *F. magellanica* var. *Riccartoni* forming dense bushes 2 ft. or 3 ft. high, and as far through, in the open garden, or 6 ft. to 8 ft. high against a wall, more than 200 miles north of the Tweed.

In the genial and highly favoured climate of the Isle of Man, the dimensions attained by the above named Fuchsia are marvellous, and hedges of it could be planted and grown to the greatest perfection. The western coast of Wales in many sheltered localities is peculiarly favourable to the growth of plants possessing the same degree of hardiness. The same garden form above mentioned is the greatest favourite wherever one goes, and although *F. corallina* and *F. gracilis* are occasionally seen in Devon, *F. Riccartoni* is the most popular favourite.

Nowhere, perhaps, is this garden form planted with better effect than in the Isle of Wight, especially on the southern coast of the island. Hedges are planted in front of villas and other private residences, which are literally smothered with the tall branching stems,

profusely covered throughout with a blaze of crimson and purple pendent flowers. In some instances the front of the smaller cottages are almost concealed from the gaze of the delighted beholder from the streets or highways. This can be seen in the summer by visitors to such places as Ventnor, or the small scattered village of Niton. The eye never becomes satiated, notwithstanding the frequency and luxuriance of this, the most popular hardy Fuchsia. It is often, but erroneously known as *F. coccinea*, a smaller, more slender and altogether less hardy plant, less seldom seen in gardens, and not often seen planted out of doors. Hedges of *F. Riccartoni* are varied with Veronicas, such as *V. Andersoni*, literally laden with blue flowers, a sight hardly ever witnessed on specimens grown under glass.—*Fuchsia*.

BULBOCODIUM VERNUM.

THIS extremely hardy bulbous plant is one of the first harbingers of spring, pushing through the bare surface of the soil with remarkable rapidity in February or March, when the unfrozen ground and the nature of the weather permit. The species have a similar habit to the better known *Colchicum*, and belong to the extensive Lily family. They differ from *Colchicum* in having their styles united nearly to the top, while in the latter gems they are free. The flowers are a lively purple with six regularly reflexed segments, as shown in our illustration. The tips of the leaves only are pushed above the soil while the flowers are at their best, and merely serve to



BULBOCODIUM VERNUM.

support the tube of the latter; afterwards they develop and complete their growth, dying down early, and for that reason bulbs might very appropriately be planted on lawns and similar places. It can also be grown and flowered in pots; so that any amateur may well possess this interesting and pretty Lilywort.

TIMBER PRICES.

IN this district the price of timber remains low indeed, and it is no easy matter to get rid of certain classes, even though of superior quality. Local demand, of course, affects prices considerably; as, for instance, Larch timber, for which there is still a fair price to be got from boat builders on the Menai Straits. Oak, again, as well as Elm, finds a ready market in not too large quantities for repairing vessels used in slate traffic, the former fetching, if of good quality and large size, about 1s. 6d. per ft., and the Elm a little less. Larch trees containing, say, a score of feet, sell readily enough at from 1s. per ft. to 1s. 2d. per ft. Sycamore, is, however, the timber at present, for we have no trouble in getting 2s. per ft. for large trees, and from 1s. 6d. to 1s. 8d. per ft. for smaller. Unusually fine cuts, clear and well grown, and say to square a couple of feet, sell at 2s. 6d. per ft. readily enough.

Birch and Alder woods are never a drug in the market, here at least, for we can dispose of all we have to spare at 10d. per ft. Local demand here again asserts its rights for both; these woods are largely used in the making of clog soles, for bobbins and household utensils. Propwood and the thinnings of young Larch woods are most difficult to get rid of, even at half the prices they realised six or seven years ago. For farm implements, &c., Ash timber sells at a fairly remunerative price, viz., 1s. 6d. per ft. if of large size,

and from 1s. to 1s. 3d. when smaller. Spanish Chestnut, when of suitable size for furniture and coffin-making, is in request at 1s. 6d. per ft.; but clean, large trees I have often disposed of at a higher price. Other commonly-grown woods, such as the Scotch and Spruce Firs, the Willows, Poplars, Beech, Horse Chestnut and Lime, can hardly be sold at any price, unless, indeed, for some particular use, when about 6d. per ft. is usually charged.—*A. D. Webster*.

LATE KEEPING PEARS.

(Concluded from p. 390.)

To many it may not seem desirable to cultivate varieties whose sole use is for stewing purposes, when a selection may be made suitable either for dessert or stewing, and others may think differently and be able to adduce their reasons. For instance, certain varieties are possessed of a particular flavour, grateful it may be to some, while others may develop their qualities after being cooked, or may be more prolific in certain soils than desirable dessert kinds.

Catillac is a large-fruited sort that is much esteemed for stewing, and when cooked it acquires a fine red tint that renders it a favourite with many. The fruit is green, and keeps in season from January to April. Beurré Gris d'Hiver is an old well-known Pear, useful for the same purpose as the last, the fruit being large, roundish, and of a dull green suffused with brown russet, and is in season from January to March. It is a useful Pear, but requires a wall to bring out its best qualities. The fruit of Madame Eliza is large and greenish yellow, suffused with pale russet, coming into season during November, and remaining good till December or even January at Chiswick. For cooking purposes, Passé Tardive is of the first size and quality, coming into use from April to June; as a table Pear, however, it is altogether worthless. The fruit is an olive-green dotted russet. The fruit of Triomphe de Jodoigne keeps good till Christmas, but after that generally decays and becomes soft internally. It is of large size, and when in good condition, a useful variety for cooking. The outline is regularly Pear-shaped, and the colour green, spotted or suffused with russet. One of the largest Pears of any sort, probably, is that known as Uvedale's St. Germain. It is Pear-shaped, and dark green changing to a yellowish green, more or less suffused dull red on the exposed side, the flesh being white, crisp and somewhat gritty, but is excellent for stewing, and keeps in good condition from January to April. Fruits are frequently exhibited of great size, and some attain a weight of upwards of three pounds.—*J. F.*

CURIOUS VARIETIES OF PRIMULA.

OUR illustration shows a number of exceedingly curious garden forms of Primula, in which the calyx has become developed in one or other form, all tending to give us some excellent hints of the morphology or floral structure of the Primula. The ordinary hose-in-hose represented on the right as well as in the upper left-hand corner, is, perhaps, the commonest of these floral monstrosities. There are numerous different coloured varieties in cultivation, and that known as Golden Gem is a rich yellow, and originated in Dorset; but several cultivators have strains which originated elsewhere. A most remarkable form is that where the calyx is separated to the base into five leaves, which are sharply reflexed, exposing the whole length of the tube of the corolla. This goes a long way towards a reversion to the original five leaves, of which the calyx is composed.

The form popularly known as "Galligaskins" shows a development of a somewhat different kind. The calyx is the affected part, likewise, in this variety. Jack-in-the-Green, where the calyx has developed into green leaves of considerable size, exactly similar to ordinary leaves, will, perhaps, strike readers as the most peculiar and unnatural form of all. The allusion given to this form, in the popular name, will describe its general appearance admirably. The leafy calyx is produced close up to the corolla, so that the whole flower appears like a natural and ready-made button-hole bouquet set in leaves. The various forms represented are by no means common; nor can they be described as florists' flowers, but they are exceedingly well worth growing by botanists and others interested in the morphology of Primula, or by lovers and collectors of botanical curiosities.

HIGGINSIA ROEZLII.

THE rage for Crotons and Dracenas of late years has been the means of many valuable plants being neglected or entirely eradicated from our houses to make room for the endless variety in these two classes that have been offered to the public. If we follow the fashion much longer our houses will soon be crowded with these subjects, and present a sameness which, instead of proving interesting and attractive, will become the reverse. I am not writing to discourage cultivators in their efforts to improve these two ornamental classes of plants; on the contrary, if your houses are to be a source of attraction and beauty, we must have a select variety of subjects in order to render them so.

Very few, if any, dwarf-growing stove plants are more worthy of cultivation than the subject of these notes. When well grown the leaves will attain from 10 ins. to 1 ft. in length, and 4 ins. or 5 ins. in their widest part. This plant is naturally of dwarf habit, and beautiful specimens in 5-in. and 6-in. pots will not attain more than the height of the pots in which they are grown. Well-furnished plants, with their dark distinct foliage, are most conspicuous on the side stages, and a few plants dotted at equal distances along the front at once arrest attention.

Not only is this plant useful for the embellishment of the stove, but for the dinner-table. Small plants, in 2-in. pots, for turning out and placing in small glass vases, that are now frequently used in low arrangements, with a little Lycopodium on the surface, are very striking by lamp-light and show off well on the white tablecloth. A row of these plants on either side of the table, or arranged alternately with small Ferns, such as *Adiantum cuneatum*, are all that could be desired for such a purpose.

This *Higginsia* is easily propagated by means of cuttings at almost any season of the year. They should be inserted singly in small pots, and are not long before they are rooted in the close propagating frame. Cuttings from time to time can be taken from near the base of the plants, where they are freely produced on those that have attained some strength. A dozen strong plants in 6-in. pots, used for furnishing the stove would, at this season of the year, yield at least double that number of cuttings without injuring the appearance of the plants. Cuttings from the base are the most suitable for small pots, for turning out and placing in glass vases for table work.

The heads of large plants can be taken off and rooted at any time, and then grown on into 5-in. or 6-in. pots. To have plants in really good condition for the stove during the six winter months, the heads may be re-rooted any time during May and June. After the heads have been removed, a large stock of young plants can be raised from buds that push freely from the base, so that there is no difficulty in maintaining a good stock of plants of a suitable size for a variety of purposes.

While growing, this *Higginsia* requires shading from the sun, and delights in heat and moisture. They should never be allowed to suffer from an insufficient supply of water at their roots, or else their fine dark foliage turns brown at the edge. The syringe may also be freely used, for we have never observed any injury to the leaves from water falling upon them. The only insect we have ever noticed on our plants is a small black fly, which is easily destroyed by slight occasional fumigations of Tobacco smoke.—*Saxon*.

THE ART OF PROPAGATING.—II.

CUTTINGS OF HARD-WOODED PLANTS.—In the following remarks we will take the Heath as a fair sample of what hard-wooded cuttings generally are, and if I give you a fair outline of how to successfully root Heaths, the same rule will apply to the general run of this class of plants. They are of a cooler nature than the subjects treated of in the preceding remarks, and require a cooler temperature in which to root, and, consequently, the cool propagating house will be their place. The pots in the case of these plants will have to be of a larger size than what are usually used for soft-wooded plants, and the size I prefer is a 6 in. pot that will take a 5 in. bell-glass easily within its rim, and thus leave sufficient space from the edge of the glass to the edge of the pot to admit of water being given without taking off the glass if this is at any time necessary. These pots I have always found best drained in the following manner:—Insert a 60-sized pot upside down in the larger pots. This covers the hole in the bottom of the larger pot; place around this crocks of a moderate size till they reach the inverted bottom of the

must be very firm and level. A good watering may be given to the pot, and let it well run off before the sand is put on. The cleanest and finest of silver sand must be used for the top of this pot, and it should be thoroughly wet when put on, and made quite firm with the "pat," being when finished level with the top of the pot.

The pot being now ready to receive the cuttings, take the bell-glass and place it on the surface of the sand, as nearly equi-distant from the sides as possible; press the glass lightly, when it will leave a circular impression on the sand. The cuttings must be inserted within the limits of this circle, and so placed that they will not touch the glass when the latter is placed over them.

PREPARING THE CUTTINGS.

The next thing is to prepare the cuttings. This has to be done with great care and judgment; the small bits of wood that form near the base of the plant are best when in a half-ripe condition. They root more readily than stronger pieces. These should be taken off with a sharp pair of small scissors, and dressed as they are taken off, being very particular that the bark does not get torn in any way, or the cutting would otherwise be useless. A cutting should not exceed 1 in. in length when ready for insertion, and the base of the cutting must be cut clean with a sharp budding knife. After they have been so cut the sooner they are in the sand the better. The best mode of inserting them is the following:—Make a good hard dibber, very thin, but not quite pointed at the end, which should be cut off straight. This causes the cutting, when placed in the hole, to have a firm base on which to rest; but the hole must not be made deeper than the surface sand. It must be made perfectly perpendicular, and then the cutting placed in it quite straight, inserting the dibber again just on the edge of the hole where the cutting is; this causes the sand to press against the cutting. Always keep some very dry sand by your side, and, taking a little on the end of your knife, place it into this second hole, then press it down with the knife handle; this causes the cutting to become firm in the sand.

The best way to commence filling these pots is to start with one cutting in the centre of the pot, and then follow all round in circles till you get to the outside. As each circle is made the placing of the dry sand need not be put on till the circle is complete; when the potting is finished and the job has been well done, the cuttings will look like a miniature carpet-bed. If the sand in the pot was sufficiently wet, as advised when the cuttings were inserted, the dry sand placed on to fill up the holes will soon become wet, and cause the cutting to be firm; so that no more water should be required at the time the pot is filled up. Put the bell-glass over tight, but do not press it on to disturb the sand in the pot. As the pots are filled with cuttings, they must be taken to the cool propagating house and placed closely and perfectly level on the stage. If they can be plunged in some cocoa-nut fibre it will keep them in a more equable temperature, and prevent the soil from drying up quickly. This benefits the cuttings, for the less water given to them the better, so long as they get what is necessary to keep the soil moist.

This plunging must in no case be in bottom heat, but simply to keep the pots from drying up so quickly as they would otherwise do. The bell-glasses must be wiped out every morning regularly, and when the cut-



VARIETIES OF PRIMULA VERIS AND VULGARIS.

60 pots; then again over these place a layer of small crocks, and fill up to within 2 ins. of the top of the larger pot with very fine crocks. This completes the drainage so far as the crocks are concerned.

THE PROPER COMPOST.

The soil for this kind of cutting must be composed of the best peat, broken up finely with the hands, and then passed through a very fine sieve, the size I have generally used being about $\frac{1}{8}$ in. mesh. It will require to be rubbed through the sieve with the hand, and the part that cannot be got through will do, after the sticks and bits of rubbish have been picked out, to cover the crocks. Add to this some fine peat, twice as much silver sand, and then thoroughly mix together. During the mixing it will be as well to sprinkle the soil with water, so as to make it quite damp when finished. It is necessary that it should be so; for in making up the pots to receive the cuttings, the soil must be made very firm, and this cannot be accomplished unless the soil is sufficiently damp to make it hold together. The rough peat that has been left in the sieve must be placed over the crocks first and pressed level with the pat or bottom of a 4-in. pot. On the top of this place a layer of the finely prepared soil, and again press firm, and continue to add a little at a time till the pot is filled to within a $\frac{1}{4}$ in. of the top. The whole when finished

tings have been in a few weeks, it will be as well to take the glasses off for two hours every morning, and wipe them out before putting on again. The cuttings can also be looked over whilst the glasses are off, and should any show signs of damping they must be pulled out at once, and the holes have a little dry sand run into them. If the pots should get dry when the bell-glasses are off, I generally place the glasses on, and then give the whole a good watering overhead with a fine rosed watering pot. This has the desired effect without wetting the cuttings. These cuttings may be inserted any time from September till the end of November—the period at which to obtain them at their best.

The temperature must not exceed 50° to 55° for this class of cuttings, or it will start them into growth before they have callused at the bottom. They should root first before they begin to grow. As they show signs of rooting a little bit of crock must be placed under the edge of the bell-glass, and so gradually work the latter off. The length of time taken to root this class of cuttings will vary from two up to twelve months, according as the varieties are hard or soft-wooded kinds.

The little plants will do well in the cutting pot for a time till they have made one growth, care being taken that they do not get dry; but if the sorts are wanted to be pushed along quickly, I advise potting them off as soon as they are fairly rooted, either into small thimble pots or four or five on the edge of a 4-in. pot. After potting they will require to be kept close till they establish themselves, when they may be gradually hardened down. In potting use a very sandy mixture of peat, and make the little plants quite firm in the pot, and exercise care in the watering of them. The bulk of greenhouse plants may be rooted somewhat in this manner. The more choice the variety, the more care must be exercised in putting them in, and in the case of large-leaved plants, the necessary sifting of soil need not be of so very fine a nature.

Concerning the modes of propagation by grafting, I gave the readers of THE GARDENING WORLD a lesson in Vol. II., p. 820, on Camellias, and on layering Lapagerias in Vol. II., p. 374. The various modes of division are simple enough to anyone who will watch the growth of the plant they wish to divide; the best time generally being just as the crowns are starting into new growth. Shading at all times is necessary for cuttings of whatever class till they are rooted, and also after they have been newly potted off.

“Pats” are little flat circular pieces of wood made out of mahogany or box wood, and are generally used by propagators to make the surface both firm and level. They are made from 2 ins. to 4 ins. in width, and have a screw or handle fixed to the upper surface, by which they are used; they form a very serviceable adjunct for the use of the propagator. The above notes are intended solely for the use of indoor operations, and do not in the least touch upon outside plants, or the various modes of propagating them, although the processes are somewhat similar, except that heat to a certain extent is not necessary.—W. G.

NOTES FROM SOUTH AFRICA.

SUPPLEMENTARY to my remarks on Lilics at p. 292, I may say that I find it best not to disturb bulbs which are doing well and flowering strongly, as, from my experience, freshly-moved Lilies are more likely to suffer from excess of wet. I lost most of my old potted plants which I moved in April (too late), and which were subjected soon after to very heavy rain, whilst the pots exposed in the same way without shifting have the bulbs in them quite sound. In testing the theory of early shifting now, I am careful to put them in a shady place, where they will never be delayed.

This year I began about Christmas moving some of the bulbs or clumps bodily with soil, and some quite free, devoting much time to the work, and using every care; we shall see how they turn out. Some of the bulbs I had to remove because of the encroachment of the roots of a Moreton Bay Fig (*Ficus macrocarpa*). By the way, what a grand thing this is here compared with the old *F. elastica*! Growing together in the park of Port Elizabeth, the *F. elastica* is a poor thing beside the other. Of course, the roots go everywhere, and sadly interfere with Mr. Wilson's flower beds near by.

I have a grand Bougainvillea in front of my house, which is now some 20 ft. high, running over the balcony

and extending laterally 30 ft. This with a *Bignonia jasminoides* and a *Tecoma venusta* completely occupies the ground right and left of my front steps, so that nothing else will grow in the border, and I am obliged to have everything in pots for that part of the garden. It will give you an idea of the richness of our vegetation around here if I tell you that in taking out the foundation of my house, 45 ft. by 39 ft., at least twelve different orders of plants, and over twenty genera were disturbed. Afterwards a *Cyrtanthus spiralis* came up and flowered inside one of the rooms before the walls were finished.—R. Hallick, Port Elizabeth.

MAKING A HOT-BED.

BESIDES instructions given in former numbers for making hot-beds of fermenting manure, the amateur possessed of a small greenhouse, and commanding a moderate amount of heat, either by means of a flue or hot-water pipes, can construct a special frame commensurate with his needs or the space at command. This frame should be placed at the warm end of the greenhouse, over the flue or hot-water pipes, so as to receive bottom-heat directly from them. A structure of this kind would be more under the command of the possessor than a frame on a fermenting hot-bed out of doors, and the heat could be regulated at pleasure. It should be furnished with a moveable sash, by which both the moisture and top-heat could be controlled according to the want of the cuttings contained in it. The temperature in a frame of this nature, heated as above mentioned, would not be suitable for the propagation of stove plants; but it would seldom be necessary for the amateur to deal with such heat-loving subjects. The bottom of the frame might be filled with stable manure covered with sandy soil, or with the latter only, at the pleasure or option of the operator. Bedding plants in endless variety—including *Pelargoniums*, *Lobelias*, *Calceolarias*, *Tropeolums*, *Gazanias*, and others of a like nature—may be propagated with great freedom. Various greenhouse subjects may also be rooted under the same treatment. Tuberous-rooted *Begonias*, *Cytisus*, *Coronillas*, *Fuchsias* and *Hydrangeas* will root readily under such treatment.—F.

GARDENING MISCELLANY.

A Lost Grape.—What has become of the Grape, Ollerhead's White, that received the first prize at the Manchester show on August 24th, 1881, as the best new Grape? It was reported to be the result of a cross between Muscat of Alexandria and Foster's Seedling. Although it received the above high honour, in addition to a number of very flattering testimonials from eminent horticulturists, I failed to see any of the Muscat in it, but a good deal of “Foster's.” It would be interesting to learn what has become of this Grape, as we never heard any more of it after it was shown at the Crystal Palace the following week. I think we should have seen it again if my original opinion had not been correct, i.e., that it was a “Foster's Seedling.” We grow this Grape in three different vineries, early, mid-season and late, and in each case it looks quite distinct, and our Vines are from eyes taken off the original Vines at Baldersby, York.—J. H. Goodacre.

The Awards of the Floral Committee.—Upon what principle does the Floral Committee of the Royal Horticultural Society award certificates; I have known an Orchid, described by Professor Reichenbach as a natural hybrid, passed over and even re-named as a bad variety of one of the parents. I have seen a variety of *Oncidium*, which Professor Reichenbach described as having only once before been seen in flower, passed over without a comment. I have known a new *Cattleya* the first time shown, passed over; and on another occasion, by a different exhibitor, receive the highest honours. At to-day's meeting, in a group of *Lycaste Skinneri*, at least three plants were well worthy of the highest honours; last season four *Fritillarias*, dingy in colour and of no floral interest, were awarded on the same day First Class Certificates. I am sure, had these flowers been sent to the scientific gentlemen upstairs, they would not have even considered them worthy of botanical recognition. Surely, sir, the members must be blindfolded before the plant is placed upon the table, in order that the colour and form may not disturb the repose of their minds; or do they have recourse to the simpler and more expeditious method of

pitch and toss, to arrive at a decision whether the plant is to receive first-class honours? I think, sir, the council should consider whether the committee might not be, with advantage to horticulture, reconstructed; at present their decisions resemble the general chaos of the Gardens.—The Boy Jones.

Coronilla glauca.—What a useful plant is this for decorative purposes at this season of the year! I saw half-a-dozen pyramidal specimens, 3 ft. by 3 ft., the other day in the conservatory at Chapel Hill House, Margate, literally covered with bright yellow flowers, rendering the plants objects of great beauty.—A. O.

Begonia sanguinea.—From the adaptability of this species to different kinds of treatment, and the ease with which it can be grown, even by amateurs, it might be turned to better account for table decorative purposes. The upper surface of the leaves is perfectly smooth, and of a deep metallic green, while the under surface is of uniform deep red, suggesting the specific name. The leaves often turn to one side or become somewhat curved, so as to show their under surface, producing a striking and distinct effect. There are several plants of unusual size in an intermediate house in the Royal Horticultural Society's Garden at Chiswick.

Hepatica angulosa.—Although this is now included in the genus *Anemone*, gardening conservatism will probably retain *Hepatica* for many years to come. The species under notice produces the largest flowers and the most divided leaves of any belonging to this section, and few hardy plants excel in beauty the lovely blue of this species when seen at its prime, on a mild March day, especially if influenced by sunshine. Several of the numerous varieties of *H. triloba*, as well as *H. angulosa*, have been flowering for some time past on the rockery at Chiswick. The cultivation of *Hepaticas* in the neighbourhood of London is none of the easiest.

Scillas.—I should be glad to know why all *Scillas*, but *S. siberica* in particular, are not more grown. Nothing could be more lovely, few things are hardier, and they are not dear, so I cannot think why one so seldom meets with them. If planted about 3 ins. deep in September, they ought to be one mass of bloom—as mine are at present—by the end of February. They delight in a rich, well-manured peat, but will do in almost any soil, as I have proved, for a few years ago I grew them in thick sticky clay, and this year they are thriving in a light flinty gravel. In pots they make a splendid show, and form a grand contrast to *Snowdrops*, *Crocus* and *Winter Aconites*; they are most useful as cut flowers, as they last some days, and go well with almost any shade of red, plum, or yellow.—M., Bournemouth.

Kitchen Garden: Root Crops and their Uses.—After such winters as the past, and such weather as we are now experiencing, when the green vegetables are almost nil, it behoves us all, and more particularly those who have a large family to supply, to pay attention to the root crops. These important winter vegetables have not the care bestowed upon them that they deserve; we have here a great quantity to supply until the end of May. Most gardeners grow these things fairly well, but what I find fault with is the way in which they keep them through the winter. Their juices, and flavour and freshness should not be impaired. I have scores of times seen Turnips and Carrots sent into the kitchen in a useless state, by being simply dried up. The simpler plan of keeping all kinds of roots is to “hill” them like Potatoes, taking care only to put a few, say from 1½ bushels to 2 bushels, in each hill, so that one hill can be used at a time. We grow for late use that good old field Turnip called “Green-Top,” it much harder than ordinary garden Turnips, and its flavour is excellent. James' Carrot, with Hero of Kent, the latter a selection from a friend of mine, is a full cherry-red colour, not over long, but a shapely and handsome root. Parsnips we let stop in the land until they start into growth; the variety we grow is Jersey Marrow, not so large as Student or Hollow-Crowned, but superior in flavour. Dell's is our favourite Beet, which we do not sow until May, as small Beet-roots are much more in request than large ones. Salsafy is always sown, but never asked for.—Richard Gilbert, Burghley.

Daffodils for Pot Culture.—These early spring flowers appear to be coming fashionable and deservedly popular; so much so with us, that they are preferred to Camellias, Azaleas, Deutzias, and, in some cases, even to the lovely Lily of the Valley. For indoor culture,

the season and varieties for another year will have to be extended. Not being conversant with the best cultivated sorts now in vogue, I would be obliged to you, or your readers who make this class of plants a speciality, for names of the best sorts, say twelve each, single and double, for pot culture, and succession up to the end of March, as the vegetative wave of spring does not reach here to bring them out in bloom before then. Making notes personally upon these is next to impossible, as our best growers are so far from here.—*B. L.*

Habrothamnus elegans Newellii.—The flowers of the ordinary form of this useful free-flowering Mexican shrub are rosy purple or carmine, but those of the plant under notice are of a lively crimson, with a glossy shining lustre. Judging from the specimen, which was grown in a small pot, this form will be as useful and free-flowering as the type. Mr. Morrison, gardener at Carville Hall, Brentford, intends planting it out, but until it flowered could not say whether it was different from the ordinary form, or whether it merited house-room. When space can be spared this shrub will cover part of the wall of a conservatory very profitably, and yield a great quantity of flowers for cutting purposes.

Azalea indica Deutsche Perle.—This fine pure white early-flowering double variety is in great beauty with Mr. Dinsmore, gardener to T. F. Blackwell, Esq., The Cedars, Harrow Weald. Its flowers resemble Gardenia blooms, and it is being eagerly sought after by growers for cut flowers.

Asplenium Ceterach.—If not one of the most conspicuous or attractive, this is certainly a striking and interesting Fern when seen in good condition and fair average size; at the same time it is one of the most distinct, owing to the dense covering of rusty scales covering the underside. Many desire to add it to their collections, but the measure of success attending its cultivation fluctuates greatly under the varied treatment it receives. It naturally lives and delights in dry exposed situations, yet the roots under cultivation must not be allowed to get dry, and a shady position often causes a far richer development of leafage than when fully exposed to the influence of the sun, especially in small pots. The finest lot and the greatest number of plants in one place that the writer ever witnessed, was in the straggling village of Bishopstone, South Wales, where it had taken possession of the masonry of a garden wall by hundreds, or even thousands, forming dense lines of fine tufted plants with fronds 3 ins. to 6 ins. high. When commenting upon the luxuriance and beauty of this comparatively rare and cherished British wildling, the owner of the garden merely replied that a "prophet is not without honour except in his own country."—*Felix.*

Lilium candidum.—An immense quantity of this fine white Lily is forced in pots by Mr. Gough at the great gardens at Harefield Grove. The plants are well budded, and promise to be even better this year than usual.

Saxifraga Burseriana.—In a cool frame, with a northern aspect, in the Gardens of the Royal Horticultural Society at Chiswick, an idea can be gleaned of the effect produced by one of the loveliest of all Saxifrages. Its snowy purity is all the more conspicuous at this season, from the fact of its being the pioneer of the genus, and, consequently, enjoys immunity from competition. Whether it suffered from competition or not, a neater or more compact species, with comparatively large flowers, does not exist. The flower stems do not exceed 2 or 3 ins. in height, and these are produced in numerous compact masses, owing to the densely aggregated condition of the rosettes of awl-shaped leaves. The plant does not increase rapidly, but can be propagated with great certainty from the short radical rosettes.

Eriostemon cuspidatum.—For greenhouse or conservatory work several of the species of Eriostemon are invaluable, being both neat, dwarf growing, and easily-cultivated New Holland shrubs. The leaves are small, closely set, and evergreen, and do not possess the disagreeable odour pertaining to many of the Butaceæ to which they belong. The Orange also belongs to the same family, and the flowers of Eriostemon may be compared to those of the latter, although smaller. They are somewhat pinkish in bud, but expand of a pure white. When the tide of favour for New Holland plants turns, the species of Eriostemon will receive more attention than they do at present. A

well-set plant, with flowers about to expand, holds its own in the conservatory at Carville Hall, Brentford.

St. Ann's Amateur Floral and Horticultural, Nottingham.—The general monthly meeting of this society was held at the "Queen's Arms" Inn on Tuesday week—S. Thacker, Esq., in the chair. There was a good display of plants and flowers; Mr. Thacker exhibited a fine lot of plants suitable for table decoration, amongst which were Cocos Weddelliana, Crotons, Pandanus Veitchii, and Orchids in bloom. A fine plant, grown in a 6-in. pot, of *Cœlogyne cristata*, had no less than fourteen spikes; two good plants of *Sophranites grandiflora*, well flowered; *Odontoglossum Alexandræ*, *Cattleyas*, *Dendrobium nobile*, *Wardianum*, &c. Mr. T. B. Hallam exhibited some good Hyacinths, intermixed with *Asparagus plumosus*, which had a good effect; Mr. H. Lee and Mr. J. Stony Street exhibited good plants of *Cyclamen*, *Primula*, *Cineraria*, and some very fine Rhubarb. A discussion on the growth of the *Cyclamen* and *Cineraria* was carried on by several members until a late hour, and a vote of thanks to the chairman for presiding brought a very pleasant meeting to a close.—*J. S. F.*

ORCHID NOTES AND GLEANINGS.

Cattleya Trianæ alba.—There are three distinct forms of the above here, all of the purest white except the throat, which has the usual pale yellow blotch upon it. The largest and best shaped flower measures 6 ins. across; the lip 2 ins.; the sepals over 2 ins.; and it is altogether a good bold flower and perfect in shape. My experience is quite different to that of Mr. Fraser, who speaks of the rose colour diminishing as the flower gets older. I have been disappointed more than once in flowering an imported *Cattleya* for the first time. "Ah"! one exclaims, "*Trianæ alba* true; yes, very fortunate." What about the same flowers forty-eight hours afterwards? Why, they had become pale rose or lilac-coloured ones, so we named them "*C. Trianæ delicata*"; and if these forms of *delicata* were less plentiful, they would be more appreciated. We have one in flower just now, with the sepals and petals white, and just sufficient colour in the lip to make it a bad variety. I think none ought to be called *C. T. alba* that have any rose or lilac tint about them. The true variety is as white as snow when it opens, and remains so until the flowers fade.—*Thos. Simcoe.*

Dendrobium Wardianum.—Last year I sent you a flower of a large form of *D. Wardianum*, with the remark that it was not near so lasting as the ordinary forms; and at a subsequent communication, in reply to Mr. Simcoe's remarks, who said it was equally as lasting or even more so than the smaller forms, I stated just how it lasted in comparison with several others grown on the same raft. I send you a flower from the same plant as last year, also a flower from the smallest form on same raft, which, strange to say, is the next piece to the largest form. The largest flower has been out over a month, and was out three or four days before the smaller. At the time of sending, the large flower is just showing its age, whilst the small one has lost all beauty for two or three days, thus fully endorsing Mr. Simcoe's remarks, which I am very glad to be able to do, as the extra size, coupled with length of duration, adds additional charms to the larger flower. As its duration has proved my remarks incorrect, I admit the same; size this year being quite equal to last.—*E. Dumper.*

Cattleya Trianæ from Howick House.—Now that this handsome *Cattleya* is in flower, no end of fine forms of it appear in every direction. Mr. W. Swan, gardener to E. G. Wrigley, Esq., Howick House, Preston, sends us a box of flowers varying greatly in size and the shades of colour. The labellum shows the greatest variation in this latter respect. The flowers were cut as a sample of some 300 blooms that have expanded from time to time recently. One or two showed a pale labellum, which would recommend them to some tastes, but are put in the shade by the brilliant and gorgeous colours of their better-favoured relatives. Not only were some of them characterised by the rich colouring of the labellum, but the latter organ, in some instances, was very broad, finely and conspicuously crisped, reminding one of the labellum of *C. Mendelii*. The petals were also more or less crisped,

and one flower exhibited a beautiful pale—almost white—margin around the deeper colour.

Odontoglossum gloriosum.—The delicious odour diffused through the house by this popular *Odontoglossum* is the first thing to greet the visitor on entering. There can be very little doubt that this is the leading source of its great popularity in gardens in the absence of more striking colours. It is true that when seen in best form, with long branching racemes bearing its masses of flowers, which are usually of some shade of yellow, spotted with chestnut-brown, it is neither devoid of interest nor beauty. During daylight, and especially when the temperature rises by sunlight, the fragrance emanating from the flowers is decidedly that of Cinnamon. This character was particularly noticeable at Devonhurst, Chiswick, the other day, in a house that was gay with numerous Orchids.

Dendrobium Pierardi.—Under ordinary circumstances this species becomes deciduous, so that the flowers are developed in lateral clusters, all along naked pendent stems that sometimes reach a length of three, four, or more feet. Under such conditions, when well flowered, the plant possesses considerable decorative value, notwithstanding the absence of striking colours. At Syon House, Isleworth, where the plants were partly in flower, the stems retained most of their leaves in a healthy presentable condition. We have also noticed the same thing elsewhere.

Cœlogyne cristata alba.—Some fine specimens of this fine pure white Orchid are in bloom with Wm. Lee, Esq., of Downside, Leatherhead. When strong, its flowers prove even better than had been anticipated. Comparison shows that those on Mr. Lee's plant are as large as *C. c. maxima*.

FLORICULTURE.

CAMELLIAS AT SLOUGH.—The large Camellia house at the Royal Nursery, Slough, is just now an object of considerable attraction, for it is a spacious structure, and contains some two dozen or so fine specimens, all in pots, some of them very large and in the best possible condition; and the attractiveness of the house is further enhanced from the fact that on the back wall are hung a number of cages containing Canaries, that appear to be quite at home and perfectly happy there. Nearly all the Camellias are in bloom, the leading varieties being Cup of Beauty, white, striped with rose; fimbriata, pure white; Henri Favre, pinkish rose, extra fine; imbricata, one of the best reds, and its charming white variety also; L'Avenir, rosy pink; Comte Cruvelli, rose and white; Isabelle de Boiard, pink; Proserpine, red, extra fine; Lady Hume's Blush; Marie Antoinette, carmine, flaked with white; Maria Theresa, mottled pale red and white; and Valtevarado, bright rose, mottled with white; this list makes a good selection. A visit to the Royal Nursery just now would show these fine conservatory subjects in the best form, and there was not a trace of dropping buds to be seen.—*R. D.*

LAW NOTES.

ROGERS v. COOMBS.—Before Mr. Justice Grove and a Special Jury. In this case the plaintiff, who had formerly been in the employ of the defendant, a florist at Stamford Hill, sued the latter to recover damages for wrongful dismissal, slander, assault, and malicious prosecution. The main question involved in the action was whether or not the plaintiff acted improperly in topping a large number of Gardenias, and in his treatment of certain India-rubber plants. It appeared that on the 13th January, 1886, the plaintiff gave a month's notice, but before the month had expired was dismissed summarily, the defendant alleging that he had maliciously damaged the plants and trees. This formed the slander, to which defendant pleaded a justification. The alleged assault was not of a serious character, and the important portion of the claim had reference to the alleged malicious prosecution. The defendant prosecuted plaintiff at Worship Street police court for wilful damage, and the plaintiff (who asserted that the Gardenias were properly topped in the ordinary way, as it was necessary for their growth, and that the India-rubber trees had been properly treated) was acquitted. He now brought the present action, and the defendant pleaded reasonable and probable cause, and counter-claimed for the damage which he said had been done to his plants.—Mr. Cock, Q.C. and Mr. Forman appeared for the plaintiff; and Mr. Philbrick, Q.C., and Mr. Peill for the defendant.—The jury, after long deliberation, found for the plaintiff on all counts, and gave him a verdict for £62.—Judgment accordingly, with costs.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

EARLY-FLOWERING HEATHS AND EPACRIS.—As these go out of flower they should at once be cut back and staged in some airy situation by themselves where they can be properly attended to, and encouraged to break freely, so as to ensure a good head for next season. When the weather is bright and warm they may be lightly syringed early in the afternoon, which will greatly benefit them. After having fairly started, those that require potting should at once receive a shift; if left until they have made much growth they invariably flag, much to their injury. Be careful that all houses containing hard-wooded plants are very freely ventilated, particularly as the weather continues so open. The same remark applies also to the structure containing

SHOW AND FANCY PELARGONIUMS, herbaceous Calceolarias, and the like; unless encouraged to make a sturdy growth they are extremely apt to become infested with aphids, upon the first appearance of which a slight fumigation should be given, to be repeated upon alternate nights until quite cleared. Complete the potting-off of bedding plants, if that work is not yet completed, and look well to the quantity required. Should any doubt exist, the tops of the earliest potted batch may be now taken off and inserted singly in small 60's, and will make useful stuff for edging of large beds, ribbon or other such work. Where the stock of Dwarf Lobelias are raised from cuttings these should at once be taken off and inserted; they strike very readily if kept well shaded and in a moist atmosphere. The cardinalis varieties we lift and store in leaf-soil in any corner of the cold pits, preferring this slight labour to running the risk of losing our stock by frost; because, although they may be raised quite freely from seed, there is little or no return from seedlings the first season in the shape of flower, therefore the precaution of lifting and storing is necessary where these flowers are appreciated.

GLOXINIAS.—We have potted up a strong batch of Gloxinias to succeed the first lot, which are now throwing up their flowers, and are most useful for cutting for home decoration; most unfortunately, they are of but little value if for travelling, the flowers showing so conspicuously even the slightest bruise; but for furnishing the stove or intermediate house they are indispensable. Anthurium Scherzerianum is now throwing up its spathes freely, and should be assisted now and again with a dose of liquid manure, according to fancy. We generally prefer that made from sheep or deer droppings and soot; it greatly assists in giving the foliage that deep green hue—such a sure indication of rude health.

THE FRUIT HOUSES.

THE SUCCESSION PEACH HOUSES are now coming into full bloom, and extra care will be devoted to them until a set is secured; ventilate carefully, but as freely as possible throughout the day, and whatever damping is necessary should be done in the afternoon, so that the atmosphere in the structure may be kept as dry and buoyant as possible. To ensure a full supply of pollen, let the trees be gone over about mid-day with the brush, and the trellis should be tapped with the hand when walking through. Should the weather be damp or foggy, such as we have lately experienced, heating of the pipes or flues is a strict necessity, and will remove all cause for anxiety. Carefully attend to the tying-in of the wood in the early house, and do not maintain too high a temperature, except by sun-heat. The first thing to denote undue haste in the forcing of this fruit will, in the earlier stages, be a great variation in the size of the fruit; should this be perceived, take the necessary precautions and lower at once the night temperature, and give more air during the day. Take care that the

INSIDE BORDERS OF THE LATE VINERIES do not become too dry, or mischief to the cluster of flowers when they appear in the shape of blind points will be apparent; we have given ours a soaking this week as a preventive. We have also given the Muscat house border half a cwt. of Clay's manure, followed by a watering of warm water, this greatly assisting growth and also the size of the clusters; we shall repeat this treatment frequently throughout the season, for to grow good Grapes the most liberal treatment must be given. Complete the potting of Pines as early as possible, looking well to the stock of suckers; those in flower should not be syringed until set, and be careful not to maintain too high a bottom heat, 80° at any time being ample, except when pushed for time in production.

THE KITCHEN GARDEN.

THE STATE OF THE WEATHER still continues favourable for work in this department, consequently, good headway has been made. We have, as far as practicable, planted all our Potatos, simply waiting for rain on the recently-dug squares to finish altogether. It will be advisable now to sow a box or two of Snow's Broccoli inside; as a rule these come in most useful

before those sown out-of-doors, and are always welcomed in the kitchen. We have pricked off a good batch of early Celery, and also of Leeks, which are sometimes asked for early in the season; these we shall plant out later on; the ground having been prepared some time since. It will now be advisable to make a

MAIN SOWING OF PEAS, and if a couple of drills of that valuable variety, Ne Plus Ultra, are amongst the sorts sown, they may be found useful, as it is such a continuous bearer, and keeps a long time fit for use. Where one of the heated Potato pits can be spared, it will be advisable to sow it with French Beans, as they will give a much better return than if sown in pots. Complete the laying of box edgings with as little delay as possible, also any levelling or re-laying of turf.

THE WALKS, both in garden and shrubberies, must be kept well rolled; the frost having lifted the gravel a good deal, every effort should be made to secure a clean, firm face. We are now busy thoroughly cleaning and dressing the rosery.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 8th.*—This meeting took place in the conservatory, and the chief features of the exhibition in the floral way consisted of large groups of Narcissi, both cut and cultivated in pots; these were greatly assisted by numerous hardy bulbs, all of which, however, had been forced or, at least, grown under glass. Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking (gardener, Mr. Bickerstaff), showed a plant of the beautiful Phaius tuberculatus, with white sepals and petals and a richly coloured labellum, consisting of a mixture of orange, crimson, brown and white, with a golden boss on the terminal lobe; and he also exhibited Anthurium carneum, receiving a Cultural Commendation for each of the exhibits. The Hon. and Rev. J. T. Boscawen, Lamorran Probus, Cornwall, received a vote of thanks for a fairly well flowered Dendrobium nobile. De B. Crawshay, Esq., Rosefield, Sevenoaks (gardener, Mr. S. Cooke), exhibited a small group of Orchids, consisting of Odontoglossum hebraicum, O. Rossi majus, O. Wilekeanum, O. Alexandræ and Masdevallia Shuttleworthii xanthocorys, for which he received a vote of thanks. W. Vanner, Esq., Camden Wood, Chislehurst, received a vote of thanks for Cattleya Trianae Vanneriana. Mr. F. W. Moore, curator of the Botanic Gardens, Glasnevin, sent a group of Lachenalias, consisting of L. aurea, L. tricolor, L. orchidioides. A spike of the curious Catasetum discolor also accompanied the above. A vote of thanks was accorded for these. S. Courtauld, Esq., Bocking Place, Braintree, Essex (gardener, Mr. Wright), received a Cultural Commendation for a fine plant of Cattleya Trianae Courtauldi, bearing seventeen flowers. He also exhibited a fine spike of Phalaenopsis Schilleriana, with cut flowers of a pale form of Cattleya Trianae. B. D. Knox, Esq., Caversham Park, Reading, received a vote of thanks for an exhibit consisting of Odontoglossum crispum with pale rose-coloured flowers, a variety of Lælia anceps, and a variety of Cattleya Trianae. Besides those certificated and described on another page, Messrs. James Veitch & Sons, Chelsea, exhibited a white Amaryllis named Iona, striped with crimson, and a broad-fronded garden form of Fern, named Lomaria gibba platyptera. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, London, exhibited a large collection of cut Narcissi, and another in pots. Their attractiveness was augmented by Anemones, Freesias, Lachenalias, Iris and other things. He was accorded a vote of thanks each for Anemone fulgens oculata and Narcissus cernuus. The groups were extensive, and a Silver Banksian Medal was awarded them. Messrs. Page & Sons, Grove Nursery, Teddington, showed five varieties of Odontoglossum crispum, and a fine group of Cyclamen persicum, which latter was awarded a Bronze Banksian Medal. Messrs. Barr & Son, King Street, Covent Garden, exhibited a group of cut Narcissi, supplemented by Anemone fulgens, varieties of Iris reticulata, Galanthus Elwesii, and other spring flowers, for which they received a Bronze Banksian Medal. Messrs. Paul & Son, The Old Nurseries, Cheshunt, N., showed a group of hardy plants, including Leucojum vernum, Narcissus monophyllus, Saxifraga Frederici Augusti, and others. The latter was from the open-air. A vote of thanks was accorded this group; a vote of thanks was also given for a group of the purple-leaved Prunus pissardi in flower. A pan of Saxifraga Burseriana in full flower was sent from the Horticultural Society's Garden, Chiswick, for which a vote of thanks was awarded. Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, London, staged a group of cut Narcissi, in coloured glass vases. Amongst these Chionodoxa Lucilæ and C. sardeusis, Primula obconica major, with large white flowers, and Freesia refracta alba were prominent. A Silver Banksian Medal was awarded for this group. Henry Little, Esq., The Barons, Twickenham, received a vote of thanks for Odontoglossum crispum Littleanum. He also exhibited a large group of Lycaste Skinneri, amongst which were four or six of the best varieties in cultivation. He was awarded a

Silver Banksian Medal for the fine group. Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley, exhibited a stand of cut sprays of Acacia verticillata and a basket of the beautiful pale blue, large-flowered Thunbergi Harrisii. The Acacia had long slender pendent branches, and appeared a distinct variety. A vote of thanks was awarded for the exhibit. Messrs. Wm. Paul & Son, Waltham Cross, Herts, exhibited a considerable number of Camellias in pots, with a numerous array of cut blooms in boxes, for which they received a Silver Gilt Banksian Medal. Messrs. Pope & Sons, The Nurseries, King's Norton, Birmingham, staged four new varieties of Primula sinensis, two of which were shades of blush and two of deep red; and received a vote of thanks. Mr. W. Gordon, The Nurseries, Twickenham, exhibited a distinct white variety of Camellia japonica, named Lady Clancartney. The petals were superposed to one another, much the same as in Narcissus Eystettensis.

Mr. J. James, Woodside, Farnham Royal, Slough, received a vote of thanks for a stand of cut blooms of Cineraria. Mr. J. Pitt, The Gardens, Cassiobury, Watford, exhibited a fine scarlet Amaryllis named Lord Esher, and a large well-flowered specimen of Dendrobium nobile, for the latter of which he received a Cultural Commendation.

At the meeting of the Fruit Committee, Mr. Sidney Ford, Leonards Lee, Horsham, exhibited nine varieties of Apples in excellent condition, including Blenheim Orange, Flower of Kent, Barcelona, Pearmain, Dr. Hogg, &c. He was awarded a Bronze Banksian Medal. Messrs. Rivers & Sons, The Nurseries, Sawbridgeworth, exhibited eleven varieties of Apples in good condition. Messrs. Saltmarsh & Son, Chelmsford, showed a seedling Apple. W. Roupell, Esq., Harvey Lodge, Roupell Park, S.W., exhibited the Melon Apple, of fine flavour and a good one for invalids. He was accorded a vote of thanks.

Birmingham Gardeners' Mutual Improvement.—At a meeting on Wednesday evening, March 2nd, a first-rate paper on the cultivation of the Cyclamen and Bouvardia was read by Mr. Herbert, and, it is needless to say, was listened to with marked attention by about a hundred members who were present. The lecturer, after alluding to the introduction of Cyclamen persicum to our gardens upwards of a hundred years ago, and describing the plant as figured in *Curtis's Botanical Magazine* of 1794, a *fac simile* of which figure he compared with specimen flowers of the Cyclamen of to-day, referred to the immense improvement wrought by careful selection and hybridisation during the last twenty years.

Alluding to a visit paid to Isleworth some fifteen years ago, Mr. Herbert said the sight of flowers and foliage he then found on Mr. Little's plants would not be easily effaced from his memory. Broad-petalled flowers, carried well above the foliage, which must be of compact habit and well developed, should be selected for seed-bearing purposes. Advocating the sowing of the seed during July and August—not later, and giving clear and practical suggestions as to soil and temperature, and insisting on thorough cleanliness in all subsequent operations, Mr. Herbert concluded his paper, as far as the Cyclamen was concerned, by cautioning his hearers not to adopt the now thoroughly exploded "baking process," to which old plants of this beautiful flower were formerly subjected. With a slight rest, however, he said such old stock would be found useful for succession; but for all early purposes young plants were infinitely preferable, and should be grown in quantity by all lovers of this, one of our most useful winter-blooming plants.

Bouvardias were next dealt with, and after giving dates when some of the most useful varieties were introduced, with the best approved method of cultivation, and describing the innumerable uses to which their almost indispensable flowers could be put, the best growing temperature (55° to 60°), and also giving a selection of the sorts most likely to give satisfaction, Mr. Herbert brought his very practical and highly interesting paper to a close. A discussion on the system of cultivation advocated by the lecturer, in which Messrs. Spinks, Cooper, Harris, and others took part, concluded the meeting.

Dumfries Horticultural Improvement Association.—The usual monthly meeting of this association was held in Greyfriars' Hall on March 3rd, Mr. McCreath, president, in the chair. A paper on "The Cultivation of Orchids," by Mr. George Cole, Woodbank Gardens, was read, and listened to with great interest. The paper was brimful of sound advice and information to young gardeners. Mr. Cole seems to have studied his subject thoroughly, and while he speaks much from his own practical experience as to the growth and cultivation of orchidaceous plants, he yet thankfully acknowledges such information in regard to their native habitats as has been given to the horticultural world by collectors who have studied this interesting family of plants in their native and wild state. He pointed out that now that Orchids were found to do in much less heat than was at first supposed, they have been more extensively cultivated, and now there are but few gardens in the country of any size that have not at least a few plants. Mr. Cole was deservedly awarded a hearty vote of thanks.

QUESTIONS & ANSWERS.

CYCLAMENS.—*E. Cooper*: You have evidently got a very good strain of the giganteum section. The flowers are large, the petals well rounded, of good substance; the coloured flowers very bright, and the whites pure. The white variety with the crests on the petals is a great curiosity, of which we have only once before seen the like. You will find it illustrated in our issue for April 18th, 1885, p. 525. It would be interesting to know if it can be perpetuated by seeds.

CYCLAMEN, &c.—*M*: You do not state what species of Cyclamen you mean. If it is *C. persicum*, they might have been sown some months ago. As it is, you may sow them now, and they will come into flower about this time next year if you keep them growing near the glass in a rather warm greenhouse. Sow the Snapdragon in a box under glass, and the seedlings will flower this season after being planted out singly. Sow the Cowslips a little later on; they will attain some size before autumn, and flower well next year.

EUPHARIS MITE.—It would be interesting to know whether the so-called Eupharis Mite deserves all the blame and evil reputation heaped upon it from time to time. One question is whether the mite or the accompanying fungus is the destroyer, and the second is whether the bulbs can be cultivated with any degree of success if they are in any way affected by the mite?—*Enquirer*.

OROBUS NIGER.—*M*: Sow the seeds immediately in pots. The Vetches sometimes take a long time to germinate, especially the perennial ones, of which *Orobus niger* is one. There should be no difficulty in germinating the seeds if they are good, provided you have plenty of patience.

MYOSOTIS ROBUSTA GRANDIFLORA.—*M*: We cannot say what you have got under this name, but most probably a variety of *M. dissitiflora*. Sow immediately in pots, pans or boxes, or, in April, on the open border in a somewhat moist soil. If you sow in pots, prick them off into boxes where they can attain some size, when you can plant in a moist place where they are to bloom. Treat *Anchusa capensis* in the last way described, and plant out in rather dry soil in a sheltered place.

POLYANTHUS.—*M*: The season was not a very favourable one for planting out the Polyanthus you mention, unless they had previously been growing in the open air, and were consequently quite inured to the treatment. If there is danger of losing the whole of the plants in the open ground, you might lift the remainder and pot them in well-drained pots and not too rich a soil, placing them in a frame or hand-light. Before this, however, examine them carefully and cut away any dead or decaying parts; by this means you may succeed in re-establishing them in pots, an experiment well worth trying if the plants are valuable kinds.

ORANGES FAILING TO SET.—My specimens grown in a greenhouse flower freely enough, but they seldom set any fruit. Can any of your readers suggest why they behave in this manner? After the flowers have been open for some time, the whole, including the young fruit, drops away.—*F. C.*

SEEDS.—*M*: Is it worth while sending so far for seeds that you can get equally as good and as cheap at home?

POTATOS.—*R. S. O.*: No, but if you will send two or three of each in the autumn and describe their foliage, we will try to oblige you.

NAMES OF PLANTS.—*J. D. S.*: *Bomarea conferta*. *A. J. Maund*: *Epidendrum cochleatum majus*. The Cyclamen appears to be of the *C. persicum giganteum compactum* type; fine and sweet-scented. *Beginner*: 1, *Adiantum gracillimum*; 2, *Adiantum Capillus-veneris* var.; 3, *Pteris serrulata*; 4, *Pteris serrulata cristata*; 5, *Pteris tremula*; 6, *Nephrolepis exaltata*. *J. Downie*: The yellow flower is *Acacia dealbata*, and the white one appears to be *Clematis indivisa*, but the specimen is insufficient for proper identification. *Mc P.*: Grass; *Panicum plicatum*; *Senecio Ghiesbreghtii*; *Nephrolepis acuta*; *Gesneria exoniensis*; *Begonia subpeltata nigra rubra*. *R. S. O.*: *Daphne Mezereum* and *Juniperus Virginiana*. *Diss*: 1, *Narcissus cernuus* of gardens; 2, *Coleonema alba*.

COMMUNICATIONS RECEIVED.—*J. N.*, *Dumfries* (many thanks).—*Saxon* (many thanks).—*G. F. W.*, *W. K.*, *R. D.*, *W. G.*, *J. U.*, *G. B.*, *B. L.*, *W. C.*, *W. N.*, *W. Stevens* (thanks, next week).—*J. L.*, *D. T. F.*, *A. O.*, *W. T.*, *Junr.*, *W. J. M.*, *H. M.*, *A. W.*, *Omicron* (next week).—*W. C.*, *J. F. R.*

COVENT GARDEN MARKET.

March 10th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	5 0	Pine-apples, St.		
Grapes, per lb.	2 0	6 0	Michaels, each	1 6	6 0
Kent Cobbs, 100 lbs.	60 0	65 0	Pine-apples, Eng., lb.	1 0	1 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, per lb.	0 3		Onions, per bushel	4 0	5 0
Cabbages, per doz.	2 0	2 6	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English,			Sea Kale, per basket	1 6	2 6
per dozen	3 0	5 0	Smallsalading, punnet	0 4	
Celery, per bundle	2 0	2 6	Spinach, per strike	2 0	
Cucumbers, each	0 6	1 0	Tomatos, per lb.	2 0	3 6
Endive, French, doz.	2 6	3 6	Turnips, per bun.	0 6	
Herbs, per bunch	0 2	0 4	Strawberries, per oz.	1 0	
Potatoes, Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.					

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	3 0	5 0	Marguerites, 12 bun.	3 0	6 0
Azalea, 12 sprays	0 6	1 0	Mignonette, 12 bun.	4 0	6 0
Bouvardias, per bun.	1 0	1 6	Parne Violets (French), per bunch	3 0	4 6
Camellias, 12 blooms	2 0	4 0	Pelargoniums, scarlet		
Carnations, 12 blooms	1 0	3 0	12 sprays	0 6	1 0
Cut Tulips, 12 blooms	0 9	1 3	Primula, double, bun.	0 9	1 6
Czar Violets (French), per bunch	1 6	2 0	single	12 bun.	4 0 6 0
Daffodils, 12 blooms	0 6	1 6	Roses (coloured)	3 0	6 0
Epiphyllum, 12 blms.	0 6	1 0	Roses, Tea, per dozen	1 6	4 0
Eucharis, per dozen	3 0	6 0	Roses, red (French), per doz.	1 6	2 0
Gardenias, 12 blooms	12 0	30 0	Saffrano (French), per doz.	1 0	2 0
Heliotropes, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Lapageria, red, 12 blooms	1 0	2 0	Tuberose, per dozen	2 0	4 0
Lapageria, white, 12 blooms	2 0	4 0	Violets, 12 bunches	1 6	2 6
Lilies of the Valley, 12 sprays	0 6	1 0	White Jasmine, bun.	0 6	0 9
			Xmas. Roses, 12 blooms	0 4	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 6
Arum Lilies, per doz.	18 0	24 0	Foliage Plants, vari-		
Cyperus, per dozen	4 0	12 0	ous, each	2 0	10 6
Daffodils, 12 pots	8 0	10 0	Hyacinths, per doz. pts.	6 0	9 0
Dracana term., doz.	30 0	60 0	Lily of the Valley, 12 pots	12 0	24 0
viridis, per dozen	1 0	24 0	Marguerites, per doz.	6 0	12 0
Epiphyllums, per doz.	18 0	30 0	Palms in variety, each	2 6	21 0
Erica hyemalis, doz.	12 0	24 0	Pelargoniums, scarlet,		
Regerminans, doz.	9 0	12 0	per dozen	6 0	9 0
various, per doz.	8 0	24 0	Primulasuensis, p. dz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums, per doz.	9 0	12 0
Ferns, in var., do	4 0	18 0	Tulips, per doz. pots	6 0	8 0

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1 " Broccoli, Mammoth	1 " Parsley, Covent Garden
1 " B. Sprouts, Perfection, &c.	½ oz. Parsnip, Carters' Maltese
2 " Cabbage, Carters' Hartwell	2 " Radish, of sorts
1 " Savoy, Green Curled	1 " Spinach, Summer
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1 " Celery, Carters' Crimson	1 pkt. Vegetable Marrow, also
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CRYSTAL PALACE GREAT ANNUAL SHOW OF SPRING FLOWERS, Saturday, March 26th. Schedules on application to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

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NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m., in the Lindley Library; Fruit and Floral, at 11 a.m., and Narcissus at 12 noon, in the Conservatory, on TUESDAY next, MARCH 22nd.

N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

TUESDAY, March 22nd.—Fruit and Floral Committees of the R. H. S. meet at 11 a.m. Sale of Carnations, Roses, &c., at the City Auction Rooms, by Protheroe & Morris.

WEDNESDAY, March 23rd.—Royal Botanic Society's Spring Show. Sale of Roses, &c., at Stevens' Rooms. Sale of Lilies, Freesias, Roses, &c., at Protheroe and Morris's Rooms.

THURSDAY, March 24th.—Mr. B. S. Williams' Spring Exhibition opens. Sale of Imported and Established Orchids at Stevens' Rooms.

FRIDAY, March 25th.—Messrs. W. Cutbush & Son's Spring Exhibition opens. Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, March 26th.—Crystal Palace Flower Show. Sale of Roses, &c., at Stevens' and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 19, 1887.

SPRING FLOWERS.—Who hath not felt the genial influences of spring? The truth of this strikes us most forcibly when, after a severe or protracted winter, or even a lengthened snowstorm, mild open weather suddenly breaks upon us. With the advent of such a propitious season, all nature seems relenting; flowers spring up on every side; the feathered tribes warble; and as a poet has said, "not rural sights alone, but rural sounds, exhilarate the spirits." If, on the other hand, the change is gradual, it is infinitely less perceptible; but the dullest as well as the keenest observer cannot fail to be impressed with the certain, if slow, return of the spring-tide of another season—the preparation for another golden harvest.

Spring has, indeed, dawned upon us again, yet with severe frosts, snow, soul-depressing fogs, and piercing cold east winds still with us, we can hardly believe the poet, but can only re-echo his sentiment, when he says, "Come gentle spring, ethereal mildness, come." The searching winds of March are

often more trying to vegetation, or at least the effects are more evident, than all the months of winter. Previous to, and since the memorable and destructive snow-storm that set in with terrible suddenness the day after Christmas, the weather has been unusually cold, or in other words, the winter all through has been a severe one. This is evident by the flowering period of hardy bulbous and other plants being several weeks behind their usual time, while the flower buds of many have been completely ruined for another year. This applies to Chimnanthus and Laurestine, that usually flower in perfection about mid-winter, if the weather is mild and open. The winter-flowering Crocus Imperati suffers the same fate if stormy or frosty weather succeeds a mild open time.

The flowers that usher in the spring and herald the approach of sunnier and more favourable times are both numerous and varied, and if, as in hundreds of cases, they have been banished from the gardens of the wealthy by the summer bedding mania, we venture to predict that the day is not far distant when they will re-enter and take possession of their old abodes in greater numbers than ever. The extreme hardiness and beauty of many constitute them the flowers of rich and poor alike, and herein lies their value and well-merited popularity. Foremost amongst these are bulbs, and few can resist being sentimental in proportion to their beauty, their novelty, or the suddenness with which they make their appearance after the melting of the snow or the thawing of the frost-bound crust of earth. The peasant is frequently heard to remark that such flowers are emblematic of the Resurrection, so bright and glorified is their re-appearance after being apparently dead. Some have even expressed such an opinion who, however, believed that the truest economy consisted in planting the garden with Potatos, and acted up to that belief, notwithstanding a heart-felt desire to the contrary.

In some old gardens, pleasure grounds, or on the margins of woods, skirting sylvan walks or drives, where Snowdrops have been planted somewhat lavishly in former times and are now quite wild or naturalised, no artist can paint or pen describe the fecundity of mother Earth, or the pleasure derived by her more sentient subjects. In addition to the common Galanthus nivalis, our collections are now enriched by G. Elvesi, G. plicatus, G. Imperati and others. These come on in succession from December to April, if the season be favourably mild. The white and green-tipped Leucojum vernum, although not particularly early, opens with exceeding grace in February or March; while previous to this the yellow Sternbergia lutea has accomplished its mission and faded. The Daffodil fever is a healthy outcome of the thrice-fortunate and happy revival of some of the most beautiful of all hardy bulbs. From the Tenby Daffodil, that flowers in February or early in March, we have a constant succession, as to time, till late in the spring; while they range through all shades of yellow, white, and sometimes green, and varying in size from the Emperor to the pigmy Narcissus minimus. Other species and varieties, including the Hoop-petticoat section, appeal to the diversified tastes of the most fastidious, but none can excel the purity and delicious fragrance of N. poeticus. The magnificent effect of a large mass of golden yellow Daffodils, however, at a little distance, may be feebly conceived but scarcely described.

Crocuses are not, strictly speaking, bulbs, but they are closely similar in habit, and often considered such in popular estimation. Notwithstanding the number of species in the hands of the cultivator, those found in old gardens especially are confined to remarkably few species.

C. Imperati is seldom met with, but is an extremely desirable winter-flowering species, and this is followed by the more common *Cloth of Gold*, *C. susianus*, readily recognised by its golden yellow or orange flowers, with the three outer segments revolute and heavily flamed or feathered along the back. This is succeeded by the Dutch yellow, *C. aureus luteus*, and finally by the endless variety of blue, white and purple forms of *C. vernus*, some of which are of remarkable size and beauty. Forms of *C. biflorus*, the Scotch *Cloth of Silver*, and *C. versicolor*, also occur in gardens, and are both distinct and extremely handsome.

This by no means exhausts the number of spring flowers, whose numbers will, in a few weeks, be simply legion, both annual, perennial and shrubby. The number of rhizomatous subjects belonging to the *Crows-foot* family will strike the observant, on account of their hardiness, early-flowering habit and in that respect their similarity to bulbs. The yellow winter *Aconite*, usually bursting through the ground in February, is unusually late this spring. In due season a numerous band of *Anemones* grace the spring garden, being represented by the glowing *A. fulgens*, the blue *A. blanda* and *A. apennina*, with the white *A. nemorosa* and its varieties, both single and double, together with the rare yellow *A. ranunculoides*. The *Hepaticas* are evergreen, and present a host of brilliant colours in red, white and blue shades, both single and double. They literally set the garden aglow in spring, and constitute a most imposing feature at that season in some old-fashioned gardens. The *Christmas Roses* proper usually flower so early as to be considered winter rather than spring flowers; but their congeners, the *Lenten Roses*, create a lasting display that reaches from December till March or April, according to the mildness or otherwise of the season. The leafy bracts subtending the flowers of the deep purple *Helleborus colchicus*, the white *H. olympicus*, *H. orientalis* and others, together with the spotted varieties of several, lend a charm to the striking and varied colours, many of which are of shades uncommon amongst garden plants at any season. Later on the *Pæonies*, belonging to the same family, will grace the spring garden with their huge purple, red, pink and white flowers.

Previous to this, however, hosts of hardy plants of widely distinct affinities claim attention, and testify that spring gardening is one of the most engaging of the whole routine. What can exceed the loveliness of *Saxifraga Burseriana*, whether in the crimson bud or in full bloom, with its large, strikingly handsome snow-white flowers? *Scilla bifolia*, *S. sibirica* and *Chionodoxa Lucilæ*, described as the *Glory of the Snow*, rival one another in brilliancy and the intense tints of blue.

MESSRS. W. CUTBUSH & SON, The Nurseries, Highgate, have obtained the contract for furnishing, planting and maintaining trees, shrubs, &c., at the various Board Schools within the London district.

MR. GEO. CLIFFE, for the last eight years head gardener to Lord Belmore, Castle Coole, Ireland, has been appointed head gardener to H. B. Mildmay, Esq., Shoreham Place, Kent.

THE annual summer exhibition of the BURY ST. EDMUNDS AND WEST SUFFOLK HORTICULTURAL SOCIETY, of which our old friend Mr. Peter Grieve is the hon. secretary, will take place on June 23rd and 24th. The *Chrysanthemum* show is fixed for Nov. 17th and 18th.

IN a note upon the SCHOOL OF ARBORICULTURE AND VINE CULTURE AT GEISENHEIM, Mr. Ch. Joly compares the schools of horticulture in Germany with similar establishments in Belgium, and the School of Horticulture at Versailles. The latter is the only special school in France, and has a budget of 90,000 francs, or £3,750, with nine professors under the direction of Mr.

Hardy. The course of study lasts for three years, and the instruction is given free. In Germany, thirty-three schools of horticulture and Vine culture exist. Mr. Joly calls upon England to imitate the schools of the Continent. The course at Geisenheim commences on the 1st April, except for the advanced gardeners, who enter on the 1st March to learn pruning. An examination follows the instruction, when the deserving receive a diploma.

A CHRYSANTHEMUM SOCIETY has just been formed AT PONTEFRAC, of which Lord St. Oswald, Nostell Priory, has kindly consented to become president. His lordship has contributed ten guineas to the prize fund, and we are pleased to hear that the committee are being well supported in the district.

MESSRS. LUCOMBE, PINE & Co's annual EXHIBITION OF HYACINTHS at Exeter on the 11th inst. proved—as was expected—unusually successful, the display being extensive and the quality first-rate. The first prize was again won by Mr. J. Daw, gardener to the Rev. T. J. Yarde, of Chudleigh; and equal seconds were awarded to Mr. Baker, gardener to Mrs. Rowe, Pennsylvania, and Mr. Williams, gardener to W. C. Sim, Esq., Clyst St. George. The third prize went to Mr. Viney, gardener to Mrs. Norris, of Pinhoe.

At a meeting of the Chiswick Gardeners' Mutual Improvement Association, Mr. Leonard Barron read a paper on FLOWERS AND INSECTS. After enumerating and describing some of the general and main features of the inter-relations of insects and flowers, and the process of fertilisation, he went on to describe special cases, elucidating his remarks, and making them better understood by the use of diagrams. The paper was somewhat lengthy, and listened to with great attention throughout.

THE PROPOSED GARDENERS' ORPHANAGE.

THE purport of your leader (see pp. 421 and 422), as I understand it, is "Look before you leap"—a prudent precept, hardly needed among such a canny—that is, prudent—race as gardeners. The difficulty has mostly been to get us to leap at all, after any amount of looking or numbers of appeals to our good nature towards any objects likely to benefit ourselves or advance our interests. If proof of this is wanted, it may be found up to the hilt in the whole past history of our one charitable society—the Gardeners' Royal Benevolent Institution. That history has been one long struggle for life and usefulness against the inability or apathy of the class it exists to benefit. One can imagine the peculiar smile of amused incredulity that would light up the face of the venerable secretary as he reads of your fears that gardeners might become the prey of charitable adventurers, who nett ten hundred per cent. on their outlay, or of their piling charity on charity until one half lived, or tried to live, upon the other.

I agree with you, however, that the eternal appeals and exactions, even for good objects, are a sort of social blisterings that ought not to be multiplied, unless for good and very sufficient reasons. Grappling with these you deny the need for a gardeners' orphanage, doubt the ability of gardeners to establish one, and challenge the good effects of such institutions. As to the first, it is quite true, as you say, that we have had no orphanage in the past, and also that gardening on the whole is a healthy vocation, though the craft so painfully familiar with rheumatism and other ailments will hardly endorse your statement that it is the healthiest of all vocations. But the fact of not having an orphanage is no proof that it has not been needed; and those most familiar with the family life as distinct from the mere professional achievements of gardeners will be the first to admit that a gardeners' orphanage would have mitigated much misery in the past, and may prevent an incalculable amount of suffering to gardeners' children in the future. There are few amongst us over fifty years of age who have not known many young men with families suddenly struck down, and leaving their loved and little ones face to face with poverty and suffering. Illogical as it may seem, I contend that the inability of gardeners to sustain their own orphanage furnishes a powerful plea for its establishment. It is the general poverty of gardeners with families, that furnishes the most powerful argument for the establishment of such an institution. Therefore, just because we are unable to do the work single handed and alone, we

launch our scheme now, trusting to the Jubilee tide of loyalty and liberality to lead it on to fortune. Possibly we may not be able to support it wholly by gardeners' subscriptions; though were all to give the moderate sums suggested by Mr. Penny—the aggregate of the 5s. and 2s. 6d. subscriptions might go a long way towards it; but I trust the donations from the trade, the press, the aristocracy and the general public, will form a considerable endowment in aid of our subscriptions. And if our gracious Queen and their Royal Highnesses the Prince and Princess of Wales will also favour us with their patronage and support, the establishment of our orphanage on a wise and permanent basis will prove one of the most useful of all the Jubilee memorials of this eventful year.

There is great force in your remark as to the evils of election, and "the vicious influences of an orphanage, where the children would in all probability be reared as machines, and not as loving human beings." Possibly elections might be abolished, or their evils greatly mitigated, and the vicious influences of orphanages are mostly in the ratio of their size. Now as most modern experience runs wholly in favour of cottage home orphanages instead of palatial-like establishments, in which, almost of necessity, law rather than love must bear rule, gardeners would not be likely to sink their funds, or lose home-like touch of the children through any foolish attempt to rival the size, or outstrip the grandeur of existing institutions. Though the scheme for convenience may be called the Gardeners' Jubilee Orphanage, we should probably have several homes in convenient local centres, or place our children in private homes, the support or success of our main idea—that is, a home-like provision for the poor orphan children of gardeners—binds us to no one scheme, nor to anything like a cast-iron uniformity of procedure. It might be possible to work our scheme in connection with some existing orphanage, or to link it on in some way as supplementary to the Gardeners' Benevolent Institution. Our main purpose will be achieved if, through the united support of gardeners, assisted by all lovers of horticulture, we are enabled to express our loyalty to our beloved Queen in this Jubilee year of her reign through the making of suitable and permanent provision for our orphaned bairns.—D. T. Fish, March 10th, 1887.

AFTER the explanation made by Mr. Barron in your last week's issue and, doubtless, with authority, I prefer to refer to the subject under discussion as The Gardeners' Orphan Fund. Practically the Orphanage disappears with Mr. Barron's letter, and with it goes all objections in respect to buildings, costly management, nice berths for officials and, not least, that vicious machine-like and pauperising process of training which characterises all orphanages and institutions in which children are reared in bodies and upon rule of thumb principles.

Whittled down in this way, the proposed orphanage is no orphanage at all, any more than a hospital is a hospital without a building, or an asylum is an asylum without a habitation; therefore, the real proposal is to create an Orphan Fund, and the recipients are to be placed out in respectable families, and trained and brought up as children should be, under the influence of domestic life and in a natural way. That proposition is so divested of objections that it offers little to discuss, beyond the means whereby the money is to be raised. Probably, including cost of administration, the orphans would cost £20 per head annually; but much would depend upon the administration, as a similar institution shows an annual expenditure, compared to its subscribed income, of some twenty-five per cent.—obviously a lavish and wasteful expenditure; in no case should it, for any similar fund, exceed ten per cent. The difficulty in obtaining money from gardeners still remains, for it is nonsense to write of them as being well paid or having ample means for charitable purposes; still, as I have shown, the objective points are so reduced that help may now be more readily granted.—A. D.

I LIKE the suggestion of Mr. Barron made on p. 438, which is suggestive of economy, and cannot fail to recommend it to all concerned in promoting this important and deserving object. If it should be found necessary to provide homes for the children in the form of an Orphanage, I would suggest that it be a few

cottage homes in some suitable locality. I have but little doubt there are to be found some few kind philanthropists amongst our employers who would be willing to give a piece of land for such a cause, on which a few cottages could be built. Such homes would be much more natural for the children than being drilled by the machinery of a large institution. I would also suggest that these homes be managed by gardeners' widows, who may have been left with children unprovided for, as who would be so likely as a widowed mother to administer to the wants of the fatherless? Whatever steps are taken, I hope every gardener will do his best in assisting to carry the scheme to a successful issue.—*J. Walker, The Gardens, Broomhall Field, Sheffield.*

I AM desired to state that, as soon as arrangements can be made, a meeting of gardeners and others who have signified their interest and approval of the proposition to establish a Gardeners' Orphanage Fund for the orphan children of gardeners, will be held in London to discuss the matter generally, and to take what steps may seem necessary in furtherance of the object in view. In the meantime, it would facilitate matters greatly, if those who are disposed to support the proposition would kindly send in their names, with any suggestions on the subject they may be pleased to submit, either to Mr. C. Penny, The Gardens, Sandringham, King's Lynn, or to me as under.—*A. F. Barron, Royal Horticultural Society, Chiswick, secretary pro tem.* [We have received several other communications on this subject, for which we regret our inability to find room.—ED.]

OPEN-AIR PEACH CULTURE.

UNTIL we know more of the operations of nature in the matter of heat production, it will be very difficult to determine how far the deletion of our coal strata is tending to the withdrawal of heat from the earth's surface. It seems very unlikely that any act of man short of the absolute denudation of the land of woods and forests can materially affect climate; and we may point to the fact that a century or two since we had weather of the most erratic, and often of the most inclement, kind, showing that coal measures of the most extensive character, as then untouched, did nothing to promote heat on the earth's surface. A leader-writer in a daily paper, the other day, very stupidly assumed that some of the supposed change of climate in this country was due to the fact that we, in altering the calendar, had put the months forward by eleven days. That, however, was of too trifling a nature for consideration, as the length of the year, and of the summer and winter seasons, remained the same.

It is not many years since that we had a period of cold wet summers, which were most disastrous to vegetation, and especially to fruit trees. Then since we have had a period of drier and warmer summers—pretty conclusive proof that variations in climate or weather must be due to other and greater causes than are the acts of man. In dealing with open-air Peach culture, we, perhaps, too hastily assume that it is more difficult to ripen Peaches on walls than it was in the olden times, but we have no exact data upon which to base an argument. We remember that Peaches were grown, and fairly plentifully, on walls forty to fifty years since, but then it had not become the rule as it is now, to grow these fruits under glass, hence the fact that fruits were obtained on walls is strongly impressed on the mind. Still there are few gardeners living who can tell all the difficulties which growers then had to encounter. We want to know something of the failures as well as the successes in open air Peach culture by our progenitors.

Now we find it easy to obtain evidence of failures, and successes, of which there are still plenty, are less notorious. The age favours house culture, and, without doubt, house fruit must ever excel wall fruit in size, colour and richness. Thus whilst attempts to grow Peaches under glass are universal, the culture on walls is now held to be a very secondary consideration, hence there cannot possibly be any considerable record of successes. And yet some may still be found full of promise, leading to the belief that if the same skill and perseverance were brought to bear on out-door Peach culture as is evidenced in these few cases, then out-door Peaches might be found in abundance. There is danger of wall Peach culture becoming a lost art; that would be a misfortune, and there can be little doubt, but that with ordinary care, Peaches in abundance may yet be produced on open walls.—*A. D.*

GARDEN PLANTS ILLUSTRATED.

CORYDALIS KOLPAKOWSKIANA.

The slender glaucous leaves of this tuberous-rooted herbaceous plant are two to three times pinnatisect, or cut into wedge-shaped segments. The pale rose, sometimes white, flowers are largely racemose. Its native habitat is Western Turkestan; from whence we get numerous hardy bulbous and tuberous plants, through the instrumentality of Dr. Regel, of St. Petersburg. The specimens figured were flowered by Mr. Elwes in 1867.—*Botanical Magazine, t. 6925.*

XANTHOCERAS SORBIFOLIA.

Last year this beautiful, almost hardy shrub flowered in the Botanic Gardens, Cambridge. The leaves are alternate and pinnate, with numerous leaflets; flowers are freely produced in axillary and terminal racemes, and are white, stained with rose in the centre; male and female flowers are produced on the same plant. The Apple-shaped fruits in the accompanying plate were sent by Max Cornu, of Paris; and the Pear-shaped ones by I. Van Volxem, of Brussels; while the flowers were sent to be figured by Mr. Lynch, of Cambridge. The globose seeds are eaten by the Chinese, of whose country it is a native.—*Botanical Magazine, t. 6923.*

LAPEYROUSIA (ANOMATHECA) GRANDIFLORA.

The scarlet six-parted spreading flowers, with a deep coloured blotch on each of the three lower segments, recalls the smaller-flowered and better-known Anomatheca cruenta, which has also been reduced to Lapeyrousia by Bentham. The flowers are tubular in the lower part; and four to ten of them are produced on scapes, arising from between the ensiform leaves. The species is a native of the Zambesi country, and was discovered by Sir John Kirk, when accompanying Dr. Livingstone.—*Botanical Magazine, t. 6924.*

GARDENING NOTES FROM SCOTLAND.

Edinburgh Chrysanthemum Show, 1887.

—At a recent meeting of the Council of the Scottish Horticultural Association, Mr. D. P. Laird, president, in the chair, the above show was arranged to be held on Tuesday and Wednesday, November 29th and 30th. The exhibition which took place last December under the auspices of the association having proved a most successful venture, the Council have felt themselves warranted in adding a substantial sum to the prize list. The schedule will shortly be issued, and may be had on application from Mr. Robertson Muir, 33, St. Andrew's Square. The funds of the association not being available for exhibition purposes, a special effort is necessary, and Mr. A. Mackenzie, Warriston Nursery, will gratefully receive and acknowledge any contributions.

High Temperatures in March.—For some time we have been favoured with temperatures far above the average for this season of the year. During the present month on two occasions only has the glass gone below freezing point, and then only to the extent of 1° and 2°. On three different dates the thermometer during the night has registered 40°, the glass rising during day-time to 50° in the shade. These readings were taken at 7 a.m. to 12 p.m., the thermometer being 3 ft. from the ground, and facing north in the gardens of Sir. Wm. T. F. A. Wallace, Bart., at Lochryan, which stand on the shore of Lochryan, Wigtonshire. It would be interesting to know if similarly high temperatures have been recorded in other districts.—*James Cocken, Lochryan Gardens, March 9th.* [An Edinburgh correspondent, writing on the 12th inst., states that for the previous three weeks the weather had been much like summer, but on the morning of writing there were 13° of frost, and 4 ins. of snow.—ED.]

Rhododendron argenteum at Pinkhill.—Amongst the early-flowering Himalayan Rhododendrons, that under notice must be reckoned amongst the most striking and handsome. There are at least two varieties or forms of it in cultivation, and the pure white one, of which we have received a magnificent truss bearing seventeen fully expanded flowers from Messrs. R. B. Laird & Sons, Pinkhill, Midlothian, we consider the purest, handsomest and most deserving of cultivation. The other form has the corolla more or

less blotched with purple, and suffused externally with pale purple. The corolla is large and bell-shaped with a slightly spreading mouth, and with the exception of the stamens the flowers sent us were ivory white. The plant from which the flowers were taken has been the property of the firm for over twenty years, and did not flower regularly till within the last five or six years. It is now 10 ft. high, 6 ft. through, and flowers abundantly every year, creating a display of no ordinary kind, such as would not soon be forgotten by those who can admire the magnificence of floral wealth. The silvery, evergreen, large leathery leaves are attractive at all seasons.

THE AMATEURS' GARDEN.

BEDDING PLANTS.—If not already done, the potting up of such things as Pelargoniums should be completed without further delay, as if this is not done early, the best part of the season is lost before the plants become established in the ground after they have been planted out. This applies to those in cutting pots, boxes or old plants lifted in autumn, and placed two, three, or more in a pot for the sake of economising space. All should now be potted singly, and placed in a house where the temperature is sufficiently high to give them a start. After this they may be placed in cold frames, which if unheated will easily be protected from all danger of frost by covering up with dry mats at night.

Lobelias, Ageratums, Alyssum maritimum, Verbenas and other bedding plants of that nature, if the stock is insufficient to meet the requirements of the coming season, should be kept in the warmest place at the amateur's disposal, so that growth may be encouraged from which a supply of cuttings can be obtained. These root in a comparatively short time if the propagator has a little bottom heat at command. In the absence of such aid, of special propagating cases or frames, the amateur who possesses merely a greenhouse (which we presume is heated with a flue, or, preferably, hot-water pipes) can raise cuttings of the kinds mentioned by placing a square of glass over the pan or box in which the cuttings are inserted. In the absence of anything better, hand-lights even of a temporary construction can be hastily got together to afford the cuttings that necessary protection to retain the moisture about them. Shade from strong sunshine for a few days until they have taken to the soil, or in other words, commenced to root. After this no more shading than is absolutely necessary should be given, as it all detracts from their sturdiness, causing the stems to elongate or become drawn. As soon as they give evidence of being fairly well rooted, the truest economy lies in having them potted immediately, to give room for further batches of the same or something different.

PRUNING.—Where such has not been completed, in the case of fruit trees and bushes, no time should be lost in executing what is necessary. The fruit buds are now plump and full, ready to burst into bloom when the weather becomes milder, especially in the case of Peaches, Apricots, Plums and Pears, so that the most casual observer would have no difficulty in distinguishing the fruit from wood buds. Standards will require thinning, and the removal of all weak, decayed, or useless wood. Pyramids and trees on walls—whether cordons, espaliers or fan-trained—must be systematically pruned, of course, and the young shoots of last year all cut back to one bud, with the exception of the leader of each branch, which may only be shortened back according to their strength, and the space at command for their extension. Bush fruits, especially Gooseberries, are now well advanced, and should be pruned—if not already done—before the forward state of the buds renders the operation difficult.

GRAFTING.—Although this operation is mostly left to the nurseryman, there is no reason why the amateur should not try his hand in order to improve any tree already in his possession. For instance, some of his Apple and Pear trees might be shy bearers, or produce fruit of so indifferent or useless a nature, as to render re-grafting or the removal of the tree inevitable. In such cases they may fearlessly be headed down, and grafts of a more useful or productive kind inserted on the stems. The operation is not difficult, and may be overcome by a little attention. By reference to some of the books on grafting, it will be seen that the inner bark of the scion and stock have to coincide before union can take place. Cut stock and scion, so that one may be the counterpart of the other. Hold them firmly in this position, and bind round with a piece of matting or raffia. Over this, to exclude air, place a piece of grafting clay, consisting of some good plastic material mixed with cow manure to hold it together. Cover this with moss, and bind it round with a string when the operation is complete.

THE ROYAL HORTICULTURAL SOCIETY.

WE are informed that at a meeting of the council of the Royal Horticultural Society held on the 8th inst., a draft memorial for submission to Her Majesty the Queen, prepared by the president of the society, was read, and Sir Trevor Lawrence was requested to lay the same before Her Majesty at an early date. The memorial briefly reviews the history of the society since its foundation in 1804, and, after setting forth its intimate and influential connection with the progress of practical and scientific horticulture, refers to the beneficent influence which the late lamented Prince Consort exerted over its fortunes, which have steadily declined since the removal by death of His Royal Highness from the presidency of the society, until in 1882, after years of continually increasing financial difficulties, the society being unable to carry out the terms of its agreement with the 1851 Exhibition Commissioners, was compelled to give up possession of the Royal Horticultural Gardens, and is now brought face to face with the grave problem, not only how its future work is to be carried on, but even of how its existence is to be maintained.

The memorial, after alluding to the prestige of the society at home and abroad, prays Her Majesty to use her gracious influence to obtain for the society a sufficient portion of ground on the South Kensington estate for a building to accommodate its committees, its valuable library [?] and its offices; together with the use of the conservatory and quadrants in which to hold its shows. In concluding, the memorial assures Her Majesty that the council of the Royal Horticultural Society approach her with the hearty concurrence and support of the most eminent horticulturists of the kingdom, both amateur and professional, and in the firm conviction that force is added to their appeal, not only from the past history of the society, but also from the fact that the sphere and scope of its work are distinctly germane to the objects for which the land at South Kensington was bought.

PROTECTING FRUIT TREES.

IN those gardens where the securing of full crops of fruit on uncovered walls is regarded as a matter of the highest importance, no time should be lost in making the necessary preparations, with a view to accomplishing the desired results; of this fact we were forcibly reminded to-day, March 10th, in looking over the walls, by finding that the first few flowers of Apricots were already fully expanded. There are not many localities where a full crop of these can be relied upon from year to year, without having recourse to protection in some shape or form.

In our own case we find nothing better or cheaper than branches of Spruce Fir. These are cut into lengths of 2 ft. to 3 ft., and tied on with matting, or stuck in between the branches of the trees it is desired to protect; but not too thickly, as too much sun would be excluded, and probably the object in view be defeated. One great advantage of Spruce, when used for this purpose, is that as the days get longer, and the sun's power increases, the leaves fall off gradually, thereby admitting more light and air by degrees to the young fruit at a time when it is most needed. The same kind of protection may also be given to Cherries, Plums, and early varieties of Pears growing on walls, if, at the time they are in flower, the weather is at all unfavourable. Other kinds of protection, as an alternative, may be found in Yew and Laurel branches if used sparingly, and also in tiffany and ordinary fish netting, the latter to be suspended in front of the trees three or four courses thick.

In the matter of Peaches and Nectarines, two of the most critical and tender subjects we have to deal with in out-door fruit culture, special means and precautions should be used to ensure a good "set" of young fruit, as a good crop may be said to be the best test of a man's skill and ability as an out-door fruit grower, and will redound far more to his credit, than a crop obtained under the more expensive or favourable conditions. Where expense is of secondary importance, and subordinate to high efficiency, neatness and order, we would strongly advise the use of rollers and blinds made of frigi domo, a material fully capable of excluding any frosts we are likely to experience at this time of the year. To facilitate the working of blinds, there ought

to be placed in front of the trees, neat upright posts 6 ft. apart, resting in iron sockets fixed in the ground at a distance of 15 ins. or 18 ins. from the wall, and secured at the apex by cross pieces, joining them to a top rail fixed to the wall close under the coping. Needless to say, the one great advantage of this plan consists in the work of covering and uncovering being quickly done—a boon to young men who may happen to lay in bed an extra half hour on a Sunday morning, or who may want to get away early in the evening on a more congenial and pleasant business. Where this system cannot be adopted, recourse may be had to Russian and home-made straw mats, stout poles being fixed in front of the trees to prevent damage being done in rough windy weather.—*J. Horsefield, Heytesbury, Wills.*

NOTES FROM HOWICK HOUSE.

VERY few lovers of Orchids, I imagine, have had the opportunity of feasting their eyes upon such a gorgeous display of *Cattleya Trianae* as was afforded me a few days ago. To say the least, I was simply astonished when my hospitable guide, Mr. Swan, the cultivator, showed me into a house where no less than 270 or 280 flowers of the beautiful *Cattleya Trianae* and its varieties presented themselves like a huge army arrayed in their best uniforms.

I should fail were I to attempt to convey to the minds of readers an adequate idea of the depth and richness of the many varieties enumerated in that beautiful picture of all shades, including the lovely *Cattleya Trianae alba*, which is represented by a fine healthy piece with a good pair of its beautifully fringed pure white flowers. Several plants of *C. Percivaliana* and *Mendelii* were gay; as well as *C. amethystoglossa*, a very distinct and pleasing species. In the same house were noticed two or three good baskets of each of the following *Dendrobiums*, namely, *D. crassinode*, very rich and well-flowered; *D. heterocarpum*, *D. nobile* and the beautiful *D. Ainsworthii*. In a second division suspended from the roof were a number of well-grown *Phalaenopsis*, the most noteworthy being a piece of *Schilleriana*, bearing a splendid branched raceme of some thirty flowers; *P. violacea*, *Stuartiana*, *Sanderiana*, *amabilis* and *grandiflora* were all represented.

In another division among myriads of *Cattleya Mossiae* and other species were noticed several baskets of the pretty orange-coloured *Laelia cinnabarina*, well-flowered. *L. harpophylla* is very much like the former, but the lip or labellum is of a somewhat lighter shade. *Cœlogyne cristata* is well grown here. Some of the plants have yielded a real harvest of flowers; but the lovely *C. c. Lemoniana* being a little later than the former variety, some four or five pans were rich and flowering profusely, each raceme bearing from five to eight flowers, a number rarely seen upon the type. The lip has a beautiful soft lemon-yellow, quite distinct from the former.

A house full of most healthy pieces of *Odontoglossum* are just sending up a host of strong flower spikes. About 120 racemes of the following were noticed, namely, *O. Alexandræ*, *O. gloriosum*, *O. Andersonianum*, and *O. Pescatorei*. Several very strong plants of *Oncidium macranthum* have their long racemes showing flower, tied round neat stakes for support.

On leaving the Orchid houses, one cannot escape being very much impressed with the fact that all kinds of florist and other plants have their various cultural requirements supplied with the same careful judgment throughout, as the hundreds of Orchids.

Cyclamens fill one side of a spau-roofed house, and are in themselves a complete show, and worthy of a journey to see. One plant is nearly a yard through, and there are many others from 15 ins. to 18 ins. over, and are the finest examples of good culture I have ever seen. Some of the corms have seen many summers since they were seedlings, but of their age no inquiry was made. In the same house may be seen a good strain of *Cinerarias* well grown. Tea Roses also occupy one side of another structure. They are grown in 10-in. pots, and tied neatly to stakes, forming beautiful bushes down to the rims. Last, but by no means the least interesting feature, is a neat little conservatory adjoining the mansion, and within it a most tastefully arranged bank of Hyacinths, Tulips and Narcissus, intermixed with Primulas, Cyclamen, Lily of the Valley and other things, backed up with a row of *Acacia lophantha* and *Aspidistra lurida variegata*, which give to the whole a most pleasing effect.

The Hyacinths, splendidly grown, were represented by many excellent varieties too numerous to name. They are chiefly grown in self colours, three bulbs in each pot, a system that should be more generally adopted where effectiveness is the object. The absence of stakes and ties was conspicuous, sufficient evidence of the sturdiness of the spikes produced. Narcissus and Tulips are equally well grown. Space and time are short, therefore I must curtail my notes, feeling that a very profitable hour was spent with one of the best gardeners and orchidists of the present day.—*Visitor.*

GROS COLMAR v. LADY DOWNES.

I WAS very pleased to read that my remarks had caused some gratification to Mr. J. Udale. Like him, I have much to learn and unlearn in connection with Grape culture, far more, I am afraid, than my interrogator. It is equally pleasurable to me to answer his queries, which I will do in as lucid a manner as possible. I do not wish to be dogmatical in any of my remarks, but only wish to relate my experience on the subject.

I may be wrong, but am still of the same opinion as I gave on page 394. I must say at the outset, I consider that Mr. Udale has altered the face of his former communication. So far as I remember, he gave us to understand that Lady Downes had been grown in a Muscat house; now he says a mixed house. I do not consider Lady Downes and Muscats would be favourable company, for the following reasons:—First, the former does not require so long a period to finish and ripen their crops as the Muscats; secondly, the former does not require so high a temperature as the latter; thirdly, Lady Downes is very apt to scald after the berries have stoned, thus requiring plenty of air early in the morning. I have a lively idea on this head, and I daresay Mr. Udale has had similar experience. The air, almost an absolute necessity for the Grape in question, would certainly be unfavourable to the Muscats. Fourthly, Lady Downes would begin to colour much sooner than its aristocratic neighbours, still requiring that atmospheric condition so essential to good-flavoured Grapes. This, too, would be at a period when the Muscats were not requiring such an amount of air.

I trust I have satisfied Mr. Udale on this head. I will now deal with his second query. I have had the pleasure of growing Gros Colmar in a Muscat-house, and I am of opinion that the temperature suitable for these is equally suitable for the other; both of them requiring a long period to finish their crops. The flavour of Gros Colmar I have found superior in such a heat, as compared with those grown in an Hamburg-house; but I have never yet tasted this Grape of first-class flavour, hence my assertion that they would "revel" in such a house.

Mr. Udale's third question is easily answered—simply because I am of opinion that Lady Downes is superior to Gros Colmar in flavour. At least, this has always been my experience, and I believe I am not alone in this opinion; but it may possibly be as Mr. Horsefield suggests, I have not yet tasted this Grape at its best, and, as he adds, to find it in such a condition is truly exceptional. Mr. Udale's fourth query is, no doubt, very simple, but unanswerable. Why one variety should prove superior to the other growing in the same house is more than I can venture to say. The why and wherefore may be owing to certain conditions, with which I am totally unacquainted. I trust these remarks are plain enough for my questioner; if not, I shall be pleased to try again, as my wish is to give experience, and not to dictate.—*James B. Riding.*

CHRISTMAS AND LENTEN ROSES.

OUR figure illustrates the two different groups of Hellebores, popularly known as Christmas and Lenten Roses. The large white flower represents *H. niger maximus*, otherwise known as *H. n. altifolius*, and is a form of the true Christmas Rose that has been from time immemorial in every cottage garden. Many fine varieties are now in cultivation, which commence flowering long before Christmas in favourable seasons and continue till late in spring; the Lenten Roses, on the other hand, are most in season during Lent, although in the sunny south many of them commence in December. There are about ten species, some of which, how-

ever, have never been in cultivation. Those figured represent forms of *H. guttatus* and *H. colchicus*, the close spotting and different shades of purple of which will recommend them to lovers of this beautiful and hardy class of plants. With the aid of a close hand-light to shelter them from piercing winds and driving rains, masses of fine flowers for cutting purposes can be obtained.

SALAD PLANTS AND THEIR CULTURE.

On the evening of the 5th inst., Mr. F. Harrison, gardener to the Earl of Derby, Knowsley Hall, Prescott, read an excellent paper on this subject before the members of the Liverpool Horticultural Association. Mr. Harrison said amongst the many duties of a gentleman's gardener, that of providing a regular supply of salad was one of the most important—few things being more freely criticised, or more keenly relished. At some tables the salad was as important as the dessert; and, like it, required to be not only good to eat, but pleasant to look upon. It was urged that the essential qualities of the produce could only be fully developed by the careful and timely observance of a few rules and principles of cultivation; and whatever is destined for the salad-bowl should be grown as quickly as is consistent with the nature of the plant and season of the year.

The use of sewage was deprecated under any circumstances, and even ordinary liquid manure should not be used in the finishing stages of growth. The cultivation should be of a clean and wholesome nature throughout, which may be accomplished if the land is in good condition, deeply worked, and the plants are allowed room for full development. By this means clean, crisp, juicy, and fresh material can be provided, anything of a woody, woolly, or fibry character being inadmissible in the salad-bowl. As much variety as means will afford should be provided; and although some portion of green is generally liked, there should always be plenty of well-blanching foliage. Washing salading that grows above ground was to be avoided as much as possible; for if practicable to grow it without the necessity of such an operation, it should not be subjected to it, there being no comparison between the quality of an unwashed Lettuce and one that has been washed. Mr. Harrison did not fail to point out the difficulties, in our smoky climate, of accomplishing this desirable end.

In dealing with Lettuce, it was said that a sound one was the main ingredient of a good salad, and that it was impossible to find a substitute. In early spring, such sorts as develop quickly should be sown, Early Paris Market being one of the best; and if sown in February, grown on for a time in gentle heat, and

finished in a cold frame, they would be found useful at a time when salading is scarce and the demand frequently great. Another useful variety is Perfect Gem, as it grows quickly, attains size rapidly, and takes up but little space; other good sorts recommended being All the Year Round, Brown Genoa, Brown Dutch, and Hammersmith Hardy Green. The two last are useful for sowing during autumn and winter, for they are not only hardy, but their habit of growth renders them suitable for placing in frames and under hand-lights, a position in which they will pass the hardest winter, provided they are strong at the commencement and the lights are kept close.

Amongst the best kinds of Cos, Paris White, Sugar-loaf, Brown Cos, Black-seeded Bath and Hick's Hardy White were given. Those grown for the summer require good rich soil, and should be sown where they are to stand and develop themselves, if circumstances

a clean board, tying, or inverted flower-pots. In preference to lifting a portion of the stock at the approach of severe weather and placing it in frames, Mr. Harrison advised it to be planted in the frames, as the plants are less liable to damp and rot during the winter.

Celery, he said, was not only an important ingredient in a salad, but an indispensable kitchen-garden crop, and worthy of every care and attention. The type of Celery best adapted for private gardens would be found amongst the short compact medium-growing sorts, such as Turner's Incomparable, Seymour's Superb White, Sandringham, Carters' Ivory White, Cole's Red Defiance, Major Clarke's Red and Standard Bearer, which has proved itself to be the hardiest of all. These varieties make their leaves nearly all of one length, and therefore have but little waste about them. Dwarf kinds admit of being planted closer together, and consequently require less earthing—advantages of no mean importance.

Seed may be sown from the beginning of March to the end of April; the early varieties in gentle heat, and the latest in the open ground. From first to last Celery should be grown freely, taking care to check the young plants as little as possible in the two or three removals involved in cultivation. Whether planted in trenches or in beds, plenty of rotten manure should be worked into the ground, and a plentiful supply of water or weak liquid manure given previous to earthing. This operation should not be done too early; suckers and a few small leaves at the base being removed, prior to tying up the plant loosely to keep the soil out of the heart. The soil being pressed firmly between the plants, a second earthing will be required a few weeks after the first and the final one on a fine day when growth has nearly ceased.



VARIETIES OF HELLEBORES.

at the time permit of this being done; if not, they can be reared thinly in beds and afterwards transplanted. After a good soaking of water it was advised to mulch with mushroom-bed refuse or similar material during dry weather, and the result would be crisp fleshy produce. Blanching, if necessary, may be accomplished by tying them with matting, covering them with a clean flower-pot, about five days being required in the summer, and a little longer later in the season to blanch a green Lettuce of some of the Cos kinds; but those kinds that fold their leaves closely require but little attention in this respect.

It was contended that Endive was indispensable for autumn and winter use; and three kinds are as many as need be grown. Moss Curled should be sown about the middle of June for early use, followed by Hardy Green Curled; and the Round-leaved Batavian about the first week in July and again at the end of the month. These sowings will cover the whole period when Endive is in request for salad purposes. Blanching may be accomplished by covering the plants with

In the spring the remains of the crop should be taken up and laid on the north side of a wall, and protected if necessary, which checks growth, and thus considerably prolongs the Celery season.

The best Radishes are Wood's Early Frame, for sowing in gentle heat during February and March; and French Breakfast for sowing outside from March to August. Black Spanish sown towards the end of the last month or early in the following one, where protection if necessary can be given, will prove useful in the winter months.

Chicory and French Dandelion should be sown in drills about the middle or end of May or early in June; as if sown earlier they are liable to flower during early autumn. The roots should be lifted for forcing in the dark.

Beet was said to thrive best in a light friable soil that has been well manured for the previous crop. It should be sown the end of April to the 20th of May; small or medium-size roots free from "forks" are the best, and great care should be taken at the time of

lifting not to break or bruise them, for upon this depends in a great measure the high colour and fine flavour, so highly prized at table. Three good sorts were given: Egyptian Turnip-rooted, Pineapple Short-top and Nutting's Dwarf Red; Mustard and Cress was passed with a few remarks; while Corn Salad or Lamb's Lettuce was briefly discussed. The treatment for Rampion and Watercress was given; Cucumbers were only alluded to because, as Mr. Harrison said, they alone would supply ample material for the subject of a paper.

The discussion on the paper was very limited; some remarks being made by Mr. Bardney relative to the surface-planting of Celery instead of in trenches, in which Mr. Glover took part. The probable cause of the Tomato disease was afterwards raised for discussion, in which Messrs. F. Harrison, Bardney, R. W. Ker, Rainger, White (chairman), and others took part. The usual votes of thanks to Mr. Harrison and the chairman terminated the proceedings.

NASH COURT, FAVERSHAM.

NASH COURT was formerly the seat of the Hawkins family, from the time of Edward III. Thomas Hawkins, who died in 1766, built the mansion. Shortly after its erection, during the ferment of the Jacobite rebellion, in 1715, being the property of a Roman Catholic, it was scandalously plundered by some people of the neighbourhood. Every part of its valuable contents, heirlooms and title-deeds were burnt and destroyed by the rioters, and the valuable family plate was stolen and never recovered. The house was purchased by the late J. P. Lade, Esq., and is still maintained in a proper spirit by that gentleman's widow.

It is situated about two miles from Faversham, on the Canterbury road. The approach is through a pair of handsome iron gates, with a good substantial red brick lodge. The carriage-drive is through an avenue of fine specimen Spanish Chestnuts, many of which measure 17 ft. in circumference 4 ft. from the ground. In front of these noble trees others of *Araucaria imbricata* are planted, which are also fine specimens. The drive, which is some 400 yds. long, brings us to the noble mansion, which is built of red brick, standing on the declivity of a hill. The house, facing south-east, commands a fine view of the surrounding country, including the Blean Woods.

The meadows surrounding the mansion are planted with specimen Coniferae, such as *Wellingtonia*, *Araucaria*, *Pinus*, &c., which are assuming gigantic proportions. Between the mansion and the houses there is a fine lawn divided by a walk, which is planted on either side with a Yew hedge, which is well kept. The borders on either side of this walk are planted with a choice collection of herbaceous and Alpine plants. Between the mansion and this border, to the left, is a fine Rose garden planted with standards and dwarfs of all the leading sorts, and which grow well and flower freely. To the right the beds are planted with choice *Rhododendrons*, *Azaleas*, hardy trees and shrubs; all growing luxuriantly. On the other side of the walk before mentioned, and in front of the house, is the flower garden. Bedding is well carried out, and makes a fine display.

The range of houses facing this garden is 70 yds. long; the centre one is the conservatory, which is 51 ft. by 22 ft., and furrow-ridged. Planted out in the centre bed, in the middle, is a perfect *Latania borbonica*, 15 ft. by 15 ft.; on either side are *Kentias*; one, *K. Mooreana* (true), 12 ft. by 12 ft., is a splendid plant, one of the finest in the country; the other is *K. Canterburyana*, about the same size. A few *Camellias* judiciously planted, and which are flowering freely, fill the bed, the surface of which is planted with *Selaginella*; a few *Palms* and *Ferns* are introduced also, which have a very pleasing effect. The back walls are covered with *Camellias*, which are planted out; they do well and flower freely, and are the best varieties. The front stages are filled with *Azalea indica*, *A. mollis*, *Camellias*, *Calla*, *Cyclamen*, *Epacris*, *Erica*, some well-grown *Cinerarias*, *Primula alba magnifica*, a magnificent strain; these with *Imantophyllum* and spring bulbs, all well flowered, form a grand display. *Isolepis gracilis* is here and there hanging over the front of the stage, giving a nice finished appearance.

The roof is covered with *Lapagerias*, which are planted out, and grow luxuriantly. The white and red

varieties are intermixed, and to give some idea of their strength and condition, there are dozens of leaves which measure over 7 ins. long and 4 ins. broad. It is in this house that the splendid variety exhibited by Mr. Humphreys in October, 1884, at the Royal Horticultural Society's meeting, and awarded a First Class Certificate, under the name of *L. rosea superba*, Nash Court variety, came from; the splendid sprays of deep rose-coloured flower of gigantic size which he showed, was considered by those able to form an opinion to be the best ever seen. The stock of this is being distributed by Messrs. Laing, of Forest Hill, and is well worthy the attention of those in want of a plant of real sterling merit.

To the right of the conservatory is the stove. The front stages were filled with nicely grown well-coloured *Crotons*, *Dracenas*, *Anthuriums*, *Begonias*, *Phalaenopsis*, *Oncidiums* and *Phajus graudiflora*, all in flower. *Crossandra infundibuliformis* was also nicely in flower; this is a good stove-flowering plant, with bright salmon flowers. Some fine *Cattleya Trianae* were also in flower. These mixed with *Ferns* and other foliage plants, formed a very nice display. The other side was filled with fine-flowered half specimen *Gardenias*, specimen *Microlepis fuscans*, *Asparagus plumosus*, &c. Such climbers as *Dipladenias*, *Clerodendrons* and *Allamandas* find suitable places on the roof, and *Nepeuthes* are at home in baskets. The next two divisions are *Vineries*—the first a Muscat house, the other a late house. In the latter are some fine specimen *Fuchsias* just beginning to grow. On the corresponding side of the conservatory are other houses, *viueries* and *Peach* houses. In the early *viuery* good plants of various *Dendrobiums* were showing well for flower, many good plants of *D. nobile*, over 2 ft. through, being literally covered with blossoms. These departments are very suitable for their requirements. Behind this range are the garden offices and stoke-hole. The houses are heated by two powerful *Trentham* boilers, which give great satisfaction.

At the end of the garden offices is a fine fernery, built and designed by Mr. Humphreys, the gardener here. It is 80 ft. long by 30 ft. wide, and lofty. The rockwork is well arranged and planted; fountains, waterfalls and miniature ponds are all introduced, the whole forming a grand and imposing picture. There are noble specimens of *Cyathea Smithii*, with 10 ft. of stem, *C. Burkii*, with 8 ft., fine *C. dealbata*, *Alsophila excelsa*, *Dicksonia antarctica*, *Cyathea medullaris*, and various *Cibotiums*—all represented by fine healthy examples. A few *Palms* suitable for the purpose are introduced, and *Microlepis hirta cristata*, 10 ft. through, and *Adiantum Williamsii*, 4 ft. through, are companions amongst the many. Most of all other *Ferns* suitable for such a situation find a place and are quite at home, as is evident from their grand condition.

Suspended baskets with graceful *Ferns* adorn the roof; the pillars are hid by *Maiden-hair Ferns* planted in cups at intervals, which is a capital idea. Mr. Humphreys cuts down completely all his *A. cuneatum*, and thins out others; by so doing he gets a capital growth on his plants. Behind this fernery is another house devoted to the culture of plants, chiefly *Ferns* and *Lycopods*, for furnishing the fernery. In this house stood a dozen fine plants of *Eucharis amazonica*, magnificently flowered; there some plants flowered in December last, which shows what they will do when properly treated.

Close by are two ranges of pits 70 ft. long filled with succession *Pines*, *Cucumbers* and bedding stuff; also a three-quarter span-roofed house in two divisions. The first division contains a well-grown lot of *Vandas*, *Cypripediums*, *Angræcums*, some well-coloured *Dracenas*, *Pavonia Wiotti* and *Scutellaria Mocciniana*, all flowering and in useful condition. The roof is covered with *Stephanotis*, *Elvaston* variety, showing a great quantity of flower. In the other division was a fine clean lot of fruiting *Pines* just throwing up their fruit. On a back shelf there is a fine lot of young healthy *Cattleyas*. The end wall is covered with the old useful perpetual-flowering *Euphorbia splendens*. Another span-roofed house, 45 ft. by 22 ft., contains perfect, well-grown specimens of *Azaleas*. These are beautifully trained, well set with flowers, and include all the very best sorts, which must make a very fine display when in flower, for there are about three dozen good plants averaging 3 ft. by 3 ft. The side stages are filled with specimen *Mignonette*, well-grown *Cinerarias*, *Calceolarias* and *Primulas*, of a very fine strain, both

double and single. Noticeable in this house is a good plant of *Camellia reticulata* flowering freely, its immense flowers being very attractive. The pillars are covered with *Roses*.

The kitchen garden is well stocked with fruit trees of all the most useful sorts, and vegetables are grown in quantities to suit the requirements. The place in all its various departments is exceedingly well kept. Cleanliness and order is prevalent everywhere, and speaks volumes in favour of Mr. George Humphreys, the intelligent and enthusiastic gardener's abilities.—*A. Outram, Victoria and Paradise Nurseries, N.*

GARDENING MISCELLANY.

The Awards of the Floral Committee.—

Although a member of that committee, I am bound to admit that there is much truth in the remarks of your correspondent who signs himself "The Boy Jones," at p. 442. In my opinion, some of Mr. H. Little's *Lycastes* were certainly worthy of First Class Certificates; and an equally bad case still in upholding that distinction was to be found in Mr. Sidney Courtauld's grand *Cattleya*, which is certainly the very best of its section, but to which only a Cultural Commendation was awarded—not a very great acknowledgement for bringing a fine new plant worth £150 all the way from Braintree. Some time ago Mr. F. W. Burbidge and a few more brought forward the idea of an Orchid society, but I and others kept out of the discussion, as we fancied the much-talked-of Orchid Conference at Liverpool would tend to the establishment of an Orchid Committee at the Royal Horticultural Society. No good came of it, however, and I think now that the subject is fairly open to discussion and support from the large and increasing number of Orchid growers, of whom this country can boast. If possible, I should say it would be better to start the society or responsible committee under the auspices of the R. H. S., and if not, some other place must be found. To all suggestions on the subject, however, I hope correspondents will sign their proper names, so that we may know with whom we are treating. Privately, however, I shall be glad to correspond with any who wish for information other than through the press.—*James O'Brien.*

Lady Downes Grape.—We do not know what has been the general experience this winter as regards the keeping of Lady Downes Grapes; but at the Tweed Vineyards, Clovenfords, the Messrs. Thomson have been remarkably successful in keeping the great quantity they grow sound and fresh. A few days ago we received a sample which were simply perfect in form, colour, freshness and flavour, even the foot-stalks being as green as in the autumn. One of the bunches weighed 2½ lbs.—a good sample of the crop on Vines that have been bearing for sixteen years, and which, we are assured, are fruiting now more freely than when young.

The Chinese Primrose.—At the monthly dinner and *conversazione* of the Horticultural Club, held on March 8th, Dr. Masters alluded to the history and development of the Chinese Primrose as affording a remarkable illustration of the phenomena of variation independent of those produced by cross-breeding or hybridisation. The presumed causes, purpose and significance of variations were briefly alluded to. Some of the variations were apparently due to excessive, or to diminished heat, light, or food supplies; others to reversion to a primitive ancestral state—presumptive evidence of which latter is derived from an examination of the course of development of the seedling plant. That hybridisation had played no part, in recent times at least, was shown by the fact that until lately the wild form of the plant was not known, and, moreover, that all attempts to cross-fertilise the Chinese Primroses with pollen from other species had hitherto failed. The plant as first introduced to this country was a cultivated form, which immediately manifested a tendency to vary, and in practice it was always grown as an annual. During the last few years, however, the true wild species had been found in the mountains of Y-Chang, in Central China, by several collectors, growing on bare limestone rocks, exposed to the sun, and with but a scanty supply of water. Dr. Masters, owing to the kindness of M. Franchet and Mr. Hemsley, was enabled to give a slight account of the wild plant

which is a perennial with a thick, woody, branching rootstock, covered with the remains of former leaves, and with an internal construction different from that of any known Primrose.

Impatiens Sultani as a Bedding Plant.

—Last year I tried some plants of *Impatiens Sultani*, in a bed a few yards from a high wall having a north aspect, and it answered admirably. During mid-summer, when the sun was high in the heavens, and its rays fell directly upon the bed during the middle of the day, the plants assumed a rather scorched-up appearance, but as the days shortened and the shadows lengthened, the bed being consequently shaded throughout the day, the plants grew very rapidly and made quite a dense mass of flowers and foliage, which produced a very pretty effect until late in the autumn, when the frost came and carried them off. This plant will succeed as a bedder if planted in a sheltered shaded position, and being a perpetual, brilliant and free bloomer, and of a neat and compact habit, cannot fail to please.—*Alfred Grant, The Gardens, Copped Hall, Totteridge, Herts.*

Border Carnations.—Now that the time for spring planting has come round, one of the first groups of plants that deserve attention is border Carnations. Get them into their blooming quarters early, and half the battle is won. Why is it we hear so many complain that these beautiful flowers prove unsatisfactory with them? The fault lays, in the majority of cases, in the planting being done too late, so that the plants do not have time to make proper growth; and this is often done under the mistaken idea that they are tender. I have for many years planted out large quantities of them, and my plan is to commence about the middle of February, and to continue it in all favourable weather on to the middle of April. Plants kept in pots after that time get starved, thin and drawn; hence the so oft-heard cry: "Oh! I can't grow Carnations." Last year I bought some and they ran up with just one flower-stem, did not make any grass, and now my plants are all dead." To lay the foundation of success, plant this superb flower early. The following is a selection that ought to find a place in every garden, namely: Alice Ayres, pearly white, striped carmine; Comte de Chambord, pale flesh, large and sweet; Prince of Orange, yellow, margined with carmine; General Stewart, deep crimson, fine form; Gloire de Nancy, pure white, clove scent; Sailor Gordon, white, striped with coral; Guiding Star, bright scarlet; Mrs. Donaldson, rosy pink, beautifully shaded; John Barnett, beautiful bright cerise; Pride of Penshurst, pure yellow self; W. P. Milner, pure white, very sweet; and Walter T. Ware, rose-lake, striped yellow.—*F. G.*

Clivia miniata.—If cultivators would adopt the recognised name of this the most handsome and largest flowered of all the species, they would rid themselves of the cumbersome and much disputed *Imantophyllum* or *Himantophyllum*. Compared even with *C. nobilis*, the poorest variety of this species is more ornamental. One of the stoves in the Royal Horticultural Society's Gardens, at Chiswick, contains a large batch of strong plants in all stages of flowering, that will keep up a fine display for many weeks; the robust and leathery dark green leaves contrast well with the scarlet flowers. Messrs. John Laing & Co. have sent us a box containing a magnificent truss of a superb variety named Mrs. John Laing, bearing fifteen large widely expanded flowers. The lower half of the segments are pale yellow, margined with white internally, and contrasting well with the scarlet, widely-spreading upper part; the scape was remarkably flattened, but the separate pedicels are sufficiently strong to carry the flowers in a regular semi-globular mass, about 8 ins. through its broadest diameter. Great improvements are being effected from time to time in this noble species.

Eupatorium riparium.—This excellent and extremely useful greenhouse plant is not nearly so much grown as it ought to be—a fact which is probably due to its real merits not being widely known, and which may be briefly stated thus:—Flowers white, very floriferous, easy of culture, and exceedingly valuable for cutting from, or for decorative purposes as pot plants. Its time of flowering is from the middle of February to the end of March, varying in accordance with the degree of temperature to which the plants may be subjected after the growth is completed and the

flower-heads begin to appear. Cuttings may be put in any time between now and the middle of April, and if inserted in small pots filled with a compost consisting of equal parts finely-sifted loam and peat, one part silver-sand, and plunged in a brisk bottom-heat, will root in a very short space of time. When this is accomplished, the young plants should be potted off into 60-sized pots, and grown on in a moderately moist heat. A Cucumber or Melon frame would be suitable till the end of May, when they may be gradually hardened off and planted out on a warm south border, not forgetting at this time to mix with the soil in which they are planted some well-decayed stable manure and a little peat. Towards the end of September they should be lifted, potted up, put into a cold pit or greenhouse, and be kept shaded from the sun for a little while, or until root action has again commenced. Old plants from which the young stock has been propagated may be cut down after flowering, and planted out in due course. From these, when potted and grown on in 10-in. or 12-in. pots, we get enormous quantities of cut blooms, which, if wired, are useful for button-holes, bouquets, and a variety of other purposes.—*J. Horsefield, Heytesbury.*

Osborn's Dwarf Forcing v. Ne Plus Ultra Bean.—I thank "Mon" for his good advice at p. 427, respecting the Ne Plus Ultra Bean, and had I not been well acquainted with that variety, I should certainly have been only too pleased to have given it a trial. I have grown it, and had to do with the growing of it, for some previous years, and proved it to be all "Mon" says. It is a great bearer, and the pods eclipse those of Osborn's, both as regards size and shape; but with us it never has been so highly spoken of from the right quarters as Osborn's variety, and this is a point of considerable importance to us. This, together with its good cropping qualities, is why I uphold this good old variety.—*H. Markham, Mereworth Castle.*

Why don't Peaches Thrive Outside now?—In reply to your correspondent, Mr. D. Chisholme, p. 411, I am pleased to say it is not the case everywhere, having an outside wall planted with Peaches and Nectarines, from which I have gathered splendid crops, especially so last year, when I gathered about 3,000 fine fruits, equally fine in flavour, colour and size to the indoor fruits. Some of the best varieties of Peaches, namely: Noblesse, Princess of Wales, Royal George, Barrington, Crimson Galande and Late Admiral; Nectarines: River's Orange, Stanwick, Elruge, Ballowan and Violette Hâtive, all of which do remarkably well here. Regarding the culture, I have my trees thoroughly pruned, cleaned and trained annually; and in many instances where it is required to transplant any of the trees it is done, whether they are large or small, great care being taken not to allow the trees to suffer from drought, which is an essential point to success. When the trees commence growing they are syringed daily with clean soft water, which keeps them in a healthy condition. In a great many instances Peaches and Nectarines, like other kinds of fruit trees, are neglected. In the first instance they are often allowed to produce heavy crops year after year, which, of course weakens the wood to a certain extent; and if this state of matters is allowed to continue, all sorts of diseases and insects will infest the trees. It is then too late to eradicate these diseases or avoid unhealthiness in the trees. Good top and bottom pruning is one of the most essential points in Peach culture; and if this is attended to yearly, and the borders well looked after—I mean not allowed to get impoverished—good results may safely be anticipated. Again, I have frequently noticed the wood tied in all directions and very thick, which is very unsightly as well as injurious to the trees: from 4 ins. to 6 ins. apart I consider quite close enough to nail or tie the branches of any tree.—*W. Collett, Suffolk.*

Double-spathed Anthurium.—The production of two spathes in place of one is not without precedent, although it is by no means common. We have seen numerous small or secondary spathes produced on the spadix, so that being present in a small state, the double condition is a mere matter of development. A double-spathed *Anthurium Scherzerianum* is now flowering in R. B. Laird & Sons' Royal Winter Garden, at Edinburgh. A sketch of it shows the second spathe about half the size of the primary and normal one.

Jasminum nudiflorum.—This is one of our most useful hardy trailers, its profusion of bright yellow flowers being amongst the first to appear in spring, no matter how bleak the weather. At this dull season it stands alone as a plant producing a great show of flowers during weather not suggestive of balmy spring.

ORCHID NOTES AND GLEANINGS.

Odontoglossum Alexandræ.—Large, well-grown and good varieties of this, the most popular of all Odontoglosses, are always welcome. Messrs. Ireland & Thomson, of Edinburgh, have sent us another large and well-formed flower. The flowers are a trifle smaller than one previously sent (p. 428), but are not so pure white. The sepals have a broad band of rosy purple externally, which shines through especially by transmitted light, and gives those organs a rosy tint. In the eyes of some this would, no doubt, give additional value and attractiveness to the flower, and we by no means despise it. There are several fine chestnut blotches on the labellum, which has also the usual complement of yellow furnished with brown lines at the base. The petals are very broad, pure white, and deeply jagged at the margin. We should add, in justice to one of the most skilful and experienced Orchid cultivators in Scotland, Mr. George Fairbairn, gardener to John Gair, Esq., The Kilns, Falkirk, that the handsome flower sent us last week by Messrs. Ireland and Thomson, and noticed at p. 428, came from Mr. Gair's collection, and which we now learn was one of eleven blooms on a spike, all of which were of the same large dimensions.

The "Harvey" Collection.—For a number of years past Mr. E. Harvey has been an ardent collector of Orchids, and has given close personal attention to his collection, with the result that he has acquired perhaps, the most unique assortment in the North. The whole of the plants have now been removed to the "Vineyard and Nurseries" of the Liverpool Horticultural Co. at Garston, for sale. The whole collection numbering 1,404 lots, is in good health and condition. The Cattleyas are a special feature, and include many specimens and rare varieties. The following are, perhaps, the most important subjects at present in flower:—*Cymbidium Dayanum*, one plant with four growths carrying seven flower spikes; *C. Lowianum*, three spikes with seventy-seven flowers, a fine variety; *Dendrobium Barberianum*, a rare variety with two spikes and eleven flowers; the beautiful *D. Brymerianum*, true, with several flowers; *D. Harveyanum*, including the original plant named by Reichenbach; *Angræcum Leonis*, with five flowers; *Cattleya Trianae eboracensis*, a beautiful variety; *Epidendrum Wallisii*, two bulbs, the longest 4 ft. 6 ins. in length, with twenty-seven flowers; *Odontoglossum Oerstedii*, a good specimen with thirty-four flowers; and *Calanthe Regnieri*, a specially fine dark-flowering variety.—*W. J.*

Odontoglossum crispum guttatum.—Mr. W. Stevens, Walton House, Stafford, sends us a handsome and densely flowered spike of the above variety. In different importations it varies widely in the number, size and shape of its markings. The specimen sent differs from the original and true type of the variety figured in the *Orchid Album*, II., t. 94, in the fullness of the spots on the labellum surrounding the crest. The flowers are of fine form, densely aggregated on the spike, and pure white with a number of round or oval blotches of a reddish brown colour about the middle of each segment, including the labellum. These are distinct, or more or less fused into one large blotch. *O. c. fastuosum* is easily distinguished from this variety by the sepals having a broad stripe of rosy lilac.

Dendrobium crepidatum.—This is one of the prettiest of Dendrobies now in flower; the best variety of it, with its large wax-like blooms, with blush petals, and orange centre to the lips being charming. Its habit is compact, and the flowers very durable for cut-work.

Disa grandiflora is grown to almost unrecognisable vigour by Mr. H. Ballantine in Baron Schroder's garden, The Dell, Egham. The pots of the plants are plunged in sphagnum moss at the light end of an ordinary greenhouse, and, we believe, a little weak liquid manure is given them when growing. The collars or necks of the growths are as thick as those of good Hyacinths grown for show, and very unlike the grassy growth often seen on Disas. How long will it be before we shall see the several blue and other fine Disas tackled in the same manner?

Cymbidium eburneum.—Among the many fine Orchids now coming into bloom, this is one of the handsomest, its large waxy white flowers being very fragrant. It is not particular as to culture, although the intermediate house is the best for it. It seems to grow well in either cooler or warmer houses.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

THE STOVE.—Most of the occupants of the stove are now making growth freely, and as the sun has considerable power, the necessary preparations should be made for shading by the fixing of blinds where used, or a slight coating of wash on the roof; this will do away with the necessity of admitting too much air—a serious matter while cold north-easterly winds prevail. Keep a sharp look-out on the stock of

CALADIUM AND BEGONIA TUBERS, and as they start let them be first well watered, and then shaken out and re-potted. *Achimenes* should also be potted at once, but if necessary, a part of the stock may be left over for a later batch; take care that the compost for these is of an open nature, anything approaching sourness is fatal to their well-being, therefore an abundance of drainage must always be given. Do not use any manure whatever when mixing the soil, far better to use it in a liquid state when the plants are growing freely.

CALANTHES will now be again starting into growth, and should at once be potted, or it will be almost impossible to perform the operation without damaging the growth or roots, so tender are they. I need hardly say that all the old soil should be removed, and we always use a considerable share of loam in the compost. Where it is necessary to increase the stock of

ANTHURIUMS, divisions should be taken off, potted in small-sized pots, and plunged in a brisk bottom-heat; keep closely shaded, and they will quickly emit roots, and then can be gradually hardened off preparatory to being placed on the stove stages, where by their massive foliage they can be most effectively staged in conjunction with Palms, Crotons and such-like; *A. Andreanum* is extremely useful. Many of the seeds sown as advised now require pricking off. Most of the *Begonias* have come well; then there is the *Rhodanthe*, *Celosia pyramidalis*, *Cockscomb* and a host of other such things so necessary for summer furnishing, and which to be of much service must receive timely attention. Still push on with the

PROPAGATING of all winter-flowering plants, and do not forget to secure a good stock of *Eupatorium Weinmannianum*. *Callas* now require an abundance of liquid manure to enable them to throw up their blooms; they will also stand heat well, so that in case of quantity being required, they may be treated accordingly. If necessary, to start them, a few potsfull of *Eucharis* may be plunged in bottom-heat, which will quickly cause them to throw up their spikes. Easter being at hand, these little reminders may be necessary where much decoration is required.

THE FRUIT HOUSES.

PEACH HOUSES.—Where, as will be generally the case, the trees in the late Peach houses are in bloom, the elements are anything but favourable for a good "set," so that extra care is necessary; and it is absolutely necessary that the structures at this stage be freely ventilated, and, to prevent injury by cold cutting winds which prevail, the flues or pipes should be kept warmed through the day, simply being careful not to close the house up warm. Let the trees be gone over every day about noon with the camel-hair pencil, and whatever damping is necessary, let it be done early in the afternoon; but, for a time, do not damp more than can be helped. Noticing traces of green fly on the early Peach trees, we fumigated lightly on three alternate nights, and they are now free. Ply the syringe liberally morning and evening, warming the pipes early, and always admitting air. A temperature of 70° may be maintained during the day with air on, but 55° at night will be ample; and fire-heat should be dispensed with, if possible, except during the prevalence of frost.

THE KITCHEN GARDEN.

FROST AND SNOW.—With the thermometer registering 13° and 14° of frost on the mornings of Sunday and Monday last, and also a heavy snowstorm, the outlook is dismal indeed, and work completely at a standstill. Having lifted some Sea Kale, it has been placed in the Mushroom house, and cuttings made from the thongs, so that it may be planted as soon as the weather will permit. It is very fortunate that we pushed on vigorously with all ground work while the weather remained so open; for, so far as was possible, all our ground is cropped. We are now

RENEWING HOT-BEDS and making up others, which, when cooled down, will be found of much service for pricking out such things as were sown under glass, notably Lettuce, Cauliflower and early Celery. We have also pricked out a good batch of Leeks for first early use; these will, of course, be kept growing on and finally hardened off preparatory to planting out when the weather becomes warmer.

THE POTATO FRAMES need some attention; those approaching ripeness must not be watered, at the same time free ventilation must be given or they will be deficient in flavour. So far, *Alma Kidney* has been undoubtedly the best for forcing purposes. We are

trying Sutton's Seedling, and are much pleased with its progress.

THE APRICOTS were fast coming into flower, so we have placed the heavy netting over them as protection. The Peaches we kept tied in bundles, away from the walls, which has had the desired effect of keeping them from flowering so early. Some of the varieties are on the point of bursting their buds, and have been nailed; had the weather been favourable, all would have been completed ere these notes appear.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.

—*March 10th.*—At the last meeting for the present session of this society, Mr. Robert Tait, the honorary treasurer, presiding, Mr. J. S. Butterworth made a communication on "The Fertilisation of Plants." He said that in the reproduction of plants by means of fertilization we had one of the most important and indispensable laws for carrying on the government and succession of the vegetable kingdom. In the lowest forms of vegetation, plants are reproduced by cell division, in the next by self-fertilization in small closed complete flowers, and more often by the action of the wind in carrying pollen from one flower to another; but undoubtedly the most frequent, and by far the most important, is the cross-fertilization effected through the agency of insects, which, by their unconscious selection, have gradually developed a greater diversity of colour and form, and improved the quality and robustness of the new varieties. The fact of nature taking much extra trouble to prevent self-fertilization, and bringing about cross-fertilization, demonstrates most emphatically that there must be something injurious in self-fertilization, and something beneficial in cross-fertilization.

Mr. W. J. Upjohn, honorary secretary, said nature seemed to have made endless provision to prevent the self-fertilization of plants, and it was important that gardeners should know that they could not force nature. They should learn in what direction nature would lead them. It was often said that beautiful flowers were created for the special benefit of man. That was not so. The fact was that nature was most lavish in her wealth of floral beauties in places where man had hardly put his foot. The approach of man and civilization seemed to cramp these wonderful displays.

Mr. J. Hadfield, of Brinnington, Stockport, read a paper on "Clay Soils and their Improvement." It often happened, he said, that gardeners in taking a fresh place, have a number of difficulties to contend with, for how often do one see a piece of ground set apart for the production of vegetables in some out-of-the-way corner, or, if the situation was favourable, then the soil was perhaps unsuitable. Yet in some instances the gardener was expected to produce vegetables as satisfactory as those of his neighbour whose kitchen garden was favourably placed. Clay soils are stiff, cold and very tenacious, and it is these qualities which gardeners wish to combat. In improving the soils, proper drainage is of the first importance; then came the use of lime; the burning of clay is another mode of effecting an improvement, but having had no experience in this direction he could not speak with authority on the matter. Sand should also be used, but not by itself. There should be plenty of manure, that from the horse being the best. This prevented the sand and clay from forming into a kind of mortar, which they would do if only sand was used. In addition to this the manure lightens the ground as well as fertilizes it. He recommended that in this class of soils too early sowing should not be practised. Take Peas, for instance. He never sowed before the first week in March, yet he had gathered Peas before those who had sown a month earlier. By being planted under more favourable conditions seeds thus sown have fewer checks, and are not so liable to injury by frost or damp as those laid down earlier. They grow stronger and give a better result. Messrs. Butterworth, Booth, H. Driver and Jones took part in a brief discussion.

The chairman said this was the final meeting of the society of the fourth session, and as treasurer he had pleasure in telling the members that their funds had not decreased very much. This year there had not been the good average attendance which they had had previously. The decrease he thought could be accounted for from the fact that postcards had not been sent to members calling attention to the meetings about to be held. They had relied simply upon the syllabus and a weekly advertisement; but a lesson had been learned, and the postcards would be resumed.

Manchester Botanical and Horticultural.

—*March 15th and 16th.*—Notwithstanding the severity of the weather, which caused several collections of Orchids to be kept at home, the Town Hall presented a bright and gay appearance, and as usual there was a good attendance of visitors. The special feature of the exhibition was a collection of twenty-five hybrid varieties of *Hellebore*, exhibited by S. Barlow, Esq., Stakehill House, Castleton, and for which he was awarded the society's Jubilee Gold Medal. Mr. Barlow also exhibited a superb collection of about 500 *Hyacinths*, for which he received a Cultural Certificate. Mr. Swan,

gardener to E. G. Wrigley, Esq., Howick House, Preston, showed three dozen cut blooms of *Cattleya Trianae* varieties, which were greatly admired. Messrs. W. Cutbush & Son, Highgate, sent an excellent lot of *Hyacinths*, *Cyclamens* and *Azaleas*, Palms and Ferns, &c.; also their charming new *Laurustinus*, a perfectly pure white, and when grown in the shape of hemispherical bushes, one of the best of decorative plants; *Staphylea colchica*, a first-rate plant for forcing for the greenhouse, where a pure white, especially when the sprays of bloom are pendulous, is always so welcome; and *Boronia megastigma*, one of the best scented plants we know of. Mr. John Hooley staged a collection of greenhouse plants tastefully grouped. Messrs. Dickson, Brown & Tait exhibited a collection of *Hyacinths* grown in their accustomed good style. The Liverpool Horticultural Co. made a capital display of miscellaneous plants, very good *Cinerarias* predominating. Messrs. Dickson & Robinson sent Potatoes in thirty varieties.

The following awards were made by the Committee:—The Society's Jubilee Gold Medal.—Hybrid *Hellebores*: Mr. S. Barlow, Stakehill. Cultural Certificates.—*Hyacinths*: Mr. S. Barlow, Messrs. Dickson, Brown & Tait, Messrs. Cutbush & Son, Highgate. Mushrooms: Mr. R. P. Gill, Timperley. *Pernettyas* in berry: Messrs. Cutbush & Son. Commendations.—Strawberries: The Earl of Ellesmere. *Cattleya* blooms: Mr. E. G. Wrigley, Preston. First Class Certificate.—*Dendrobium*, new seedling: Mr. Charles Mosley, Rusholme.

Liverpool Horticultural Association.

—*March 16th.*—This society held its fifth annual spring show in St. George's Hall on Wednesday, and, both as regards entries and quality, the exhibition surpassed those of previous years. The Orchids which at all times are well represented at Liverpool fully held their own; the bulbs were both numerous and good; and the *Azalea indica* showed an improvement, whilst the *mollis* section were remarkable for the profusion of bloom and good quality. A new feature was introduced in the form of tables of miscellaneous plants arranged for effect, which showed to greater perfection than when arranged on the floor as hitherto. For eighteen *Hyacinths*, distinct, R. Singlehurst, Esq. (gardener, Mr. James Kelly), Aigburth, was first with a good lot, including Lord Derby, Koh-i-Noor, La Franchise, La Grandeur, F. Nightingale, King of the Blues, Prince Albert, Ida, &c.; second, Mrs. J. Aiken (gardener, Mr. C. Waring), Princes Park; third, H. J. Robinson, Esq. (gardener, Mr. A. Eaton), Woolton. For twelve varieties, W. H. Watts, Esq. (gardener, Mr. A. R. Cox), Wavertree, took the premier position with even massive spikes; second, Major Gaskell (gardener, Mr. W. Neale), Woolton; third, W. P. Sinclair, Esq. (gardener, Mr. J. R. Thomson). For six varieties W. P. Sinclair, Esq., H. J. Robinson, Esq. and R. Singlehurst, Esq., were placed in the order named.

Narcissus: Six pots of not less than three varieties: In this class the prizes were awarded in the order named to S. S. Parker, Esq., Milne Barnsley, Esq. and W. B. Bowring, Esq. Eight pots (*Polyanthus* excluded), in pots not exceeding 7 ins. in diameter, J. S. Rogerson, Esq. (gardener, Mr. C. Copple). *Tulips*: Twelve pots, single, distinct, first, S. Smith, Esq., second, H. Nash, Esq. (gardener, Mr. J. Leather), Princes Park; third, R. Cornelius, Esq. (gardener, Mr. T. Stephenson), Aigburth. Ten pots, double, five varieties, J. B. Dixon, Esq., Preston, first. Six pots in three varieties; the prizes were awarded to Milne Barnsley, Esq., S. S. Parker, Esq. and J. Lewis, Esq. Eight pots of hardy herbaceous plants, distinct, first, W. Bowring, Esq. Ten pots, open, first E. Harvey, Esq. *Azaleas*, six distinct varieties, H. Cunningham, Esq. (Mr. W. Wilson, gardener), Gatacre, was first with well-flowered plants. For a single specimen, the winners were S. S. Parker, Esq.; W. H. Watts, Esq.; W. B. Bowring, Esq. For four varieties in pots not exceeding 8 in. in diameter, the prize winners were B. Hall, Esq.; A. L. Jones, Esq.; and J. Cunningham, Esq. For six stove or greenhouse plants, three flowering and three foliage, F. H. Gossage, Esq., was first with a fine *Pritchardia Pacifica*, 10 ft. through, Croton Queen Victoria, *Latania borbonica*, *Azalea Fielder's White*, &c.

Orchids, four varieties, first, W. H. Watts, Esq.; second, H. Tate, Esq. (gardener, Mr. J. Edward), Allerton; third, W. Hallard, Esq. (gardener, Mr. W. Moss), Mossley Hill. Single Orchid, first, J. E. Reynolds, Esq. (gardener, Mr. J. Wilson), with *Cœlogyne cristata*, 3 ft. through; second, H. G. Schintz, Esq. (gardener, Mr. D. Heany), Liverpool; third, E. L. Wigan, Esq. (gardener, Mr. A. Ford), Aigburth.

Certificates of Merit were awarded as follows:—To Messrs. R. P. Ker & Son for *Impatiens Hawkerii*; Messrs. J. Dickson & Sons for *Narcissus*, &c.; Mr. G. Downes for a collection of *Hyacinths*, &c.; Messrs. F. and A. Dickson & Sons for *Narcissus* and *Hepaticas*; Mr. H. Middlehurst, for *Hyacinths* and *Narcissus*; Messrs. Fishlock Bros. for a collection of cut flowers; The Liverpool Horticultural Company (J. Cowan) for a group of plants; Messrs. Thomas Davies & Co. for a collection of miscellaneous plants.

The show was well patronised during the afternoon and evening, and the arrangements reflected great credit upon the committee and officials.

QUESTIONS & ANSWERS.

EVERGREEN CONIFERS.—We wish to plant various conifers along the back of a wide border, which would be ornamental, and at the same time shelter the garden on the north side and screen it from the highway. Could anyone give the names of a few suitable species with their special characteristics.—*Conifer*.

LILIUM AURATUM RUBRO-VITTATUM.—*Amateur*: Price from one guinea up to two guineas each. Any nurseryman or seedsman of good repute will get it for you.

CARNATIONS.—*James Moir*: We fail to see why water that has been standing in a tank for a few weeks should harm Carnations when they are watered with it. If it becomes stagnant in the pots, or, in other words, if the drainage is bad, Carnations will get into bad order in a very short time. They require but very little water in winter and early spring, so that great care must be exercised not to over-water them till growth is more active and the weather warmer and drier. Carnations generally look none too well after the trying winter.

POTATOS.—*Omicron*: It depends upon the nature of your soil. If of a light sandy nature lime would be injurious, and we should use the soot only; if the land is strong and rich, a dressing of lime, or lime and soot in combination, would certainly be beneficial, but should be well worked into the soil before planting. There is no chemical affinity between lime and soot, so that you need not study proportions, but use as much of either as you can reasonably afford. The soot will do good under any circumstances.

GRASS SEEDS.—*Omicron*: Half a pound is sufficient to sow a perch.

ART OF PROPAGATING.—*ERRATUM*.—At p. 441, under the heading "Proper Compost," line 8 reads, "Add to this some fine peat." It should read, "Add to this fine peat twice as much silver sand, &c."

BOOKS.—*J. W. L.*: Brown's "The Forester" is the standard work on the subject, but somewhat expensive. A cheaper work, and a very good one as far as it goes, is Grigor's "Arboriculture." Any bookseller will get it for you.

GREVILLEA ROBUSTA.—*J. H. D.*: The leaf you enclose is that of Grevillea robusta. It will bear cutting down if you put it in a warm moist heat to start it into growth again. If you cannot command sufficient artificial heat, wait till the sun is more powerful. You can raise young plants from ripened cuttings under a hand-light or bell-glass; but plants raised from seeds—which may be purchased from a good seedsman—are far more preferable.

ORANGES FAILING TO SET.—*F.C.*: Flowers of cultivated Oranges are often imperfect, and cannot, of course, produce fruit. If they are examined soon after they expand, it will be

seen what flowers are perfect, and what are male flowers, only producing stamens. In the perfect flower, the style surmounted by a prominent stigma will equal the stamens in length at flowering time, whereas the style in others is very often rudimentary, and such flowers never produce fruit. The house should be kept dry and airy in which flowering Oranges are grown, and this will assist the setting of perfect flowers.

NAME OF PEAR.—*J. L.*: Vicar of Winkfield; good examples. Should be glad of the details promised.

NAMES OF PLANTS.—*R. Young*: 1 and 2 are very good forms of Cattleya Trianae, and 3 will develop into a very pretty variety, 4 and 5 are ordinary; your 6 is the finest Dendrobium Ainsworthii we have seen, the flowers being perfect and over 3 ins. across, although borne in threes; 7 is a good Cypripedium villosum; 8 and 9, above the average of Phalenopsis amabilis, the one you refer to being perfectly round and very broad in the petals. *J. H.*: Juniperus excelsa (not a native of South Africa). *Mrs. Leadbetter*: Dendrobium rhodocentrum. *C. C.*: 1, Drimiopsis maculata; 2, Cymbidium aleoformium; 3 and 4, Cypripedium barbatum var. *J. W.*: 1, Lycaste Skinneri; 2, Oncidium pulvinatum.

COMMUNICATIONS RECEIVED.—*J. H.*—*A. W.*—*R. D.*—*A. G. H.*—*A. O.*—*W. N.*—*W. B. G.*—*Caledonian*.—*B. G.*—*Stephen Castle*.—*A. O.*—*W. Wood & Son*.

TRADE CATALOGUES RECEIVED.

WILLIAM PAUL & SON, Crossflat Nursery, Paisley.—Catalogue of Hardy Florists' Flowers.

JAMES CARTER & CO., High Holborn, W.C.—Farmers' Handbook and Calendar for 1887.

CHAS. SHARPE & CO., Sleaford, Lincolnshire.—Farm Seed List.

JOHN LAING & CO., Stanstead, Rutland, and Southend Parks, Forest Hill, London, S.E.—Price List of Clovers, Grasses, and other Agricultural Seeds.

MAX DEEGEN, Junr., II. Köstritz, Thüringen.—Dahlia Catalogue, Gladioli, Roses, &c.

LONDON SEED TRADE.

March 16th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate demand for seeds at to-day's market. White Clover is remarkably cheap. Sainfoin and Rye Grass are in brisk request. No change in values of Clovers. Bird Seeds neglected.

COVENT GARDEN MARKET.

March 17th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	20	50	Pine-apples, St.		
Grapes, per lb.	30	80	Michaels, each	16	60
Kent Cobbs, 100 lbs.	60	65	Pine-apples, Eng., lb.	10	16

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	20	30	Horse Radish, bundle	30	50
Beans, French, per lb.	20	26	Lettuces, per dozen	16	
Beet, per dozen	20	30	Mushrooms, p. basket	10	20
Brussel Sprouts, per lb.	03		Onions, per bushel	40	50
Cabbages, per doz.	20	26	Parsley, per bunch	06	
Carrots, per bunch	06		Radishes, per dozen	16	
Cauliflowers, English, per dozen	30	50	Sea Kale, per basket	16	26
Celery, per bundle	20	26	Small salading, punnet	04	
Cucumbers, each	06	10	Spinach, per strike	20	
Endive, French, doz.	26	36	Tomatoes, per lb.	20	36
Herbs, per bunch	02	04	Turnips, per bun.	06	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.			Strawberries, per oz.	10	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	30	50	Marguerites, 12 bun.	30	60
Azalea, 12 sprays	06	10	Mignonette, 12 bun.	40	60
Bouvardias, per bun.	10	16	Parma Violets (French), per bunch	30	46
Camellias, 12 blooms	20	40	Pelargoniums, scarlet, 12 sprays	06	10
Carnations, 12 blooms	10	30	Primula, double, bun.	09	16
Cut Tulips, 12 blooms	09	13	— single, 12 bun.	40	60
Czar Violets (French), per bunch	16	20	Roses (coloured)	30	60
Daffodils, 12 blooms	06	16	Roses, Tea, per dozen	16	40
Epiphyllum, 12 blms.	06	10	Roses, red (French), per doz.	16	20
Eucharis, per dozen	30	60	— Safrano (French), per doz.	10	20
Gardenias, 12 blooms	120	300	Tropæolums	10	20
Heliotropes, 12 sprays	06	10	Tuberose, per dozen	20	40
Lapageria, red, 12 blooms	10	20	Violets, 12 bunches	16	26
Lapageria, white, 12 blooms	20	40	White Jasmine, bun.	06	09
Lilies of the Valley, 12 sprays	06	10	Xmas. Roses, 12 blooms	40	90

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	60	180	Ficus elastica, each	16	76
Arum Lilies, per doz.	180	240	Foliage Plants, various, each	20	106
Cyperus, per dozen	40	120	Hyacinths, per doz. pts.	60	90
Daffodils, 12 pots	80	100	Lily of the Valley, 12 pots	120	240
Dracana term., doz.	30	600	Marguerites, per doz.	60	120
— viridis, per dozen	10	240	Palms in variety, each	26	210
Epiphyllums, per doz.	180	300	Pelargoniums, scarlet, per dozen	60	90
Erica hyemalis, doz.	120	240	Primulasinensis, p.dz.	40	60
— Regermians, doz.	90	120	Solanums, per doz.	90	120
— various, per doz.	80	240	Tulips, per doz. pots	60	80
Evergreens, in var., per dozen	60	240			
Ferns, in var., do	40	180			

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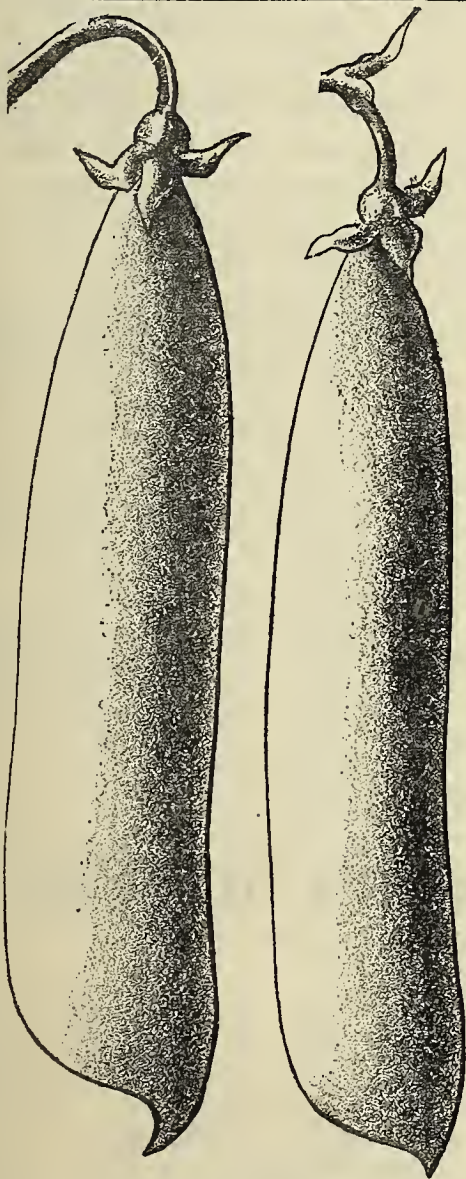
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flowered type; but the flowers take on a more incurved
character. Looking over the plantations of Asters at
Reading, nothing was so bright and effective as a large
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DENERS' MAGAZINE, Sept. 18, 1886.

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Next Week's Engagements.

TUESDAY, March 28th.—Sale of Orchids in Flower at Protheroe
& Morris's Rooms.—Sale of Lily and other Bulbs at Stevens'
Rooms.—Sale of Roses, Carnations, &c. at the City Auction
Rooms.

WEDNESDAY, March 29th.—Sale of Greenhouse Plants, &c., at
Stevens' Rooms.—Sale of Lily and other Bulbs, &c., at
Protheroe & Morris's Rooms.

THURSDAY, March 30th.—Sale of Imported Orchids at Stevens'
Rooms.—Clearance Sale at Laing's Nursery, Teddington.

FRIDAY, April 1st.—Sale of Imported Orchids at Protheroe &
Morris's Rooms.

SATURDAY, April 2nd.—Sales of Greenhouse Plants at Stevens'
Rooms; and Roses, Plants, &c., at Protheroe & Morris's
Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 26, 1887.

THE RATING OF MARKET GARDENS.—A case
which is of special interest to a large and, indeed,
an increasing industry, came before Mr. Justice
Day in the Queen's Bench Division a week
since (see p. 477), and the result has given
much satisfaction to growers for market as being
exceedingly favourable to those who have so
widely invested their capital in fruit and vege-
table culture under glass. Probably, because
Parliament concludes that Local Boards of
Health were established chiefly to provide proper
and effective drainage in populous districts, and
that the drainage was necessitated rather by
houses than by open land, it was decreed that
open land—inclusive of market gardens and
nursery grounds—should be rated by Local
Boards only at one-fourth of the amount paid by
houses. That, so far, seemed fair enough; and
as Local Boards have also to provide highways,
lighting, cleansing, &c., it was doubtless con-
cluded that the one-fourth rating would pay
the part from which proprietors of open land
benefit. The case in question is no new one,
for we have rather too frequently had to refer
to similar actions, but not always with like
results.

The appellant, Mr. Purser (who was supported
in his action by the Market Gardeners' and
Farmers' Association), residing at the fashion-
able sea-side town of Worthing, had, as market
garden, an acre and one rood of land. Seeing the
need for some outlay of capital that he might
keep pace with the requirements of the times,
he erected sixteen glasshouses upon this area,
and in these grew Tomatos, Cucumbers,
Grapes, &c., and also flowers. When this was
done, the Local Board assessed this small and
originally open market garden at the full rate,
and the occupier appealed. We are not sure
that all even of those having sympathy with
the appellant will yet hold the law to be good
which asserts that the place still remained in
the eye of the law a market garden, now that

it was covered with glasshouses. Of course,
there were no buildings erected which needed
sewage draining; but there could be no doubt
that the covering of the land with glasshouses
enormously increased its value, and also that
the owner's income may have thereby been
largely increased. Taking that view, the Local
Board were doubtless right in assessing the
place at its higher value.

We may deride the Local Boards, and too
often some merit it; but when they rate all
property as far as they can equably, they are
but striving to do justice to all. The builder
who crects shops in which his men may work—
the tradesman of any kind, indeed, who puts up
warehouses for business purposes—of course
may in no way be adding to the sewage body
of a place, but yet will not escape the full rating
for one moment; and if all are to be tarred
with the same brush, it seems only right it
should be so. The case upon which we have
so far commented seems to hinge chiefly upon
the introduction of the term "market gardens"
into the Act, thus specially exempting all open
ground so utilised.

We may take it for granted that the framers
of the Act had not at that time in their minds
the probable growth of glass erections to the
extent we now see, or, had such been the case,
areas covered with glasshouses, although used
for market-garden purposes, would hardly have
been so leniently dealt with. The counsel for
the Local Board contended—indeed, with
considerable force—that this was not market-
gardening as described in the Act, but an
entirely new industry which had grown up
recently. As it was a fact that in some places
houses of a similar kind were fully rated, it
was most important to have a decision from
the Court, and that decision was adverse to the
Local Board. We must now await the action
of the respondents, as it would be much more
satisfactory were the case carried into the
High Court of Appeal, and finally settled.
The verdict is one of such exceeding importance
to the market and nursery trade, that we can
well conceive the recent case will be viewed
all over the kingdom with exceeding interest.

It seems evident that glass structures erected
for nursery purposes must henceforth be
equally exempt from the full rating with
nursery open land, and demands for reductions
of rating will doubtless be heard all over the
country. Out in the rural districts, where
there are no Local Boards, land enjoys some
exemptions in rating; but we believe glass-
houses, whether employed for nursery or
market-garden purposes, are fully rated. Of
course, there are no drainage rates, but there
are Poor, Highway, School Board, Rural Board,
Police, and even Sanitary rates, so far as relates
to sanitary inspection under the control of
local authorities—viz., the Guardians of the
Poor. If the Worthing case is carried no
farther, then it is very likely that some others
will, especially where Local Boards refuse to
accept Mr. Justice Day's interpretation of the
law.

We anticipate so many demands on Local
Boards of Health for reduction of rating on the
part of others similarly placed to the Worthing
appellant, that some further action in the Courts
seems inevitable. Whilst we shall rejoice
if the trade of gardening, whether market or
nursery, shall be exempt from some of the local
burthens which it has to bear, we shall also be
anxious that through no fluke in judgment
shall wrong be done to others. The case opens
up in a striking manner the burthens which
oppress all who embark their capital in efforts
to promote their country's wealth and pro-
duction. Increased rents, tithes, taxes, and
rates all come down upon the unfortunate
occupier and worker like vultures, and strive
hard to eat him up.

THE WIMBLEDON AND DISTRICT HORTICULTURAL AND COTTAGE GARDEN SOCIETY will hold its fifteenth annual exhibition on July 6th, in the grounds of the president, Laundry Walters, Esq., Woodhays.

THE annual exhibition of the LUTON HORTICULTURAL SOCIETY is fixed for Wednesday, August 10th, and it is one of unusual interest, because the competition is confined mainly to *bonâ fide* amateurs.

WE have received from Mr. F. W. Moore, Curator of the Royal Botanic Gardens, Glasnevin, a list of seeds for exchange. Judging from the classification and general arrangement of the names of the seeds offered, the list is meant mostly for exchange with other botanic gardens. The species have the initials or an abbreviation of the names of authorities appended, and are arranged alphabetically under their respective natural orders. These, again, are classed under Dicotyledons and Monocotyledons.

MR. E. F. LOOF, who for the past twenty-eight years has filled the office of secretary to the TUNBRIDGE WELLS HORTICULTURAL SOCIETY, has recently retired, and is succeeded by Mr. Cornwell. It is given to but few men to be officially connected with a society so long, and in regard to the number of years Mr. Loof was the able and painstaking secretary, he is about equalled, if not slightly exceeded by Mr. John Wilson, the secretary of the York Floral Fête; and closely following in his wake are Mr. James Hnntley, the secretary of the Trowbridge Society, and Mr. J. Stollard, secretary at Clay Cross. Such long and honourable services deserve to be suitably recognised when they come to a close.

To commemorate the fiftieth anniversary of Mr. FERDINAND BERGMAN'S service as gardener at Ferrières, his friends propose to present him with a work of art, with the date and object of the presentation engraved thereon, and albums containing the *cartes-de-visite* and names of the donors to the presentation fund. The presentation is to be made at a complimentary banquet to be given in May in Paris, during the meeting of the horticultural Congress. A committee has been formed to carry out the proposal, with M. Duchartre as president, M. Paul Lebœuf, Secretary, and M. Chouveau, 84, Rue de Grenelle St. Germain, Paris, treasurer.

AT the meeting of the Belgian Syndical Chamber of Horticulture, held at Ghent, on March 14th, Certificates of Merit were awarded to Messrs. Blancquart and Vermeiren, for *Himantophyllum* miniatum, var. *Chevalier Heynderick*; to Mr. B. Spæ, for *H. miniatum*, var. *Madame Bernard Spæ*; to Mr. Jules Hye-Leysen, for *Cypripedium insigne Fostermani*; and to Messrs. Vervaeke & Co. for *Odontoglossum Schillerianum* and *Cattleya Trianae*, Popayan var.

MR. WILLIAM COLCHESTER, of Ipswich, offers for competition this year, at the exhibitions of seventy-two horticultural societies in London and the provinces, 100 guineas in prizes for flowers, fruit and vegetables grown with Pure Ichthemis Guano.

THE programme arranged for the current year by the ROYAL HORTICULTURAL SOCIETY has just been issued. The society offers no prizes itself, but during the season the exhibitions of the National Auricula Society, the National Rose Society and the National Carnation and Picotee Society, will be held at South Kensington under its auspices. The Veitch Memorial Trustees offer a Memorial Medal and £5 for the best collection of *Cypripediums*; and on various dates, ranging from June to October, liberal prizes are offered for competition by Messrs. Sutton & Sons, Messrs. James Carter & Co., Messrs. E. Webb & Sons, Mr. C. Fidler and Mr. H. Deverill. Other special prizes are offered for Daffodils by Mr. W. B. Hartland, Cork; and for Hollyhocks, by Mr. W. Ronpell.

REPLYING, in the House of Commons on March 17th, to a question put by Mr. E. ROBERTSON, the First Commissioner of H. M. Office of Works said, "A minute record is kept of everything received in the several departments of Kew Gardens. Mainly owing to the protracted illness of the late curator, the work of compiling the annual reports has fallen into arrear, but materials for the series 1883 to 1886 are in hand, and it is hoped to issue them all this year. In response to the demands for the publication more speedily than in the annual report of information received from abroad, I have sanctioned the publication of a monthly bulletin, which can be purchased for a small sum." Will Mr. Robertson, in the public interest, push his enquiries a little further into the management of Kew Gardens, and

ask if a minute record is also kept of everything sent out from the several departments. Also, if it is true that two of the young men recently employed in the gardens have been discharged at short notice, and if so, the cause of their dismissal.

MR. BENJAMIN FIELD, who now carries on the business so long and so successfully conducted by his father-in-law, Mr. John Kennard, has opened a Central Sales Room in the City, which will doubtless be found of great convenience to those of his supporters who come citywards. The new establishment is at 93, Queen Victoria Street, near to the Mansion House Station.

MESSRS. J. VEITCH & SONS, invite their friends and patrons to inspect their annual exhibition of popular flowers, to be held from March to July inclusive. These will consist of such things as Orchids, Hyacinths, Tulips, Amaryllis, Azaleas, Rhododendrons, Roses, greenhouse plants, Gloxinias, Nepenthes, Carnations, foliage plants, Pelargoniums, cut flowers of hardy herbaceous plants and others.

A VERY fine example of quite a NEW TYPE OF ODONTOGLOSSUM was sold at Messrs. Protheroe & Morris's rooms on Friday last. In form and substance the flowers were much like a good dark O. Ruckerianum, but in size equal to a good but rather narrow-petalled O. crispum. The colour was creamy white, tinged with crimson, and profusely blotched with dark blood-red or crimson. The lip, which was peculiarly broad and short, was tinged with yellow and marked with crimson. The plant realised 80 guineas.

WE regret to hear that there is a possibility of THE CRYSTAL PALACE being shortly closed, through the inability of the directors to meet their engagements. On every hand those who take an interest in Sir Joseph Paxton's great glass house at Sydenham have been congratulating the management on the prospect opened up to it this year. The directors have put forward an attractive Jubilee programme, which it was hoped would greatly help to resuscitate its fallen fortunes; but it seems that they have counted without their host—the five per cent. debenture holders, who are squabbling among themselves, and with dogged obstinacy are opposing the propositions of the directors for re-organising the entire business. It will be a thousand pities if one of the early glories of Her Majesty's reign is allowed to disappear at a time when such enormous efforts are being made to lighten the nation's purse for the sake of an Imperial Institute, the very meaning of which is scarcely understood by the multitude.

GARDENERS' ORPHAN FUND.

ON Tuesday afternoon a meeting was held in the conservatory of the Royal Horticultural Society, South Kensington, to discuss the proposals that have been made with reference to the founding of a gardeners' orphanage. There were present Dr. Masters, Mr. G. Deal, Mr. Penny, Mr. Barron, Mr. B. S. Williams, Mr. R. Dean, Mr. W. Denning, Mr. Hudson, Mr. Hill, Mr. Wright, Mr. Roberts, Mr. J. Smith, Mr. J. Matthews, Mr. W. Richards, Mr. Roberts, Mr. G. Stevens, Mr. W. Ronpell, Mr. G. T. Miles, Mr. W. Holmes, Mr. W. G. Head, Mr. J. Burnett, Mr. Woodbridge, Mr. G. Bunyard, Mr. Todman, and others. Mr. George Deal was called upon to take the chair, and quickly elicited the sense of the meeting that it was not desirable, whatever fund may be raised, to spend any money in bricks and mortar; and so the idea of founding an orphanage was at once and unanimously declared out of the question.

After a brief discussion, it was proposed by Mr. J. Wright and seconded by Mr. Roberts, Gunnedbury, "That in the opinion of this meeting it is desirable to establish a fund to be called The Gardeners' Orphan Fund." This resolution being carried unanimously, it was proposed by Mr. R. Dean and seconded by Mr. J. Matthews, Weston-Super-Mare, "That a provisional committee be appointed to prepare a scheme to lay before a future meeting, and that such committee consist of Dr. Masters, Mr. Shirley Hibberd, Mr. G. Deal, Mr. J. Douglas, Mr. J. Fraser, Mr. C. Penny, Mr. C. H. Sharman, Mr. Harry J. Veitch, Mr. J. Roberts, Mr. J. Woodbridge, Mr. R. Dean, Mr. J. Matthews and Mr. B. S. Williams.

It was then proposed, seconded and carried unanimously, that Mr. William Richards be appointed treasurer, and Mr. J. Wright, Mr. B. Wynne and Mr. A. F. Barron, honorary secretaries, *pro tem*. The first meeting of the committee was fixed for last (Friday) evening; and a cordial vote of thanks to the chairman brought the proceedings to a close.

CALANTHE CULTURE.

As potting time is now upon us, the first thing demanding special attention is the material in which to pot them. Now, the *Calanthe* is not very particular about soil; but having proved the following mixture to bring about satisfactory results, I still use it: Loam, leaf-soil, peat, sphagnum, cow-dung, dust of charcoal, sand, and crocks for drainage make up the compost. What sort of loam is used, let us ask? We cut up some turf from old pastures every year and stack it, and when this is about half decayed, we use it for potting various things. In the month of February we pot up our bedding Pelargoniums and other plants of a like nature requiring loam; therefore, a quantity is cut down and taken to the potting-bench. Now, as one pair of hands does all the potting, the materials most suitable for any particular purpose are put aside for special use. Thus, while preparing the compost for the Pelargoniums, all the best fibry lumps are broken into small pieces, and put by for the *Calanthes* and some other plants. This is the sort of loam that I use, and it forms about two-thirds of the whole compost. The peat is the less fibry pieces, or that which is not good enough for *Cattleyas*. My reasons for selecting this are that the *Calanthes* are shaken out of the compost and re-potted annually, and such peat will answer very well for one year.

Again, good peat is as dear and difficult to obtain here now, as it is in London. We used to get good peat brought in at five shillings per ton, now we have to pay twenty-eight, so all must be used for the purpose to which it is most suitable. But I find a little peat only is required in this case, and that chiefly for packing or finishing off when potting. The leaf-soil is from a heap which was collected a year or more ago, and is now about half rotten. This is passed through the hands and properly prepared, but only a little is used. The cow-dung is collected in the pasture some four or six weeks before potting time, always looking out for thin cakey sort of stuff. This is laid away in a dry place till required, when it is broken into rather small pieces. The sphagnum moss is cut up with a knife, and shaken amongst the other compost as the mixing goes on. Sharp sand and charcoal are added in the same way; but I find it a good plan not to mix much sand, but rather add it as the potting goes on. One can thus reserve it for the more lumpy soil, as the case may require. Clean and dry crocks and pots are prepared for *Calanthes*, as for all other Orchids.

These details lead me up to the next process—namely, potting up the bulbs and the time and manner of doing it. I like the plants to get a few weeks' perfect rest after the blooming period, if possible; but the duration of that period depends upon whether the spikes of bloom are cut away for other purposes or left to fade on the plants. In both cases, as a rule, the bulbs will push out new growths about the first week in March. My practice is to leave them till these young growths are just pushing roots, or, perhaps, I should say when there is an indication of their breaking. Some growths will be in advance of others, so I generally pot them up in two or more batches at intervals of a week or ten days apart. This system is convenient, because the earliest potted up are the first to bloom next autumn, while the later ones mature their growths at another time, and therefore prolong the blooming season up to potting time next spring. This is the fact in our case every year.

The manner of potting being so well known, I should not describe it but for the fact that some amateurs, in their cultivation, may read these notes and feel disappointed at the omission. Well, here is a pot of *C. Veitchii* just ready; the young growths are nearly 1 in. in length, and the roots will soon appear at the base. We turn the mass out on the bench, shake and pick away all the old soil, cut away all the old dead roots, also carefully cut the old pseudo-bulbs from the new, putting the old ones on one side for the present. Now, on examining the new one—that is, the pseudo-bulb from which the flower-spikes have been cut—I find it has two breaks at the base, one on each side. It is a strong specimen, 11 ins. long and stout in proportion, so we shall get two fine pseudo-bulbs from it next year. I take a pot, No. 24—6½ ins. across from rim to rim—for such a pseudo-bulb as this.

Sometimes I put two such specimens in a No. 16 or 7½-in. pot; but I never put more than two in a pot unless the bulbs are very small, for I find, as a rule, they produce finer growths, spikes and flowers when

potted singly; so I put some in 48's, some in 32's, others in 24's and 16's. The *C. nivalis* which bore the branching spike is in a 7½-in. pot. One fine pseudo-bulb was put into it last spring, from which sprang two, one of which produced two fine spikes, and one of these branched about 15 ins. above the pot. The other pseudo-bulb produced one fine spike. The operation of potting is very simple; the compost being on the bench well mixed together, the pots are carefully but not heavily crocked, and filled up nearly to the rim, shaking in extra sand if required as the filling proceeds. Press the whole somewhat firmly; then set the pseudo-bulb on and steady it with one hand, while with the other carefully pack round it the lumpy pieces of loam, peat, pieces of crock here and there set in edgeways, bits of moss and charcoal, beginning at the bulb and finishing at the rim of the pot.

When all is made firm, a pair of shears is used to trim off any loose material, and a sprinkling of sand is given over all. After this operation is completed, I set the pots in some out-of-the-way place in the stove where they get some light and can be easily seen. In the course of a week or ten days they can receive their first watering; this is done with more than ordinary care, lest any of the compost should be displaced. They remain in this place perhaps a month, till active growth is apparent, when they are shifted into their proper growing quarters, which I will describe in another letter. In the meantime but little water must be given, beyond the first soaking just mentioned, or much damage may be done.

We put the old pseudo-bulbs aside just now, as if we want to increase stock, some of them may be useful, and in due time be potted up like the others; but if not wanted for that purpose, then cast them away. The varieties that we grow are *C. Veitchii* and *C. V. superba*, *C. vestita oculata* and *C. v. rubro-oculata*, (the latter having a very deep coloured eye), and *C. nivalis*. I have sent you a bulb of *C. Veitchii*, Mr. Editor, as a specimen; the flowers are gone, but that is not surprising, for the main spike was in bloom and exhibited at Southampton on the 9th of November.—*N. Blandford*. [We can fully endorse all that Mr. Blandford has said about the success he has attained in *Calathea* culture, from two noble specimens of *C. Veitchii* which he sent us a few weeks ago. One had a pseudo-bulb 12-ins. in length, the lower and thicker part being 3-ins. long, exclusive of its neck; it had two flower-spikes, of which the basal one was over 4 ft. in length; the flowers were nearly all gone from this spike, but a smaller one, from the side of the elongated upper part of the pseudo-bulb, was carrying a number of well-coloured flowers, thus producing a succession to those first developed. Another pseudo-bulb within, a shade of being equally good, also bore two spikes of flowers, of which the upper and later-developed one formed a direct continuation of the pseudo-bulb; this, we presume, is a less common occurrence than laterally-produced flower-stems. This latter pseudo-bulb is a noteworthy specimen of culture, from the fact that it has been produced from the slender top of a pseudo-bulb of last year, not exceeding 7 ins. in length in its present condition, although still quite fresh. The old pseudo-bulb of the other specimen is also good, and looks as if it would send out another growth, while two strong breaks are pushing from the young one. Nothing succeeds like success, and Mr. Blandford has hit the key-note admirably.—*Ed.*]

(To be continued.)

HOW TO SOW VERY SMALL SEEDS EVENLY ON THE SURFACE OF THE SOIL.—Many find it difficult to do this; some advise mixing the seed with sand, but that does not help much. I have found the following plan perfectly successful. Take a piece of writing paper about the size of an oblong letter envelope, or better, perhaps, an envelope itself, bend it slightly so that the upper surface may form a hollow channel; place the seed in this channel, about midway, then hold the paper by one end in the left hand, the thumb on the upper surface, the lower surface resting on the fore and middle fingers separated from each other, the channelled form of the paper being thus maintained. Then incline the other end of the paper slightly towards the surface of the soil on which the seed is to be sown, and with the forefinger of the right hand give a succession of gentle taps on the thumb of the left; this action will cause the seed to pass gradually down the paper, and over the lower edge, as sparingly as may be desired, by properly regulating the force and frequency of the taps, and so the seed may be sown as sparsely and as evenly as you may desire. I can thus make even the minute seed of the Tuberous Begonia fall on to the soil almost singly. The lower edge of the paper must be smooth and even, otherwise the passing of the seed over would be checked; this is best secured by using an envelope.—*F. H. Brett, Carsington Rectory.*

GARDENING NOTES FROM SCOTLAND.

Fruit Trees.—In our district March set in with a severity which has not been surpassed all the winter; snow fell over 3 ins. in depth, and vegetation generally above the snow line has suffered severely. Fortunately fruit trees on walls and elsewhere outside are yet so little advanced that we have no anxiety as to the safety of the crops. Apricots are barely showing the colour of their flowers, and all kinds of fruit promise well at present to yield abundant crops. Such weather as we have lately experienced is very trying for unheated structures; in positions where there is not shelter from easterly winds, with the powerful sun we so frequently experience, it necessitates more than usual care in airing. Much damage is often done by opening unduly the front ventilators, with the view of retarding the crops, and if the trees are flowering, they are very liable to suffer from cutting winds. To ward off danger to some extent, a piece of scrim cloth, hexagon netting, or similar material may be tacked along the front ventilation, which will break keen winds very effectually.

Glass structures which have no artificial heat should be kept quite dry at night, and disbudding in such structures must be practised with great caution, as a check by fleecing the trees in a summary manner might prove disastrous to the crop; such work should be done gradually and skilfully, so that every portion of the tree may be equal in growth. We have for more than twenty years picked out all superfluous wood buds before they had time to become a check to the trees and the usual quantity required for next year's supply left. On gross and unripened trees we would retain as many as there was room for at present, and reduce the number later on in the season; if such trees set freely they may be cropped heavily, which will reduce the gross habit to some extent. If no fruit of any value should set on such trees, they can be root-pruned judiciously in May or June. Such has long been our practice, and the promise we have of good crops of fruit from well-ripened and healthy trees, conduces to our confidence in a system so frequently proved.

Root-pruning has a very wide meaning, and the manner in which it is often performed does not create surprise at the non-success of some who do their best, but, in reality, the worst they could for the trees. The watering of fruit trees under glass unheated should be done only when absolutely necessary during such weather, and the water should not be cold almost to freezing, but 50° or more, and enough to reach all active roots. Cherries, Plums and Apricots will not suffer "coddling," but if an even temperature—from 40° to 45°—at night can be maintained they will be safe enough, so far as the temperature is concerned; but healthy root action and pure air are indispensable to success. Aphis (black and green) may put in an appearance, even though every precaution by fumigating has been taken, and while the trees are in bloom it is not safe to fumigate, to eradicate vermin, without injuring the setting fruit; but tobacco powder, dusted by a pepper box among the young shoots affected, will check the Aphis till the fruit is safe.—*Caledonian.*

Royal Horticultural Society of Aberdeen.—The prize schedule of this society for 1887 has just been issued, and will bear favourable comparison with those of former years. The chief feature is the series of Jubilee prizes to be competed for at the society's summer show, which will be held in Aberdeen at the end of July. There are four prizes—viz., £12, £8, £6, and £4—which have been got up by the energetic chairman of the society, Town Councillor Lyon. The prizes are for the best table of horticultural produce, 13 ft. by 9 ft., arranged for effect, and the latitude thus allowed ought to secure a large competition from all classes. The autumn show is fixed for September, when it is hoped Her Majesty the Queen may patronise the exhibition. The directors have resolved to make the shows of this year specially attractive in honour of the Queen's Jubilee, and it is to be hoped their labours may meet with the success they so well deserve.

North of Scotland Horticultural Association.—The usual monthly meeting of the members of this association was held in the Christian Institute, Aberdeen, on Friday evening. There was a good attendance, and the president, Mr. Robson, occupied the chair. The business before the meeting was of a general character. The usual votes of thanks terminated the proceedings.

THE AMATEURS' GARDEN.

THE FLOWER GARDEN.—The prospect here is not so bright and enlivening as we should expect, owing to an exceptionally severe winter, and by the recent occurrence of another severe snowstorm. On this account spring flowers are very late, and those recently flowering have been more or less destroyed. In these cases, where they have not yet made much progress above ground, we may reasonably hope for a fine display later on. Seasonable work would consist of digging up all beds that have not already been completed, and the filling up of all vacancies that have occurred amongst spring-bedding plants during the winter. Carnations and Pinks should be planted out immediately, together with Pansies and bedding Violas, whenever the weather becomes sufficiently mild; all beds that are edged or intended to be so with hardy plants, can now be put in order before the great hurry of work begins. A point in good management, that should not be overlooked, is to keep the walks and lawns clean and tidy; a matter that requires constant attention, and repays the trouble by improving the general appearance. They should be well rolled now as often as convenient.

ROSE PRUNING.—All Roses out-of-doors should now be pruned and made tidy before growth has made much progress, otherwise the flowering season will be late, and the buds will not, in some instances, be so strong as desirable. Where Roses are desired in quantity late in the season, we have known instances where late pruning was productive of a great quantity in autumn, while those that were pruned in the proper season were over, or nearly so. Flowers are produced at the apex of the shoots of the current season's growth, so that the amateur pruner need have no fear of cutting away the flower buds in the operation.

Standard Roses are, as a rule, very popular with amateurs, and as susceptible of injury as any in the matter of pruning. In the first place, before cutting the head at all, study its shape, so that when pruned it may be perfectly symmetrical, or as nearly so as possible. Cut out all weak or useless wood, which would by being left be productive of harm in overcrowding the bush to the detriment of the strong and useful shoots from which flowers are to be expected. Cut back the stronger branches for two-thirds of their length, and in doing so, be careful to prune close to a bud, so that no unsightly snags (caused by the dying back of portions above the bud) be left.

Hybrid Perpetuals should be shortened back according to their strength, the weak shoots being cut close to the base. This will cause them to break stronger than if they were left at greater length. Strong branches may be left 6 ins. or 8 ins. long, as they require less encouragement to develop strongly. The old Cabbage or Provence Roses stand close pruning, while Moss Roses may be shortened back, or the shoots pegged down almost their full length, when they are calculated to give a greater return of bloom. Roses trained to pillars or stakes require thinning out of all old stems to make room for vigorous young wood. Tea Roses require no pruning beyond cutting out dead wood, and shortening back the unripened shoots that mostly get killed during winter.

WATERING, AIRING AND PROTECTING.—Notwithstanding the advancement of the season and the desirability of getting all kinds of plants well forwarded, great care must be exercised not to over-water, those things especially that have been recently potted up from their storage pots, or old plants that have been shaken out and re-potted. Great harm is often done to such plants, especially where a good brisk temperature is not kept up to start them; the soil gets sour and the roots crippled, from which it takes them a long time to recover, if they do not succumb.

Very little airing will be necessary in the case of newly-potted plants until they have fairly taken to the soil, but even then it may be desirable to keep them close where there is little or no command of artificial heat, till the sun gets stronger. Where plants have now been consigned to cold frames, that were housed in more comfortable quarters during winter, the frames must be well covered up with dry mats at night to exclude frost and prevent injury to the young developing leaves, as they are much more susceptible of damage in spring than in autumn.—*F.*

ORNAMENTAL CRABS.

I AM afraid our finer ornamental trees and shrubs are not planted now by anyone so extensively as they were in the days of Loudon and Paxton, for then no place of any pretensions was considered to be well planted unless our finer and rarer ornamental trees found a place, especially deciduous trees. It would be easy to enumerate a good list of *Cratægus*, *Amelanchier*, *Fraxinus*, *Fagus*, *Quercus*, *Liquidambar*, *Acers*, *Ulmus*, *Magnolias* and many others amongst our fine deciduous trees, which are comparatively overlooked now, and are found only in a few leading nurseries, botanical gardens, or in some of our celebrated old gardens and pleasure-grounds.

My object just now is to allude to a race of beautiful-flowering and fruiting trees—our Crabs; and especially to a new variety, “John Downie,” raised by Mr. Edward Holmes, Whittington Nurseries, Lichfield, and sent out by him about a year since. I had an opportunity of seeing it in fruit before he sent it out, and was much struck with its beauty, colour and dense-fruiting habit. The growth of the tree is erect, and the fruit of the size of a large acorn, which it resembles in shape; it is very bright in colour, and Mr. Holmes says it makes an excellent preserve. It is always a treat to me to have a chat with Mr. Holmes about old trees and shrubs, as he has such a thorough knowledge of them; and not only at Lichfield, but also for a number of years whilst he was a partner in the celebrated firm of Messrs. Fisher & Holmes, at Sheffield, he has been constantly amongst them. Crabs have formed a subject on which he has something to say, and the following opinions may be taken as his.

I look upon the Scarlet Siberian Crab, or Cherry Apple, as too well known to our older horticulturists to need much recommendation; but to the younger gardeners it will be as well to state that it is a free bloomer, and a profuse bearer of small-sized roundish brilliant-coloured fruits. The yellow Siberian Crab has larger fruit, round in shape and is a good bearer. The Mammoth Siberian Crab is larger still, but the growth of this variety is of a more straggling nature than that of the preceding; and all these fruit well at the Whittington Nurseries. Paul’s Imperial has a fine scarlet-coloured fruit, and is a beautiful ornamental tree in the lighter districts, but it does not fruit well at Lichfield. I do not know the old black-fruited Crab, but Mr. Holmes says that he used to grow it, more as a curiosity than for any commercial value it possessed.

“The best fruiting crab,” writes Mr. Holmes, since I saw him, “and I say it with pardonable pride, is the ‘John Downie’ of my own raising. The habit of growth is first-rate, and in the spring it throws a mass of flowers, which is always followed by a prodigious crop of fruit, which is excellent for dessert. Its texture and flavour is such that it might well have been named *bonne bouche*. I, at one time, grew a Crab named The Fairy; but owing to the very small demand for it, I have allowed it to drop out of cultivation.”

There are also the American varieties of fruiting Crabs—viz., Hyslops, Minchall, Montreal Beauty, &c.—all with larger fruits than the varieties we grow, and are all well recommended from America; but they have not yet fruited in the Whittington Nurseries. There is also a variety named Transparent, with handsome waxy-looking fruit, striped with yellow and crimson, and fine for preserving. Again, there is a variety of the Siberian Crab, with an elongated fruit, differing from the old scarlet or yellow kinds to which I have referred. It is of a yellowish colour, and by some is confused with the scarlet Siberian or Cherry Apple.

Looking back over an old catalogue of Messrs. T. C. & E. Brown, the founders of the Royal Nurseries, Slough, and bearing the date of 1834, the following varieties of Crabs are enumerated—viz., Siberian, Yellow-fruited Siberian, Tartarian, Striped-fruited, Black-fruited, Striped-leaved, and Transparent, some of which we have already mentioned. As ornamental trees in shrubberies only, these fruiting Crabs should have more attention than they do; for when in fruit they are very ornamental, as well as being, in some instances, useful for preserving; and they have another charm in being such handsome glowing trees. Surely, they are as much deserving of notice as the numerous Blackberries with which we are now inundated.

I have not exhausted the list of fruiting Crabs, for there is the Tartarian, and probably other newer kinds,

which I have not met with; but judging from Mr. Holmes’ success with his “John Downie,” there is yet much to be done by hybridising fruiting Crabs. *Pyrus malus floribundus* must be placed first, for it flowers abundantly as a low bush as well as when larger. It gives an enormous quantity of rich rosy pink and white blossoms, and its good qualities as a spring-flowering deciduous shrub is not yet generally recognised. It should be in every garden, and grown as a standard, in which state it is very beautiful. There is a variety of it named *P. atrosanguinea*, with deeper-coloured flowers, but it is not particularly distinct from the other.—*Pyrus*.

GROWING VEGETABLES FOR EXHIBITION.

THERE are many gardeners, amateurs and professional, that do not appear to me to be sufficiently alive to the importance of thoroughly preparing the ground for seeds, preparatory to sowing them. I frequently notice this in the case of the allotment gardeners in my neighbourhood, and especially such of them as have to deal with stiff soils. I fear these negligent gardeners are largely represented throughout the country; and it is by way of remonstrating with them that I commit these lines to paper.

Supposing the ground intended for vegetables has been thoroughly dug and manured in the winter; the next question arises how best to go to work to prepare it in the most fitting condition for such seeds as Cauliflowers, Broccolis, Cabbages, Onions, &c. A finely pulverized surface is needed, and advantage should be taken of a drying day, when the soil will nicely crumble to pieces, to fork it over, beat it about, throwing aside any hard lumps and stones, and securing on the surface 2 ins. or 3 ins. of fine powdery soil. In this sow the seeds. I have had something to do with examining and judging allotment gardens for a few years past, and I have found that the gardens having the best pulverised and workable surface soil on the top, produced the finest and handsomest crops of vegetables.

Such a surface soil as this would suit the smallest and tenderest of annuals that will grow and flower in the open air; and very rarely I should think will the seeds perish. A soil so prepared could be worked when fairly moist. I have seen it done in this way:—Supposing Onions were to be sown, and the soil was a little too moist to tread, it was forked over with a four-pronged fork; then the seeds were sown, and a very little fine soil thrown over them; it was then pressed down with a bright spade, and covered with a fine compost to the depth of $\frac{1}{2}$ in., making the surface quite even, and then gently patted down with the spade. I have always found the growth to be rapid, and good strong plants produced. Should the earth on the surface form a crust, it is one that soon crumbles to pieces.

At some country flower shows I attend—I could name three or four particularly in one county—very fine Parsnips and Carrots are produced, and in this way, so I am informed:—Beds are marked out 4 ft. wide, then a line is passed along its length 6 ins. from the side, and the next three lines are 1 ft. apart from each other, and that leaves the fourth line 6 ins. also from the other side; then the garden line is put along the first line of the bed, and holes are made by means of a crow-bar or a stout stake 2 ft. 6 ins. in depth and 9 ins. apart, working the bar in the hole a little so as to make it wide enough; and as each hole is made, it is filled in with a rich compost—generally by a lad who follows the dibbler. Two or three seeds are placed in each hole, and a little more soil pressed down upon them; and then a further surfacing of good soil is thinly spread over the bed. As a matter of course the plants are thinned out to the strongest. In this way I have seen wonderful Parsnips and Long Surrey Carrots grown and shown, that were marvels of symmetry and beauty.—*R. D.*

THYRSACANTHUS RUTILANS — Plants of this most showy winter-flowering Acanthad may be seen at Gunnersbury House, Acton, where Mr. Hudson propagates and grows great numbers of small plants for table decoration. Subjects of this class are very liable to lose their leaves when they attain any size, and can be kept in good condition only by careful attention and annual propagation. The pendulous racemes of cylindrical scarlet flowers are very handsome.

THE SNOWDROPS.

JUST now, when outdoor flowers are scarce, the Snowdrops are of great value, and help to brighten up many a corner that otherwise would look cold and cheerless.

Galanthus Imperati.—Amongst the half-dozen kinds that are now flowering in my garden, none, in my opinion, can compare with this grand free-blooming plant. The large flowers are of the very best substance—that is, in the best forms, for the kinds sent out under this name are legion, and the long slender pedicels give to them a character and distinctness that is quite their own. This fine Snowdrop is said to have been introduced by Messrs. Backhouse, of the York Nurseries, about 1877; but I am inclined to think that it was established in plenty in a certain wood not a couple of miles from Bangor, at least half a century previous to that date.

G. nivalis Sharlocki.—To my friend Mr. Allen, of Snowdrop renown, I am indebted for bulbs of this singularly beautiful plant. What renders it so distinct and conspicuous from Snowdrops in general is the green spot on the exterior of the outer petals, and the two long spathes with which each flower is supplied. Here it grows freely, and blooms rather later than *G. nivalis*.

G. pucilliformis.—The singularity of this plant consists in the flowers being entirely destitute of green markings, while the inner petals are of the same length as the outer. It is very distinct, and when well grown and true, a most desirable acquisition. Credit for raising this form is generally accorded to Mr. Melville, of Dunrobin Castle; but as I have found it in considerable quantity, and disseminated it amongst my friends from a woodland near here, I cannot help thinking that it is of spontaneous origin. Could some of your readers tell me when it was raised by Mr. Melville, for by a certain method of bulb computation I can fix pretty accurately the date of its appearance in this locality. It is a pretty Snowdrop, and comes true in fair numbers.

G. plicatus is rendered very distinct and attractive by the broad silvery-lined leaves; these, in very best form, being almost $1\frac{1}{2}$ ins. wide. With us it blooms later than *G. Imperati*, which, as may be supposed, is a plant not to be despised.

G. nivalis, our common Snowdrop, when seen in good bold clumps and growing in fairly rich soil, is a gem that requires not one word of praise from me; but oh! the difference in size and substance between well-cultivated flowers and those of plants growing in poor soils is great indeed. In addition to the double-flowered form of *G. nivalis*, we have likewise a twin-flowered plant, and another that regularly produces four outer petals instead of three—the usual number. By careful selection, all the cultivated Snowdrops may be greatly improved, while to those persons who are interested in these flowers, a sharp look-out where they abound in quantity will often reveal new and distinct forms that may be worth perpetuating.

There are several other interesting Snowdrops in cultivation, such as *G. n. virescens*, *G. n. præcox* and *G. n. octobrensis*; but as I have never succeeded in falling in with such, I cannot speak of their value in gardening from actual experience and observation, and so leave them alone.—*A. D. Webster, Llandegai, Bangor.*

VARIETIES OF LÆLIA ANCEPS.

WE have recently received dried flowers of different forms of *Lælia anceps* from “D. L.” From dried specimens it is difficult to determine whether they exactly correspond to those described underneath, but they resemble the figures of our illustration sufficiently near to be classed under those varieties. *Lælia anceps*, the typical form which has given rise to so many varieties yearly finding their way into cultivation, has rosy sepals and petals, with the upper part of the labellum of a dark purple. In *L. a. Veitchiana* we have a beautiful form that deserves to be classed amongst the whites, for, with the exception of the labellum, which has the usual crimson lines in the throat and lateral lobes, together with the middle segments stained with bluish purple, it is pure white, *L. a. Williamsii* has even more right to the title of a white form than the last. The flowers are large, handsome and pure white, except in the throat, where the insect-guiding lines are unusually dark and conspicuous by contrast with the purity of all the other parts. One of the most beautiful and striking of the varieties, is that known as *L. a. Dawsoni*. The sepals and petals are white, while the latter are also conspicuous for their great breadth; excepting the type, this variety has more purple on the labellum than the others, and rejoices in white lateral lobes and a yellow disk.

STEPHANOTIS FLORIBUNDA.

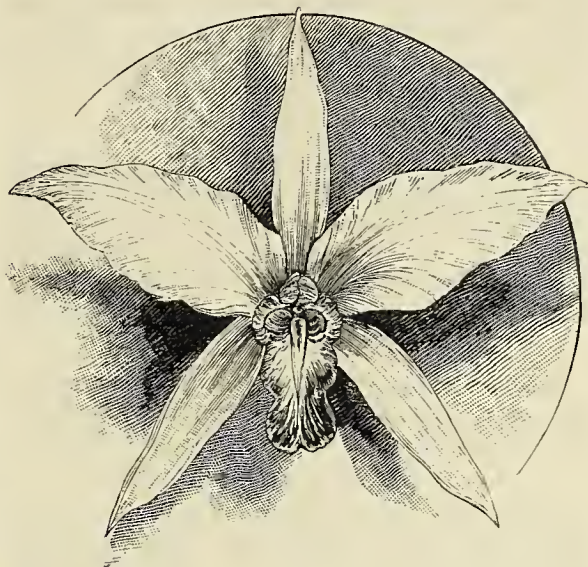
SOME writers on the culture of the *Stephanotis* go so far as to assert that it can be grown with the greatest ease in a cool greenhouse, and made to flower equally as well as when grown in stove heat. I should say those who assert this are entirely misleading the public. It is possible they may have seen plants of *Stephanotis* standing in a greenhouse when trained on a trellis and in full bloom, placed there to prolong their blooming period; or, again, they may have seen the plant standing in greenhouses after the blooming period is over, placed there on purpose to ripen up the season's growth. It is a fallacy, pure and simple, to say that the plant can be grown under cool treatment, that is, make its growth and produce an abundance of flowers entirely in a cool greenhouse.

If the cool system were at all feasible, why do not our market growers adopt it? The men who make money out of the flowers produced in this way, save an endless lot of time in keeping up fire-heat, and also in cleaning the plant, which is very subject to mealy bug if grown in a stove. Furthermore, at what time of the year is the plant going to flower if grown on the cool system? If I am not mistaken, should the flower-buds be formed at all, they

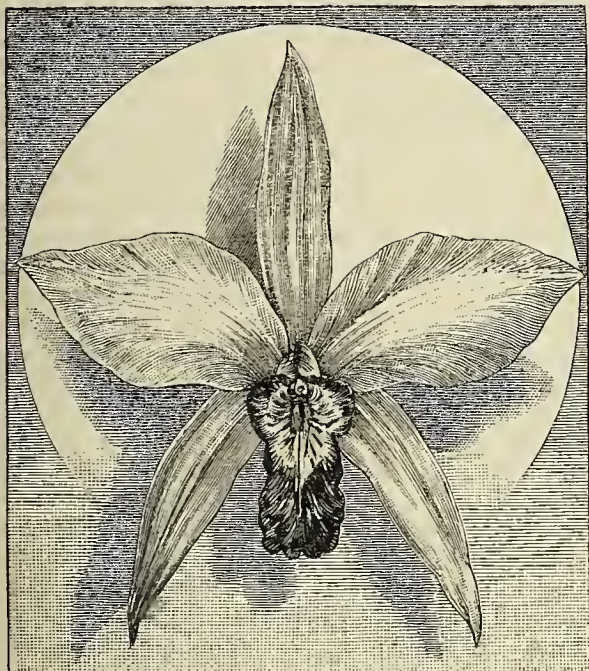
appear on the branches of large plants. A good bottom-heat is necessary to root them quickly, and as soon as this is accomplished they must be placed in 4-in. pots at once, in a sandy compost of peat and loam, and returned to bottom-heat till the pots are full of roots. According to the time of the year will depend

often happens when bottom-heat is applied. At whatever season the bloom comes, it is never to be despised, and is always a welcome addition to any other flowers that may be in season. Larger plants do not require potting every season, but will thrive in a large pot for a number of years, provided they are well fed with manure-water. These larger plants that made a quantity of good growth in autumn, and which had been thoroughly exposed to all the light and sun possible while growing, will just now be pushing up their trusses of bloom from nearly every leaf-axil, provided they are in a good growing heat, and will be all the better and stronger if they have bottom-heat applied. These blooming now, will do so again in the autumn from the shoots they are making now, and if well fed, they may probably continue flowering during summer and autumn. It is only large and well-established plants that can be expected to do this. The flowering-shoots, as they have exhausted themselves, may be judiciously thinned out; this provides for other shoots taking their place, and so keeping the same amount of space on the roof covered.

The best soil in which to pot the *Stephanotis* is equal parts of loam and peat, with an addition of broken bones, charcoal, and sufficient sand to keep the whole open. What manure it requires should be supplied in a liquid form. It is better than mixing rotten manure

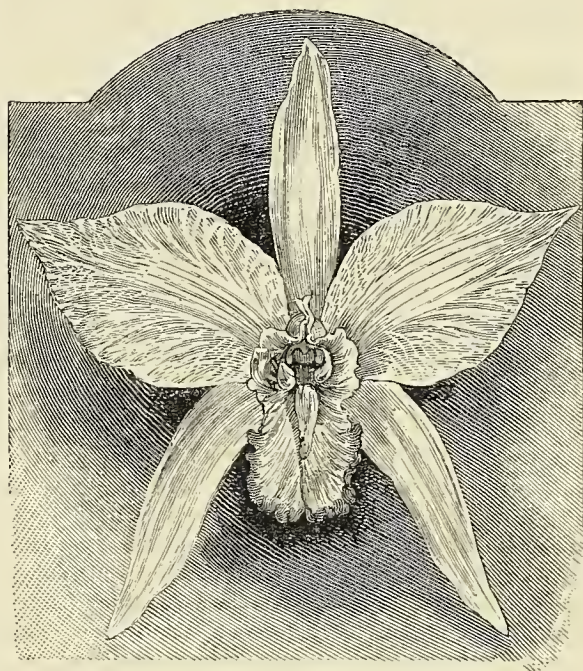


LÆLIA ANCEPS VEITCHIANA.



LÆLIA ANCEPS.

the advisability of potting on again or not, before wintering these young plants. If rooted early in the season they may have a shift, which will cause them to make a growth, and very probably throw a few bunches of flowers. Several years ago, I struck a lot of cuttings early in August. They were placed in 4-in. pots as soon as rooted, and wintered there till February, when they were potted into 6-in. pots before starting them for the season. As soon as they commenced to show signs of activity they also commenced blooming, and I had the pleasure of seeing the plants flower from the first leaf-bud, and continue throwing out bloom from every one to a height of 2 ft., when they stopped for the season and made growth only. This character shows nothing more or less than the Elvaston variety, so called.

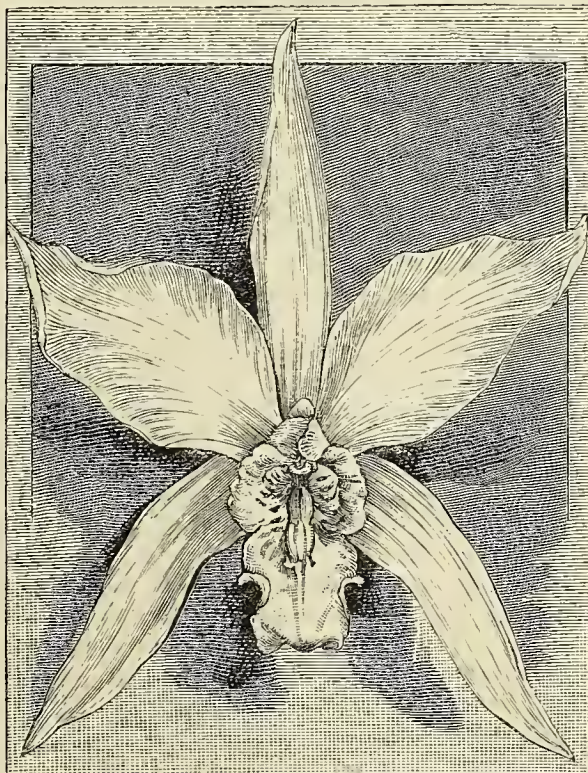


LÆLIA ANCEPS DAWSONI.

would be about ready to expand towards the end of autumn, when the season is on the wane; then, instead of opening, they would turn yellow and drop off. Oh! says another one, if the bloom-buds are formed nice and plump by autumn, and the plant be kept quiet, they will be ready to burst out into glory at the approach of spring. The question is, would there be either shoot or bud left when spring comes? The plan of keeping it quiet would have been too quiet under the cool system, and in all probability the plant would be dead or so much impaired in health as to be useless. I can perfectly understand the plant being grown in an intermediate heat so as to flower in the autumn, but to say that it will grow in any greenhouse is altogether absurd.

The *Stephanotis* is a true stove climber, and a lover of heat, both top and bottom; and when properly cared for is one of the most lovely, as well as the most profitable, plants that can be grown. The profusion with which it will send out its bunches of flowers is remarkable on well-grown and properly-tended plants. It may be had in flower from March to October, according to the treatment given and the size of the plants grown. The plant at all times wants plenty of light, and when making its growth should be trained on strings or wires as close to the glass as possible. At no time should the new-made growth be lapped round trellis-work, for this only buries one growth beneath another, and prevents both air and sunshine from getting at the growth to mature it. It is only from well-grown plants that good bloom can be expected.

Young plants of *Stephanotis* can be rooted any time during the summer season from firm wood cut up into lengths, or from the short stubby pieces that often



LÆLIA ANCEPS WILLIAMSII.

After the plants are potted in spring, they should be kept in a growing stove heat, and syringed at least once a day. This will cause them to start freely, and they will make many feet of growth before the summer is over, provided they are well treated. It very often occurs that they also bloom at the same time as they make this growth, up to a certain period; but it more

with the soil; for by mixing decomposed manure with the compost, has the effect of making the soil loose in texture. This condition of the soil is altogether unsuited for the *Stephanotis*, which likes a firm compost instead of a soil that you can push your fingers into as if it were leaf-soil. I would caution all growers against the evils of bad drainage; for the better the pot is drained, the better will the plant succeed. I would also caution amateur growers against the pernicious evil of growing seedling *Stephanotis*. It is by the introduction of a lot of seedlings in the trade that the so-called bad varieties have sprung up. If you get a good variety which proves itself a free bloomer, be content with cuttings from this plant, for seedlings will give no better varieties than the one you already possess. In fact, they will not flower for a considerable time, and when they do, they will show no improvement on the parent, but may be inferior.—W. G.

SEEDLING DAHLIAS.

THERE is no difficulty whatever in raising seeds of Dahlias, especially those of the single-flowered varieties, which appear to germinate very readily; indeed, solar heat during the end of March and April will, in some instances, cause them to do so without bottom-heat; but those who grow seedlings in large quantities sow the seeds in pans of finely-sifted leaf-soil, and place them in the brisk moist heat of a dung-frame, where they soon germinate, though care has to be taken that they are not drawn, and so become spare and lanky. As soon as the plants are large enough to handle, they are pricked off into large pots, which contain twenty, thirty, or forty plants, according to their size, and as

soon as possible they are hardened off and placed in cold frames previously to planting them out in the open ground. They then have nice balls of roots, and being planted out somewhat thickly, space is soon created by pulling out all inferior forms as soon as they flower. Those who grow seedlings for bedding and general decorative purposes would do well to pot up singly in small pots from the seedling-pans, and so induce them to grow on into size quickly. It is worthy of remark that one-year old Dahlia seed will germinate quicker than that only a winter old, which is, to some extent, a reversal of our general experience in regard to this subject.—*R. D.*

NEW PLANTS CERTIFICATED

By the Floral Committee of the R.H.S.

March 22nd, 1887.

BORONIA HETEROPHYLLA.

Nothing could be more deserved than the award of a Certificate for this handsome W. Australian shrub. A basket of plants were exhibited not exceeding 1 ft. in height. These had several branches each, which were slender and arching upwards, bearing about two or three flowers in the axil of each leaf for nearly the whole of their length. The flowers were bell-shaped, pendent, of the finest deep rose, and deliciously fragrant. The leaves consisted mostly of three linear deep green leaflets. Exhibited by Messrs. James Veitch & Sons.

ZYGOPETALUM VEITCHI.

This showy-flowered production must rank as a bi-generic hybrid, being the result of *Zygopetalum crinitum* fecundated with the pollen of *Colax jugosus*, showing that there must be a considerable affinity between *Zygopetalum* and *Lycaste*. The flowers are intermediate between the parents in size, and have the sepals and petals beautifully marbled with deep purplish brown. The labellum is closely lined and marked with violet on a white ground, resembling *Zygopetalum crinitum*, but finer. Exhibited by Messrs. James Veitch & Sons.

RHODODENDRON BALSAMINEFLORUM CARNEUM.

A truss of nine flowers cut from a newly grafted plant was shown. The flowers are of ordinary size, double, and flesh-coloured when they expand, fading to pale yellow. The leathery deep green leaves are lanceolate and tapering to each end, 3 ins. to 4 ins. long, and about 1 in. wide at the middle, being thus longer than those of *R. balsamineflorum* generally are. The flower of the pollen parent exhibited a slight tendency to become double, by the presence of a small petal in the tube. Exhibited by Messrs. James Veitch & Sons.

HYACINTH LA BELLE.

Three plants of this fine variety were conspicuous amongst a group of well-flowered plants. The dense cylindrical spike, best shown by contrast with the others, was of very great length and considerable diameter. The individual flowers were large, flesh-coloured and highly fragrant. The foliage was broad, deep green, and what appeared habitual (judging from all the specimens of the variety exhibited), the tips of the leaves were recurved. Exhibited by Messrs. James Veitch & Sons.

ODONTOGLOSSUM TRIUMPHANS—THE ROSEFIELD VARIETY.

The pseudo-bulbs and the lanceolate evergreen leaves of this fine form are more or less stained with purple. The specimen exhibited bore two long arching spikes, with nine and twelve flowers respectively. The whole flower was of a dark shining lustre; the sepals and petals being of an intense dark chocolate-brown, except the tips and a few slender transverse yellow streaks; the labellum is white at the base, and deep chocolate-brown upwards. Exhibited by De B. Crawshaw, Esq., Rosefield, Sevenoaks.

By the Royal Botanic Society.

March 23rd.

ONCIDIUM BRUNLEESIANUM.

The inflorescence of this pretty Orchid is panicle, bearing numerous flowers shaped like that of a *Cœlogyne*, but the structure shows that the plant belongs to the *Vandæ*; the sepals are straw-coloured, and the petals similar, but barred with pale brown; the three-lobed labellum is deep yellow, with the exception of the deep

chocolate almost black middle lobe. Botanical Certificate. Exhibited by R. B. Lemon, Esq., Beckenham.

VARIETIES OF AMARYLLIS.

HER MAJESTY: The flowers of this variety were large, nearly regular, white, and slightly suffused with scarlet along the middle. **HON. AND REV. J. T. BOSCAWEN:** Flowers large, nearly regular, of good substance, and scarlet with a white centre. **TITANIA:** In this case the flowers were of great substance, and intense crimson with a white band along the middle of each segment. Floricultural Certificates. Exhibited by Messrs. Veitch & Sons.

SELAGINELLA GRACILIS.

The stems of this were about 18 ins. high, slender, and arching upwards. The branches and branchlets, as, indeed, the whole aspect of the plant, reminds one forcibly of a slender and graceful form of *Selaginella Wallichii*. Botanical Certificate. Exhibited by Messrs. J. Veitch & Sons.

AMARYLLIS ORIFLAMME.

The flowers of this variety were large, intense scarlet, and of good substance. Floricultural Certificate. Exhibited by Mr. J. Douglas, Great Gearies, Ilford.

CYCLAMEN ROYAL JUBILEE.

In this fine variety the flowers were very large, of an intense crimson and self-coloured. Floricultural Certificate. Exhibited by Mr. John Odell, nurseryman, Gould's Green, Hillingdon.

VARIETIES OF CINERARIA.

BLUE BONNET: The flowers of this attractive variety were large, and dark blue with a white centre. **ILLUMINATOR:** Flowers large, and of a rich or intense purple. **METEOR:** This is a fine dark blue self, of fine form and very rich. **STELLA:** The flowers of this variety are also large and self-coloured, very dark maroon. All these varieties were exhibited by Mr. J. James, Woodside, Farnham Royal, and received Floricultural Certificates.

BORONIA HETEROPHYLLA.

Botanical Certificate. Exhibited by Messrs. J. Veitch & Sons.

RHODODENDRON BALSAMINEFLORUM CARNEUM.

Botanical Certificate. Exhibited by Messrs. Veitch & Sons.

THE AUSTRIAN PINE FOR SHELTER.

ALTHOUGH at present, perhaps, not much grown for the value of its timber, still the Austrian Pine for shelter purposes alone is an extremely valuable tree, and has been turned to good account in many of the more exposed parts of the British Isles. Being a Pine of fine quick growth, and, moreover, one more than any other that is peculiarly well adapted for planting in a great variety of soils and situations, the only wonder is that in the formation of screen plantations all over the country, it is not more frequently used. We have seen this Pine growing with unusual luxuriance in reclaimed bogs, where it has put on that healthy appearance that even calcareous loam—the mixture of which its native Austrian woods are composed—could not impart, nor even the granite rocks of some of the Northern Scottish counties.

In planting tracts of country that are exposed to severe storms, this tree is one of the best, and can well stand side-by-side with the Pinaster and Aleppo Pines, two well-trying and valuable trees for exposed maritime situations. With marked success we have planted the Austrian, in conjunction with the Laricio and Scotch Firs, along the sea coast as well as on the exposed mountain sides up to fully 700 ft. altitude. But not only as a screen or shelter-giving tree is the Austrian Pine valuable; for as an ornamental tree, whether planted singly or in groups, we prize it highly, the mossy dark green foliage imparting a warmth and character that is rarely equalled, certainly, in our idea, not surpassed by any other evergreen.

The Austrian, above all other members of the family, is badly suited for close planting. Its real character and value, we have often thought, is only shown off fully when grown either as single specimens or in clumps where ample room has always been allowed for the full and perfect development of both root and branch. It is easily raised from seed, transplants well, and produces a timber that is well suited for resisting the evil effects caused by alternate dampness and drought.—*A. D. Webster.*

GARDENING MISCELLANY.

The Severe Weather.—"J. L., Shrewsbury," writes:—On Saturday last about 4 ins. of snow fell, and the same night we had 17° of frost, followed by 18° on Sunday night. Snow fell nearly all day on Monday, and to-day (Tuesday), it is again 4 ins. deep. Apricots just coming into bloom! *March 15th.*

"W. G.," writing from Burnley, North-East Lancashire, says:—On the 7th inst. we registered 21° of frost, which I thought unusually severe for March. Since then we have had three weeks of very fine weather, which was followed on Friday night last by 6 ins. of snow; and on Sunday morning, the 13th inst. the thermometer again registered 21° of frost. Writing again on Monday last the same correspondent states that the amount of frost registered on the following days was:—13th, 21°; 14th, 17°; 15th, 17°; 16th, 12°; 17th, 15°; 18th, 10°; 19th, 13°; 20th, 12°, with bright hot sunshine during the day.

On Friday, March 11th, we had a sharp rain after 6 p.m., followed at 9 p.m. by a heavy fall of snow. Saturday was clear and cold, since which date we have had very low readings of the outside thermometer. Sunday, March 13th, 20° of frost; Monday, 16° of frost; Tuesday, 16° of frost; Wednesday, 15° of frost; Thursday, 14° of frost; Friday, 9° of frost and a heavy fall of snow; Saturday, 13° of frost. We have a registering thermometer at 3 ft. above the ground, which is set every afternoon about 4 p.m.—*W. Swan, Howick House, Preston.*

The Eucharis Mite.—"Enquirer," in asking if the "Eucharis mite deserves the blame and evil reputation heaped upon it," touches upon a most important question; but whether the mite is the cause of the fungus, or only following up the ravages of the fungus, is, I think, immaterial from the grower's point of view, as both seem to "multiply and flourish" exceedingly under the same conditions. My opinion is that the fungus follows the ravages of the mite. I have found the mite feeding on the bulb where I could find no trace of the fungus, and I have also found the fungus without any mites, but then they could have been there and gone! I saw a collection of *Eucharis* about ten or fourteen days ago, which about two years previously were badly infested with the *Eucharis mite*, becoming so after being brought out from under a stage where they had been standing for some time in a colder temperature than where they had been growing. When I saw them they had completely grown out of the mite, and the plants looked in the best of health, and were flowering profusely, as the treatment they had received was said to have completely got rid of it; indeed, the grower expressed his contempt very strongly for the pest. The plants had been plunged in a strong bottom heat, kept well watered, and grown in a moist humid atmosphere. I have also seen another case which bears out the above treatment; and where a strong bottom heat is available the plan is well worth trying before throwing any infested plants away. I have often wondered how the *Eucharis mite* had spread throughout the country so fast as it seems to have done, but last week, in examining some bulbs of *Pancratium* in one of the London salerooms, I found this mite in abundance; so that I would strongly caution anyone buying bulbs at sales, to see that they are quite clear of insect pests before buying. I have found the mite thrive abundantly on *Eucharis*, *Pancratium*, *Amaryllis* and *Vallota*, so that in adding to a collection of any of the above-mentioned, one should take every care in thoroughly examining the plants before they are put with the others.—*A. W. D.*

Aspidium angulare proliferum.—The normal form of this is a beautiful and serviceable Fern, whether cultivated in pots or grown out of doors. By the former method, however, it can be grown to the greatest perfection and put to the greatest variety of purposes, being available for conservatory or greenhouse decoration in the dull winter season, when their value is most appreciated. The proliferous variety bears numerous buds along the midrib of the fronds, by which the plant may be propagated in great abundance. It is strictly evergreen, but retains its fronds best when protected from frost, as done by Mr. Addison, gardener at Merton Lodge, Chiswick, who pays special attention to Ferns in pots, both for indoor and outdoor decoration in summer. More attention might be given to

the cultivation of British and half-hardy exotic Ferns for outdoor decoration in summer than is the case at present.

Sparrows and Crocuses.—Where sparrows abound, especially in the neighbourhood of London, they annually prove a great pest to gardeners and the keepers of gardens. Besides destroying bush-fruits, especially Gooseberries, they attack Crocuses with great persistence and determination, destroying the flower-buds as they appear above ground. The yellow ones, being the earliest, suffer most; but other kinds do not escape their ravages. Mr. Wright, of Devonthurst, who is greatly plagued with these birds, says the stamens seem to be the coveted and dainty morsels sought by the marauders. To get at this, of course, the whole upper part of the flower is destroyed. The young leaves and flower-buds of Polyanthus are also devoured or pulled to pieces.

Adiantum Farleyense.—Plants of this lovely Maidenhair Fern will be just commencing to throw up their new fronds. This is a good time to pot them, and also to make any additions to the stock by dividing the crowns. Plants that are intended to be grown on into larger specimens will simply require potting into good rough material, selecting a few that have the greatest number of crowns for division. It is not advisable to divide the crowns into too small bits, provided a great quantity are not wanted; but if a good plant is split up into three or four pieces, it will have a better chance of success than when cut up so fine. The safest plan to adopt in this matter is to cut the ball of rhizomes through into as many pieces as you require to make plants. Insert a good crock between each cut, and dribble a bit of sandy leaf-soil into the opening made along with the crock; cut through the crown deep enough to thoroughly sever it, and let the plant remain for a fortnight before finally pulling the divisions apart. By cutting through in this manner it causes new fibres to start away from the crowns; and in pulling the plants to pieces they do not feel the effects of the division so much as if they had been both cut and pulled to pieces at the same time. After potting they must be kept shaded and as close as possible for a few weeks, to cause the plants to establish themselves. Where quantity is wanted in preference to quality, the plants can be cut up much finer, pulled to pieces at once, put into pots as small as convenient, and placed in a warm case, either in the stove or propagating house, where they will soon establish themselves. All the varieties of Maidenhair Ferns that do not produce themselves from spores freely may be similarly treated as soon as they show signs of pushing up their new fronds; but where they come freely from spores, it is folly to split up old plants, for in all cases the seedlings will make superior plants.—*W. G.*

Deutzia gracilis.—A number of large plants of this useful forcing shrub at Gunnersbury Park, Acton, have not been repotted for the last eleven years. Their healthy condition, and the amount of flowers obtained from them annually, is surprising considering the great length of time they have been in the same pots. They are fed with manure-water when coming into bloom, and carefully tended afterwards while making their new growth—not put in some out-of-the-way corner, as is frequently done.

Lady Downes and Muscat Grapes.—Your correspondent, Mr. James B. Riding, p. 456, does not consider that Lady Downes and Muscats would be “favourable company.” After an experience of growing them in the same structures, and of course under precisely similar conditions, for a period of twenty-five years, I consider them most suitable companions. There is no Grape with which I am acquainted, except Gros Colmar and Black Morocco (the latter said to be one of the parents of Lady Downes), which requires a longer period to come to perfection than Lady Downes, or enjoys a greater amount of heat during the ripening period. Treated under such conditions the flavour approaches perfection, and the keeping qualities are greatly enhanced. We have often kept them as late as May in good condition, long after the Muscats, under similar treatment and in the same house, had to be used. I have exhibited Lady Downes in June in very fair condition, after being treated with high Muscat temperature, and from the warmest end of a Muscat house, from which the latter were supplied early in September. Last year some four or five kinds

of Grapes, which were ripened in a house, three-fourths of which were Muscats, kept to the end of April, but Lady Downes and Alicantes were by far the best. At the present time, March 22nd, we have Alicantes which were ripened along with Muscats; they were from supernumeraries, but are still plump and fresh.—*Caledonian.*

Packing Grapes.—I would gladly welcome any hints or suggestions on this important matter from any of your practical readers, who, like myself, have to send moderate quantities long distances by rail during the season. I have tried many of the usual methods of packing, with dried moss, cotton wool, and paper shavings, in boxes, and suspended in hampers, but by all of them there is more or less damage to the bloom. I suppose there is really no mode of packing yet devised by which Grapes can be sent long journeys by rail without injuring the bloom. Any help towards so desirable a plan would be highly appreciated by a *Working Head Gardener.*

Maranta Warscewiczii.—Year after year, with great regularity, about this time of the year, Mr. Hudson, Gunnersbury House, Acton, flowers this by no means common species. The bronzy and striped character of the leaves constitutes this an ornamental-foliaged plant of no ordinary value. The leaves themselves have long petioles, and are something in the way of *M. Veitchii*, but smaller and perfectly distinct. The dense cone-like inflorescence is conspicuous by the large pure white bracts subtending the flowers. The flower stem produces two large leaves at no great distance from the cone-like head, and from this the plant can be readily propagated after it has done flowering.

Tree Pruning Extraordinary.—The trees in the neighbourhood of London are annually subjected to a systematic hacking, not to say process of destruction. This is called pruning, but where the art is “that mends nature” it would be difficult to say. Such trees cannot be long-lived, yet we are so accustomed to blame the smoke and fogs of London, that we are apt to forget other evils which, if they are of minor importance, are the more deplorable because of man’s own making. A good illustration of these remarks can be witnessed at Turnham Green, by anyone passing along the High Road, Chiswick. The trees skirting the common have been lopped about in a manner that is painful to behold. Instead of being allowed to assume anything like a natural form, the so-called pruning they have received makes them appear more like inverted brooms worn to the stump, as used by the crossing sweepers, than trees. There is no lack of room, and there is no apparent reason for disfiguring the trees as they have been done.—*Observer.*

Anemone, King of Scarlets.—A very pleasing effect may be produced by these hardy flowers when grown in a cool house, as they are by Mr. B. Gilbert, Anemone Nurseries, Dyke, Bourne, Lincolnshire. A box of flowers sent us, accompanied by foliage, showed a most healthy development in both cases, and Mr. Gilbert says that from twenty to twenty-nine flowers and buds are produced from a single rhizome; the flowers are double and of an intense scarlet internally, with a white base; the stamens are short and purple, while the carpels are elongated and petaloid, producing the appearance of a tassel or thistle head surrounded by a scarlet cup.

Lilium Harrisii (the Bermuda Lily) and its Adaptability.—Though this has been often referred to in your columns, too much commendation cannot be bestowed upon it. It is perpetual in growth, and I am inclined to think almost, if not wholly, hardy. I left a dozen in pots in a cold frame, where frost must have occasionally entered during the past winter; but not one has been lost, and the majority are now showing flower-buds. I have a few of the most forward in my sitting-room window, and notwithstanding the dry atmosphere, they seem thoroughly at home there for the past month. They do best, like all Lilies, by not being over-potted, and with the soil not too wet or sodden. No other Lily increases so rapidly, and the young off-sets will bloom all the sooner by being potted on from size to size. None should be without this Lily.—*W. J. Murphy, Clonmel.*

Nelumbium Seeds placed in wine-glasses full of warm water, and kept close in a propagating case, germinated in three days, and formed roots in a week.—*G. B.*

ORCHID NOTES AND GLEANINGS.

Orchids from Moat Lodge.—From Mr. R. B. Lemon we have received a box of Orchid blooms presenting some of the most striking combinations of gorgeous colouring and the wealth of floral beauty to be found in one of, if not the most popular natural order of plants. They were perfectly fresh, and in a capital state of preservation, but no names accompanied them, so that we cannot tell whether any varietal names were attached to some of the forms sent. Amongst Dendrobiums were flowers of *D. Wardianum*, *D. crassinode*, *D. nobile*, *D. aureum* and *D. Ainsworthii*. The colouring in all the above was rich and good, constituting them what is termed in popular language good forms or varieties of their respective species. There was a fine large flower of *Phalænopsis amabilis*, together with the flowers of the beautiful *P. Schilleriana* and *P. Stuartiana*. The latter measured across the petal only $\frac{1}{8}$ in. short of $2\frac{1}{2}$ ins. Some forms of the same species with panicle flower stalks we have measured elsewhere were only $1\frac{1}{2}$ by $1\frac{3}{4}$ ins. in diameter. A flower of the orange-scarlet *Lælia harpophylla* with its white-edged lip also accompanied the others. A raceme of *Cœlogyne cristata* bearing six large handsome flowers appeared identical with *C. c. maxima*, but in the absence of pseudo-bulbs it is difficult to determine. Amongst *Odontoglossums* was a large handsome white form of *O. crispum* with broad sepals and broad imbricate petals. It was pure white with the exception of three brown spots on the labellum, a yellow basal blotch on the latter, and some spots on the column. There were two fine forms of *O. Rossii majus*, including *O. R. m. rubescens*. The colouring was superb in both, and the latter had the usually white parts suffused with rose, and netted with darker rosy veins. *O. hebraicum* with bright lemon-yellow flowers had the sepals and petals spotted or blotched with brown, and two blotches of the same colour on the labellum. The sulphur-yellow *O. c. flaveolum* with three brown blotches on the triangular-ovate lip was also very distinct, beautiful and interesting, as showing the wide range of colour in the species.

Erratic habits of Cymbidium eburneum Dayanum.—For several seasons this first-class Orchid has flowered most profusely here, and the blooms have been of the purest white till this season, when they have assumed a drab appearance with purple spots dotted over the flowers; this refers to a fine plant which was in an 11-in. pot, with four crowns, but which is now divided into as many plants, and each placed in 8-in. pots and plunged in bottom heat. This year the plant was placed on the north side of the path of a span-roofed house, and, consequently, farther from the glass, but it could not have had less light or heat. A similar change of position given to *Dendrobium Wardianum* has increased the size of the flowers, and the colour is deeper than formerly; *Cattleya Trianae* are all lighter in colour, while remaining in the positions which they formerly occupied.—*Caledonian.*

Orchids from Bohemia.—A very interesting box of Orchid blooms comes from Mr. B. Faus, Orchid-grower to Baron Theo. Hruby, Petschkau near Kolin, Bohemia. They were sent us through Messrs. F. Sander & Co., and have travelled the distance in admirable condition. Baron Hruby is a great enthusiast with Orchids, and has a fine collection. *Vanda suavis* Makoyana and *V. tricolor pandurata* are very handsomely spotted, with deeply coloured lips, especially the former. *Epidendrum aurantiacum* has got the colour of *E. vitellinum majus*, but the structure is different; *Oncidium Hrubyanum* is a chocolate-brown species, with a curiously-lobed labellum, resembling some member of the lobster family; *Odontoglossum maculatum superbum* is notable on account of the spotting of the petals and lip; while *O. polyxanthum* has a curiously boat-shaped or shell-formed labellum. A good-sized specimen of *O. ramosissimum* must be a pleasing spectacle, for the flowers, although small, are numerous, white and beautifully spotted. In *O. Ruckerianum*, *O. Andersonianum*, *O. Alexandræ guttatum* and *O. A. fastuosum*, we have four that vie with each other in their markings, spots, blotches and beautiful shades of colour.

Sophronitis grandiflora.—As an instance of the advantages to be gained by careful perusal of the articles in the horticultural press, a correspondent states that the pretty scarlet *Sophronitis grandiflora* would never succeed with him until he initiated the cool treatment and suspending near the glass recommended in our columns. At present it is one of the most beautiful, thriving and showy plants he has.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

THE FORCED PLANTS.—Perhaps a word of warning may be advisable during this inclement weather on behalf of those plants which have been subject to forcing, and after flowering (as is frequently the case) relegated to some out-of-the-way corner, and for the time unheeded. Unless due protection is now given and encouragement also to make a satisfactory growth, how is it possible that the stock can be kept in a satisfactory condition? Indian Azaleas, as soon as out of flower, should be carefully gone over, all the flower-stalks removed and any straggling growths pruned in to keep the plants compact, and then at once be placed in a house where a moist-growing temperature is maintained to encourage an early and free growth; it may be likewise advisable to place a distinctive label to the first-early plants so that they may be utilised next season, an early setting of the bloom being absolutely essential for the production of flowers during the autumn months.

DEUTZIAS, too, will not bear even the slightest neglect after being forced, and should be placed in the Peach houses or other similar structures, where by being freely syringed and in a moderate heat they may be encouraged to make a free growth, which, when completed, will permit of their being hardened off and finally plunged out of doors. *Azalea mollis* should be similarly treated. In the case of

LILACS, FORSYTHIAS, ROSES and other hardy subjects, some sheltered corner should be devoted to them where they will be duly attended to in the way of watering. If nothing better can be given, a framework must be placed over them, which, during unfavourable weather and at night, should be covered with mats, that the new growth may not be injured. Introduce to heat a few Indian Azaleas, according to requirements for keeping up a supply of cut flowers; and, without further delay, pot up the requisite stock of *Hoteias*, placing them in a cold frame. They quickly establish themselves, and are indispensable for bouquet and button-hole work. Always bear in mind that being a marsh plant they require an abundance of water, and will be found more satisfactory if the pots are stood in saucers kept supplied with liquid manure.

POT ROSES, too, need a sharp look-out to be kept upon them for the maggot. Through neglect, we have had some standards, which were placed rather awkwardly, quite spoiled, almost every bud being bored. This is a nuisance which can only be remedied by hand-picking. Their presence can be easily discerned by the folding together of the young foliage, and the plants should at once be examined. Cinerarias and Pelargoniums are just now, with the drying wind, very apt to become infested with green fly; and if Roses are trained on the roofs of the greenhouses—as with us—they are, as a rule, subject to the same pest. An early application of tobacco-smoke is the quickest and best remedy; to be followed, on the Roses, each morning, by a good syringing, which will greatly assist in cleansing the foliage.

THE FRUIT HOUSES.

VINES.—Much time must now necessarily be given to the vineries, as, with the exception of the late houses, all are in full swing. The Muscats are breaking and growing very freely indeed, the clusters lengthening out well, the points of the laterals being well curled—such a sure indication of health in the Vine, no matter what the variety may be. We have been careful to keep the shoots in the earlier houses well looped down from the glass during the prevalence of frosts, as there is much danger of the clusters being damaged if not kept quite free. We have disbudded the succession *Hamburgh* house, which is making very satisfactory progress; and we have also put on all intended grafts for this season. Mrs. Pearson worked on *Hamburgh* stock last season is making a very strong growth. Gros Colmars are also very promising, and are much liked when fully ripened, but not when grown in a late house.

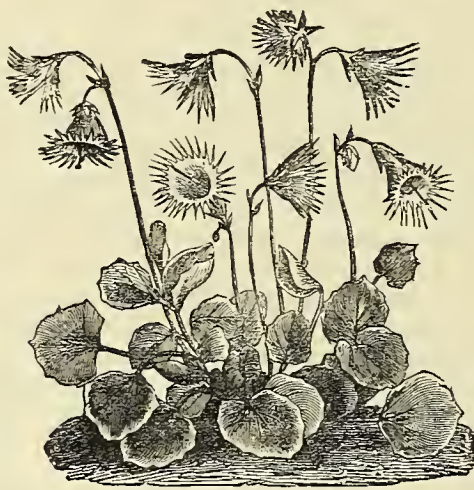
THE POT VINES should now be colouring, and must receive the most liberal treatment it is possible to give. How often do we see these spoiled simply because they bring their crop up to the colouring stage satisfactorily, and are from that onwards stunted in the supply of stimulants, which at that stage are more than ever

needed. It is just at that time that the great strain upon the foliage comes, which renders it so liable to the attack of thrip and red spider; and should these pests once become established upon pot Vines, all hope of good produce is lost. Litter fresh from the stable every other morning, spread where available, is of the greatest benefit to all Vines during the colouring season.

THE KITCHEN GARDEN.

GENERAL WORK.—We have planted all the Sea Kale cuttings, but on account of a short supply of greens, we shall be obliged to lift the remainder of our roots which we had intended for early forcing next season; the thongs will be saved, and after being made, stored. The ground will likewise receive a good dressing of manure, and as soon as settled will be replanted. The birds having been troublesome with the early Peas, we have protected them with wire guards, which also afford some protection against frost. We have also made another good sowing where a good dressing of manure had been given; it should be borne in mind, the more liberally treated the richer the produce. We have also sown a nice breadth of Horn Carrots on a warm south border, and have put in a few drills of early Milan Turnips, and when sown thus early many of them bolt; at the same time, it is worth the trial, as they are in great request early in the season.

PROTECTING SEEDS.—Keep an eye on the seeds lately sown, and as soon as they are peeping through protect them from the birds, otherwise they will soon



SOLDANELLA ALPINA.

spoil the beds of all the Brassica tribe. We have now finished the nailing of Peach trees, and the alleys all round the walls have been lightly pricked up, the surface having become caked from the continued trampling. We have had sharp frosts, with keen biting easterly winds, keeping vegetation very backward. Radishes we keep covered at night, and we have also made another sowing, affording protection with wire netting. We have also put in a few drills of round Spinach; this, to keep a full supply, should be sown sparingly, as to quantity, but very frequently. We have also sown a full breadth of Parsley.—*Walter Child, Croome Court.*

SOLDANELLA ALPINA.

MANY will, perhaps, recognise in this early spring flower an old friend, for it has been grown in this country (it may be intermittently) for considerably over 200 years, having been originally introduced in 1656. The name *Soldanella* is derived from the Latin *solidus*, signifying a piece of money, in reference to the almost orbicular, leathery, evergreen leaves. Two or three bluish purple flowers are borne on scapes not exceeding 2 ins. or 3 ins. in length, and are exceedingly interesting from their being deeply cut up into long fringe-like segments. The plant would be easy to cultivate provided we could secure for it a cool moist atmosphere in summer, or plant it where the soil would not get baked, which is very liable to happen in the neighbourhood of London. Shade would secure a cooler condition of the atmosphere; but while this is attended to, the greatest possible amount of light, short of direct sunshine, should be guaranteed, for all true Alpines, as a rule, require plenty of light to bring them to perfection. These conditions, where the climate is dry, can best be secured by growing the plant in pots. It is a native of the Swiss Alps.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 22nd.*—At this meeting, which was held as usual in the conservatory, the chief features of the exhibition were Narcissus, Hyacinths, Roses and Cyclamens. Several fine and useful new plants were certificated, as described in another column. Messrs. Barr & Son, King Street, Covent Garden, showed a magnificent group of Narcissi. Trusses of cut blooms were mixed amongst those in pots, assisted with a few Palms, *Galanthus Elwesii*, *G. nivalis*, *Anemone fulgens*, *A. coronaria*, *Scilla bifolia* and others. A group of Lenten Roses or Hellebores were shown in pots, and a Silver Gilt Banksian Medal was awarded for the exhibit. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was awarded a Silver Banksian Medal for a group of cut Narcissi, in combination with numerous other hardy plants such as *Anemone fulgens*, *Freesia refracta alba*, *Orchis undulæfolia*, *O. papilionaceus*, *Doronicum Clusii*, and *Megasea ligulata* with its variety *speciosa*. Messrs. Collins Bros. & Gabriel, Waterloo Road, London, S.E., were awarded a Silver Banksian Medal for a group of cut Narcissi, staged in neat coloured glass vases. *Anemone fulgens* and *Chionodoxa Lucilæ* were also staged in considerable quantity. A Silver Banksian Medal was awarded Messrs. James Veitch & Sons for a splendid group of Hyacinths, besides several plants certificated, as noticed in another column; they also staged a good group of five seedling *Amaryllis* in flower; *Cypripedium Bartetti*, a hybrid between *C. barbatum* and *C. Chantini*, and *Angræcum citratum*; for the latter they received a Cultural Commendation. Messrs. W. Cutbush & Son, Highgate, received a Silver Banksian Medal for a fine group of Hyacinths in pots. Messrs. Paul & Son, The Old Nurseries, Cheshunt, were awarded a Silver Banksian Medal for a group of well-flowered Roses in pots; they received a vote of thanks for *Saxifraga sancta* and *S. Frederici Augusti*, two yellow-flowered species; and they also showed Lilac, *Marie Lemoine*, with white flowers. Mr. K. Drost, Kew Nursery, Richmond, Surrey, was awarded a Bronze Banksian Medal for a large group of *Astilbe japonica*; he also exhibited a finely flowered group of Lily of the Valley, a new Tulip and a large bunch of cut-flowering branches of English-grown Lilac, in various shades of white, purple and lilac, for the latter of which he was awarded a Cultural Commendation. A Silver Banksian Medal was awarded the St. George's Nursery, Co., Hanwell, for a finely-flowered group of Cyclamen. Mr. Ballantyne, gardener to Baron Schroder, The Dell, Egham, exhibited a handsome spike of *Odontoglossum crispum Sanderiana*, with all the segments conspicuously blotched and spotted with brownish purple. He also showed another fine unnamed variety. H. A. Mangles, Esq., exhibited a plant of *Rhododendron Falconeri*, about 2 ft. high, bearing a noble truss of white flowers, spotted at the base with black. Mr. Charles Turner, the Royal Nurseries, Slough, received a vote of thanks for a group of a large single-flowered blue Violet, named *Wellsiana*. G. F. Wilson, Esq., Heatherbank, Weybridge, exhibited *Cœlogyne cristata*, *Trentham* variety, and a fine Hellebore, a cross between *H. colchicus* and *H. guttatus*, for the latter of which he received a vote of thanks. Mr. B. Gilbert, nurseryman, Bourne, Lincolnshire, received a vote of thanks for some yellow Primroses. T. Harcourt Powell, Esq., Drinkstone Park, Bury St. Edmunds (Mr. G. Palmer, gardener), received a vote of thanks for *Odontoglossum excellens*, and he also showed a rose-coloured variety of *O. Pescatorei*. Mr. Todman, Rose Park Nurseries, Upper Tooting, was awarded a vote of thanks for some new varieties of Azalea. Besides the Orchids certificated, De B. Crawshay, Esq., Rosefield, Sevenoaks (Mr. Cooke, gardener), showed a specimen of *Odontoglossum Rossi majus*, bearing fourteen flowers on a branching spike. Mr. George Maw, Kenley, Surrey, received a vote of thanks for a living specimen of a Pine tree about 15 ins. to 18 ins. high; it came from Yokohama, Japan, and was said to be thirty years old. Mr. Grise, gardener to Sir James Kitson, Bart., Gledhow Hall, Leeds, received a vote of thanks for a panicle of *Habrothamnus elegans Newelli*, and cut blooms of a white variety of *Cineraria*.

At the meeting of the Fruit Committee, Mr. W. Roupell, Harvey Lodge, Roupell Park, S.W., received a vote of thanks for eight varieties of Apples. Mr. S. Ford, gardener to L. A. Wallace, Esq., Leonardslee, Horsham, received a Cultural Commendation for four-

teen dishes of Apples, together with a seedling variety. Major Shuttleworth, Old Warden Park, Biggleswade (gardener, Mr. G. Allis), exhibited sixteen dishes of Apples, for which he received a Cultural Commendation; and three bunches of Black Alicante Grapes, for which a vote of thanks was accorded.

Preston and Fulwood Floral and Horticultural.—*March 17th and 18th.*—The ninth annual exhibition of bulbs and spring-flowering plants, organised by this society, was in every respect most satisfactory. For several seasons past the promoters have had to contend with inclement weather on the opening day, but on this occasion the weather, though cold, was bright and cheerful, and, as a consequence, there was a good muster of local supporters present, when the president, E. Garlick, Esq., formally opened the show. The quality of the plants was excellent in every department of the show. A slight falling off in the number of bulbs was observable, but amends were made by the fine exhibits of J. B. Dixon, Esq., amongst amateurs, and Mr. E. Payne in the nurserymen's classes. The former exhibitor took the first prizes in the following classes:—Twenty-four, twelve and six single Hyacinths; also the first, second and third prizes for the best single Hyacinths, and twenty-four, twelve and six double Hyacinths; also for the best Hyacinth in these classes. First for twenty pots of bulbs, corms, tubers or rhizomes in flower; first for six pots of Tulips (double) and three pots ditto, also six pots and three pots of single Tulips, six pots of single Polyanthus Narcissus, three pots ditto, six pots of double Narcissus, three pots ditto, and for three pots of single Narcissus; amongst these groups were compact trusses of most of the leading sorts, stout and sturdy foliage, and the blooms just pushed up above the leaves. Three pots of Spiræas were shown by the same exhibitor and secured the first prize; three pots of Lily of the Valley and specimen Dielytra also secured first prizes for the same exhibitor.

In many of the classes Mr. R. Smith, Longridge, was successful in winning second honours, but in no case could he wrest the first from his strong opponent. In the nurserymen's classes, Mr. E. Payne, Fulwood, and Mr. H. Winwood, Ashton, were the principal exhibitors, the first-named winning with twenty-four single and twenty-four double Hyacinths; Mr. E. Payne was first with a group of plants staged for effect in a space of 10 ft. by 10 ft. The usual classes of Palms, Ferns, Azaleas (Indian and Ghent), Bulbs and Lily of the Valley were grouped in a very able manner, and the effect was most pleasing; Mr. H. Wenwood was a very close second with a similar group. Amongst gardeners, Mr. H. Waters, gardener to J. Eccles, Esq., Farington House, succeeded in getting in first with a group of similar dimensions; but in this case the flowering plants were mostly Amaryllis, Anthuriums, and Richardia Æthiopica, just raised above some capitally-grown Crotons, Dracæas, and Ferns, with some strong Palms, &c., for a background—a very effective display. J. B. Dixon, Esq., was second; and Mr. R. Frisby, gardener to the Misses Ffarington, third. With six miscellaneous plants, Mr. Frisby came well to the front, showing Kentia Forsteriana with nine fine fronds, Clerodendron Balfourianum, full of bloom; Anthurium Scherzerianum, A. crystallinum, a good Azalea, and an Imantophyllum. The Kentia was also awarded the Jubilee Medal, presented by Messrs. W. Wood & Son, Wood Green, for the best foliage plant in the show. Ferns were shown in good condition, and the Misses Ffarington and Mr. W. H. Walding were placed first and second. With six Roses, Mr. J. Clark, gardener to Mrs. Birchall, was first with well-flowered plants. Cinerarias, Primulas, Cyclamen, and table plants were also well represented, and in some classes there was a strong competition.

With three Orchids, Mr. C. Parker was the first with nicely-flowered plants of Odontoglossum Rossii majus, shown in a 12-in. basket, Cœlogyne cristata, and Cypripedium villosum. Mr. Clark was second with C. villosum, twenty flowers, D. nobile and Lycaste aromatica. Mr. J. Eccles was first for a single Orchid, showing Cœlogyne cristata with about thirty-six spikes of flower. Mr. Troughton, nurseryman, staged a fine group of miscellaneous plants, amongst them being a choice strain of seedling Primroses. A quantity of cut flowers of Cattleya Trianæ were shown in Hyacinth glasses by Mr. Swan, gardener to E. G. Wrigley, Esq., Howick

House, representing every shade of this lovely form, from pure white to the deep rosy purple and orange-coloured throat. These were awarded a special prize. The secretary, Mr. John Atherton, staged a nice collection of Cacti and other succulent plants; and Mr. Rowbotham, the Preston Parks Curator, also brought a fine group of Acacias, double Prunus, Cinerarias and bulbs. The committee have every reason to believe that the show is now a well-established institution, as large numbers visited it on both the days it remained open.

Royal Botanic.—*March 23rd.*—Besides the entries for the society's prizes, a large assortment of various things were shown as usual, and for which medals were awarded. The principal features in these groups were Hyacinths, Tulips, Cyclamen, Narcissi and other spring flowers. Among the prizes given for greenhouse Azaleas, Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, was first in the amateur's class; while Mr. Henry James, Castle Nursery, Norwood, was first among nurserymen. Mr. James Douglas, Great Gearies, obtained the first prize for hardy Primulas, and also for hardy herbaceous plants; while Messrs. Paul & Son, The Old Nurseries, Cheshunt, were first for forced Roses; and Mr. W. Rumsey, Joynings Nursery, Waltham Cross, second. Mr. J. Douglas was also first for six huge Deutzias; Mr. J. Odell, nurseryman, took the first award in the open class for Cyclamen; while Mr. F. J. Hill, gardener to Henry Little, Esq., Twickenham, held the premier place in the amateurs' class. The best Lily of the Valley came from Messrs. H. Williams & Sons, Fortis Green; and the best Hyacinths from Mr. J. Douglas and Mr. H. R. Wright, Turner Road, Lee. Mr. J. Douglas, and Messrs. H. Williams & Sons were also first for Tulips; and Mr. Douglas came again to the front with Narcissus, Crocus and Amaryllis. Messrs. H. Williams & Sons were first for Chinese Primulas.

In the miscellaneous class, Mr. B. S. Williams, Upper Holloway, was awarded a large Silver Medal for a group of spring flowers; Messrs. Cutbush & Son, Highgate, received a small Silver Medal for a group of Hyacinths; Mr. J. Odell took a large Bronze Medal for a group of Cyclamen; Messrs. H. Williams & Sons, a small Silver Medal for spring flowers; Messrs. Wm. Paul & Son, Waltham Cross, a Silver Medal for cut Camellias; Mr. J. James, a Bronze Medal for Cinerarias; Mr. J. Wiggins, gardener to W. Clay, Esq., a Certificate for a group of Cyclamen; the St. George's Nursery Co., Hanwell, a Bronze Medal for a group of Cyclamen; Mr. H. R. Wright, a large Bronze Medal for a group of Hyacinths; Mr. W. May, gardener to F. C. Jacob, Esq., Stamford Hill, a Bronze Medal for a group of Orchids, chiefly Odontoglossums; Messrs. Barr & Son, a large Bronze Medal for Narcissi; Mr. J. Hill, gardener to Henry Little, Esq., a Bronze Medal for a group of Lycaste Skinneri; Mr. Wm. Rumsey, a large Bronze Medal for a group of Roses; Messrs. Collins Bros. & Gabriel, Waterloo Road, S.E., a Bronze Medal for cut Narcissi; Mr. K. Drost, Kew Nursery, Richmond, a Certificate for a group of Spiræa, Lily of the Valley, and English-grown Lilac; Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, a Certificate for Narcissi. Messrs. Paul & Son exhibited a group of Alpine plants; and Messrs. J. Cheal & Sons, Crawley, Sussex, an assortment of Apples.

LAW NOTES.

PURSER v. THE WORTHING DISTRICT LOCAL BOARD.—This matter came before the Court upon a special case which raised a question under the 211th Section of the Public Health Act in reference to rating. Mr. Purser was a grower of fruit, vegetables and flowers, at Worthing, where he had 1 acre 1 rood of land, on which were sixteen glasshouses, which covered almost all the land. He called himself a market gardener and nurseryman, and he grew for the market, Tomatos, Cucumbers, Grapes, and other vegetables, and also flowers. The statute said that "market gardens and nursery grounds" should be rated at only one-fourth, and the question was whether the appellant's property came within this exception. Mr. Charles, Q.C. (with him Mr. A. Glen and Mr. Forrest Fulton), argued that the property in question was a market garden. All the plants were grown from the ground, and sometimes the roots were in the open ground. It was a garden covered with glass. Mr. Justice Day could not see how

it ceased to be a garden because it was covered with glass.

Mr. L. Smith, Q.C. (with him Mr. English Harrison and Mr. Bartley Denniss), for the District Board, submitted that this was in no sense a market garden. What was carried on really was a new industry which was growing up in the south, and it was desirable to have the decision of their lordships, because in some places such land was rated in full, and in other places at one-fourth under the exception. So far from that being an ordinary market garden, the things were grown there by means of heat, water and soil all supplied artificially.

Mr. Justice Day said that in his judgment the place was a market garden. It was used for gardening, and it grew market produce. He failed to see how a garden was the less a garden because it was protected from the weather by high walls or a glass roof. Judgment for the appellant with costs.

Obituary.

THE death of Mr. JAMES MILFORD, at Alphington, on Saturday last, carries off, in the fulness of years, a notable landscape gardener. His connection with the famous old Exeter Nursery of Messrs. Lucombe, Pince & Co. extends over the long period of nearly forty years, and many who remember that enthusiastic horticulturist, the late Mr. Pince, will recall this hale and hearty old gardener. He was Mr. Pince's right hand, so to speak, in all matters relating to landscape gardening, and no two men ever better understood one another. A number of the parks and gardens of the western counties, especially along the south coast, owe their beauty, in a great measure, to their taste and judgment. The ornamental grounds and plantations surrounding Marley Hall, near Exmouth, and the grand old rock garden at the Exeter Nursery are among their greatest achievements. The latter is a standing monument to their memory, and is a model work of its kind.

DIED on Tuesday, March 8th, at 20, Palace Gardens, Kensington, Mr. WILLIAM LEECH, late of Oakley, Fallowfield, Manchester, in his fiftieth year. The deceased gentleman was only ill for a couple of days, a cold, followed by acute inflammation of the lungs, terminating fatally on the morning of the 8th. His memory will long be retained in connection with the lovely seedling Dendrobium Leechianum, raised and flowered at Oakley amongst a very choice collection of orchidaceous plants.

QUESTIONS & ANSWERS.

* * Special attention is paid in the columns of THE GARDENING WORLD to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

CONIFER LIFTING.—*Omicron:* The best time to take out a trench round conifers, in order to render their removal without destroying them comparatively safe, would be winter, some time previous to the commencement of growth in spring. It is, however, not yet too late, as growth has not yet started. We presume your specimens are large, and that you intend allowing them another season's growth to recuperate themselves, and make fresh fibrous roots before removal.

DIGGING AMONGST GOOSEBERRIES, &c.—*Omicron:* We consider it good gardening to dig between Gooseberry, Currant and Raspberry bushes, provided you do it intelligently. These subjects in most soils are improved by a top-dressing of some kind of manure annually. This should be carefully and equally dug in, taking the precaution not to dig too deeply in the vicinity of the bushes so as to injure the roots. The same applies to Apples on the Paradise and Pears on the Quince if the ground is so poor as to require manuring. The roots in both these cases feed near the surface, and must not be injured by deep digging.

ANEMONES.—*J. A. C.:* Many thanks. The flowers are so pretty, last so long in a cut state, and so scarce with us, that we fain would beg a few more. Cut flowers are always welcome.

TENNIS LAWN.—*Omicron:* The regulation size is 78 ft. by 36 ft., with a margin for running back.

AZALEA.—*W. W.:* If your plant is showing buds at the base of the branches, it is a good sign. Cut back all the straggling shoots, which will make the plant close and bushy; place it in a warm house or stove, and frequently syringe on fine days to encourage growth. See that the drainage is good, so that no danger may arise from stagnation at the roots. It ought to make vigorous growth during summer, but cannot be expected to flower next year.

NAMES OF PLANTS.—*J. L.:* Adiantum Capillus-Veneris and Cyathea dealbata.

COMMUNICATIONS RECEIVED.—J. N.—W. D.—W. G.—A. D.—
M. T.—A. G.—C. P.—J. L. & Co.—Mrs. W., San Francisco (with
thanks).—W. K.—W. P. R.—E. J.—T. S. (next week).—J. M.

TRADE CATALOGUES RECEIVED.

R. B. LAIRD & SONS, 17, South Frederick Street, Edinburgh.
—Descriptive Priced List of Florists' Flowers and Greenhouse
Plants

LONDON SEED TRADE.

March 23rd.

Messrs. HURST & SON, 152, Houndsditch, and 39,
Seed Market, Mark Lane, London, report a steady
demand for Clover Seeds at rates current last week.
Supplies of English Red Clover continue short. Rye
Grasses firm and in good request; no change in value
of Tares or Bird Seeds.

COVENT GARDEN MARKET.

March 24th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	5 0	Pine-apples, St.		
Grapes, per lb.	3 0	8 0	Michaels, each	1 6	6 0
Kent Cobbs, 100 lbs.	60 0	65 0	Pine-apples, Eng., lb.	1 0	1 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, per lb.	0 3		Onions, per busbel	4 0	5 0
Cabbages, per doz.	2 0	2 6	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English,			Sea Kale, per basket	1 6	2 6
per dozen	3 0	5 0	Small salading, punnet	0 4	
Celery, per bundle	2 0	2 6	Spinach, per strike	2 0	
Cucumbers, each	0 6	1 0	Tomatoes, per lb.	2 0	3 6
Endive, French, doz.	2 6	3 6	Turnips, per bun.	0 6	
Herbs, per bunch	0 2	0 4	Strawberries, per oz.	1 0	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champsions, 70s. per ton.					

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arm Lilies, 12 blms.	3 0	5 0	Marguerites, 12 bun...	3 0	6 0
Azalea, 12 sprays	0 6	1 0	Mignonette, 12 bun...	4 0	6 0
Bouvardias, per bun.	1 0	1 6	Parma Violets (French),		
Camellias, 12 blooms	2 0	4 0	per bunch	3 0	4 6
Carnations, 12 blooms	1 0	3 0	Pelargoniums, scarlet		
Cut Tulips, 12 blooms	0 9	1 3	12 sprays	0 6	1 0
Czar Violets (French),			Primula, double, bun.	0 9	1 6
per bunch	1 6	2 0	— single	4 0	6 0
Daffodils, 12 blooms	0 6	1 6	Roses (coloured)	3 0	6 0
Epiphyllum, 12 blms.	0 6	1 0	Roses, Tea, per dozen	1 6	4 0
Eucharis, per dozen	3 0	6 0	Roses, red (French),		
Gardenias, 12 blooms	12 0	30 0	per doz.	1 6	2 0
Heliotropes, 12 sprays	0 6	1 0	— Saffrano (French),		
Lapageria, red,			per doz.	1 0	2 0
12 blooms	1 0	2 0	Tropæolums	1 0	2 0
Lapageria, white,			Tuberose, per dozen	2 0	4 0
12 blooms	2 0	4 0	Violets, 12 bunches	1 6	2 6
Lilies of the Valley			White Jasmine, bun.	0 6	0 9
12 sprays	0 6	1 0	Xmas. Roses, 12 blooms	0 4	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 6
Arum Lilies, per doz.	18 0	24 0	Foliage Plants, vari-		
Cyperus, per dozen	4 0	12 0	ous, each	2 0	10 6
Daffodils, 12 pots	8 0	10 0	Hyacinths, per doz. pts.	6 0	9 0
Dracena term., doz.	30 0	60 0	Lily of the Valley,		
— viridis, per dozen	1 0	24 0	12 pots	12 0	24 0
Epiphyllums, per doz.	18 0	30 0	Marguerites, per doz.	6 0	12 0
Erica hyemalis, doz.	12 0	24 0	Palms in variety, each	2 6	21 0
— Regerminans, doz.	9 0	12 0	Pelargoniums, scarlet,		
— various, per doz.	8 0	24 0	per dozen	6 0	9 0
Evergreens, in var.,			Primula sinensis, p. dz.	4 0	6 0
per dozen	6 0	24 0	Solanums, per doz.	9 0	12 0
Ferns, in var., do	4 0	18 0	Tulips, per doz. pots	6 0	8 0

POTATO MARKET.

KING'S CROSS.—The ruling prices in the station yard for the
week ending Saturday 19th inst. were as follows.—

	Beds.	Black Land.	Linclns.	Kents	Yorks	Setch. Gy. Sl.	Scotch Red Sl.
Mags. gd. spls.	65/75/	60/-	60/67/6	70/75/	80/85/	70/85/	90/100/
Regents	..	..	70/-	80/90/	75/80/	70/75/	80/90/
By. Hebron, ..	..	..	100/110/	..	..	..	..
Champions, ..	..	..	60/65/	65/70/	..	60/-	65/70/

During the week 523 trucks arrived, and 502 were emptied;
94 arrived on the 21st, and 704 were in stock. There is a short
supply of Magnum Bonum and Black Land and Bright Red Soil
sorts; but there is a good supply of Regents, which, however,
do not appear to be wanted.

SEEDS! A BARGAIN!

1400 Penny Packets of Hardy Annuals;
580 penny packets of Vegetables; 360 three-
penny packets of Hardy and Half-hardy Annuals; and about
1-oz. of German Stock and 1-oz. of Pblox, Aster and Dahlias, the
lot for £2.

Messrs. EILOART,

AUCTIONEERS, 40, CHANCERY LANE, W.C.

EARTHWORM DESTROYER.

JOHN PEED & SONS have great pleasure
in bringing before the public their Magic Earthworm
Destroyer. This, without doubt, is the finest remedy for Lawns
that are infested with worms. In the space of five minutes
every worm will rise to the surface, and most of them die im-
mediately. A mild damp morning is best for application. Mix
one pint to three gallons of water. Pint bottles, 1s.; quart, 2s.;
7s. per gallon.

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NOTICE.

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THE CHAMPION PEAS.

To meet the convenience of Cottagers
and others with small Gardens,

JAMES CARTER & Co.

Now offer their renowned Peas,

STRATAGEM,

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PRIDE OF THE MARKET,

In Trial Packets,

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COCOATINA,

Anti-Dyspeptic Cocoa or Chocolate Powder.

Guaranteed Pure Soluble Cocoa of the Finest

Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly
digestible beverage for Breakfast, Luncheon, or Supper, and
invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all
palates, keeps for years in all climates, and is four times the
strength of Cocoas thickened, yet weakened, with Arrowroot,
Starch, &c., and in reality cheaper than such mixtures.

Made instantaneously with boiling water, a teaspoonful to a
Breakfast cup costing less than a halfpenny.

Cocoatina possesses remarkable sustaining proper-
ties, and is specially adapted for early Breakfast.

In tins, at 1s. 6d., 3s., 5s. 6d., &c., by Chemists and Grocers.

Sole Proprietors:

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LAING'S BEGONIA TUBERS. Awarded

Two Gold Medals. Free by post. Unequalled quality.
Named singles from 12s. to 42s. per dozen; unnamed seedlings,
selected to colour, for pots, from 12s. per dozen; bedding,
selected to colour, 9s. per dozen; bedding, choicest mixed
colours, 6s. per dozen. Choicest named doubles from 42s. per
dozen; unnamed, very choice selected, 24s. and 30s. per dozen;
choicest mixed, 18s. per dozen. Catalogue gratis—JOHN
LAING & Co., The Nurseries, Forest Hill, S.E.

CUTBUSH'S MILLTRACK MUSHROOM SPAWN.



Too well known to require descrip-
tion. Price 6s. per bushel; 1s. extra
per bushel for package; or 6d. per cake,
free by Parcel Post, 1s. None genuine
unless in sealed packages, and printed
cultural directions enclosed, with our
signature attached.

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THE NURSERIES, SAWBRIDGEWORTH, HERTS.

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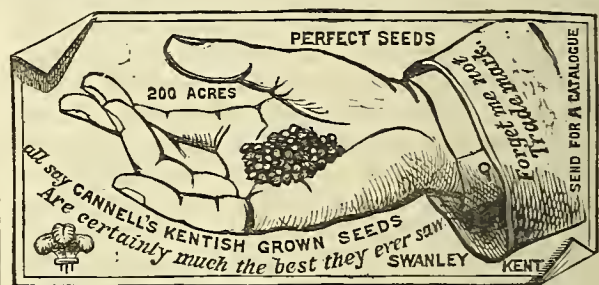
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MY NEW ISSUE for 1887—which, like the stock it repre-
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of the season, and will be found to accurately describe all the
BEST varieties EXTANT OF PANSIES, VIOLAS, PHLOXES,
PENTSTEMONS, ANTIRRHINUMS, HOLLYHOCKS, CAR-
NATIONS, PINKS, PYRETHRUMS, DELPHINIUMS, PO-
TENTILLAS, PEONIES, AURICULAS, DAHLIAS, PELAR-
GONIUMS, FUCHSIAS, BEGONIAS, PERENNIALS, &c., &c.

All should have a copy before buying elsewhere, as not only
may a saving be effected in the first instance, but it will also
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from the paper.

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ASTERS, Webbs' Victoria, mixed colours.....per packet, 1s.
ASTERS, Webbs' Victoria 12 distinct colours for 3s. 6d.
AURICULA, Webbs' Defiance, mixed colours, pkt., 1s. & 2s. 6d.
BALSAMS, Camellia-flowered, mixed colours..per packet, 1s.
CARNATION, Webbs' Choice, mixed colours,
per packet, 1s. 6d. & 2s. 6d.
PICOTEE, Webbs' Choice, mixed colours, pkt., 1s. 6d. & 2s. 6d.
MARIGOLD, Webbs' Gold-striped, mixed colours, packet, 1s.
MIMULUS, Webbs' Hybrid, mixed colours per packet, 1s.
POPPY, Webbs' Sterling, mixed colours per packet, 1s.
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Specially arranged for the Gardens of Ladies and Amateurs.

2s. 6d., 5s., 7s. 6d., 10s. 6d., 15s., 21s.,
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ASTERS, all the best varieties, mixed seed or in collections .. from 6d. to	4 0
AURICULA, Alpine	1 0
BALSAM, Williams' Superb Strain	1s. 6d. & 2 6
BEGONIA hybrida, Williams' Superb Mixed	1s. 6d. & 2 6
CALCEOLARIA, Williams' Superb Strain	1s. 6d. & 2 6
CARNATION, Choice Mixed	1 6
CINERARIA, Williams' Extra Choice Strain	1s. 6d. & 2 6
CINERARIA, Large-flowering French	2 6
CINERARIA alba	2 6
COCKSCOMB, Williams' Prize	2 6
CYCLAMEN persicum, Williams' Superb.. .. .	1s. 6d. & 2 6
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GLOXINIA erecta, Williams' Finest Spotted	2 6
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STOCKS, Williams' Superb Large-flowering	1 0
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Shropshire Horticultural Society.
SUMMER SHOW (open to all) August 17th and 18th. Twenty Plants, £25, £20, £15. Collection of Fruit, £10, £6, £3. For Grapes, £44. Collection of Vegetables, eight sorts, £5, £3, £2, £1. Schedules and full particulars from MESSRS. ADNITT & NAUNTON, Shrewsbury, Hon. Secs.
Royal Horticultural Society.
NOTICE.

FELLOWS are informed that they may obtain Volume VIII. of the Journal of the above Society, entitled, THE FROST REPORT, on the effects of the severe frosts on vegetation during the winters of 1879-80 and 1880-1, by the Rev. George Henslow, M.A., F.L.S., F.G.S., free of charge on application to the Secretary, Royal Horticultural Society, South Kensington, S.W.

New Picotee.
MRS. SHARP (Sharp). — Heavy-edged rosy scarlet, a grand addition to the class. First Class Certificate at Oxford, August 4th, 1885; and at Manchester, August 14th, 1886. Send for Catalogue, with full description and price.—ROBT. LORD, Florist, Todmorden.

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Choicest named exhibition varieties, my selection, 6s. per dozen. Liberal collections at 10s., 15s. and 20s. Carriage free for cash. Send for Catalogue.—ROBT. LORD, Florist, Todmorden.

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LAING'S BEGONIA TUBERS. Awarded Two Gold Medals. Free by post. Unqualified quality. Named singles from 12s. to 42s. per dozen; unnamed seedlings, selected to colour, for pots, from 12s. per dozen; bedding, selected to colour, 9s. per dozen; bedding, choicest mixed colours, 6s. per dozen. Choicest named doubles from 42s. per dozen; unnamed, very choice selected, 24s. and 30s. per dozen; choicest mixed, 18s. per dozen. Catalogue gratis—JOHN LAING & Co., The Nurseries, Forest Hill, S.E.

Next Week's Engagements.
MONDAY, April 4th.—Sale of 30,000 Bulbs of Lilium auratum at Stevens' Rooms.
TUESDAY, April 5th.—Sale of Imported and Established Orchids at Stevens' Rooms.
WEDNESDAY, April 6th.—Sale of Rare Imported and Established Orchids, and Greenhouse Plants from Ghent at Stevens' Rooms. Sale of Lilies, Tuberoses, Roses, &c., at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World. SATURDAY, APRIL 2, 1887.

THE FROST REPORT.—The eighth volume of the *Journal of the Royal Horticultural Society*, which has just been issued, contains the long anticipated report of the injury done to vegetation during the severe winters of 1879-80 and 1880-81. Notwithstanding the condensed nature of the matter, 65 pages are occupied by the introduction and 338 by the reports. These are by no means voluminous, although they are given as a record of the effects of the temperature, rainfall, aspect, or exposure and drainage of such a small area as Great Britain and Ireland, for the two winters mentioned.

Those who have been impatiently anticipating the report may rest satisfied with its fullness for the time specified; but the true value of a report of this nature, and which would constitute a most efficient guide to planters, would depend on the number of years during which the observations were made. Many of the plants killed or injured, as mentioned in the report, would be more or less damaged during ordinary winters, so that a series of observations, extending over many winters, is necessary, before such observations can be of any great value. Were such a series

of observations to be started, observers would be able to determine what plants were killed by the dampness of our winters, independent of frost; what were injured or destroyed by a winter of ordinary severity; and what (in the case of herbaceous and alpine plants especially) became defunct during winter through the agency of birds, mice and other animal pests. It must be patent to the most casual observer, that there is an annual mortality amongst plants of a tender kind, independent of severe winters. A series of observations would eliminate those plants from a general report, while, at the same time, determining those that succumb in exceptionally severe winters. The value of this would consist in showing what plants might reasonably be expected to give satisfaction for all ordinary winters, and give planters an opportunity of making a selection accordingly.

The introduction to the volume before us contains a short account of ten severe winters, extending from 1837-38 to 1880-81 inclusive. It treats also of the Distribution of Temperatures, the Grouping of Counties into Divisions, the Effect of Soils, Subterranean Frost, Delayed Evidence of Injuries, and the Ages at which Plants are most liable to suffer. The question of subterranean frost is one of great importance to planters, for its effects are but too apparent to those who have anything to do with the cultivation of tender plants out of doors, or even with those that, in ordinary every-day life, are reckoned hardy. Good instances of it have been observed during the past severe winter. Usually, the aerial parts of plants are the first to succumb; but during hard frost such things as newly-planted Roses or stocks are partly thrown out of the ground, and if alternate freezing and thawing ensues the denuded part (usually more tender than that ordinarily exposed) is subjected to great and trying extremes. Many plants suffer in this manner if the ground is bare during severe winters; while they are more likely to be injured above the snow line only, should the earth be protected with a mantle of snow.

The rest of the introduction is occupied by an index to the counties mentioned in the report, giving the pages on which information respecting the same will be found; and a very copious index of the names of plants referred to in the report is given in alphabetical order, together with the temperatures at which they were injured or not. The number of plants embraced, both species and garden or cultivated forms, is truly surprising, and will be useful for reference by those interested in statistics. Owing, moreover, to the condensed nature of the matter, most of it takes the form of statistics. A short index refers to a number of plants of either species, varieties or individuals in which different degrees of injury sustained have been recorded. This is a valuable feature of the report, and one that, if thoroughly investigated by numerous observers in different parts of the country, would be productive of much practical benefit to horticulture.

As already stated, the reports proper occupy 338 pages of the volume; and the idea originated with Mr. Elwes at a meeting of the Scientific Committee of the Royal Horticultural Society, held on March 8th, 1880. A sub-committee was appointed to collect information, and the report has been summarised and drawn up by the honorary secretary to the Scientific Committee. The counties of England, Scotland and Ireland are divided into districts for convenience of reference to any part of the country. The reports of the two severe winters are treated separately, but after the same method.

Middlesex and Yorkshire are treated separately, but in most or all other cases the counties are grouped. In some cases the infor-

mation communicated is meagre, but in other instances several correspondents write from different parts of the same county. This is, perhaps, unavoidable, owing to the greater or less interest taken in the subject by different people, and their enthusiasm for work of this nature.

Meteorological observations for the year are given at the commencement of the report for each division; and these consist of statements with regard to the general aspects of the season, the sunshine, rainfall, maximum and minimum temperatures, and the altitudes of the stations or localities at which the observations were made. The special reports commence by describing the general character of the soil in the respective localities, and then give the altitude and exposure of the latter, the rainfall, the minimum temperature and dates, together with a list of the plants injured. The fulness of the latter is noteworthy in some instances, while in other cases a list of the uninjured plants, which we might expect to find damaged, is notified. Altogether we are highly satisfied that the report has at last made its appearance, and hope it will form a prelude to more extended observation.

THE BOTANICAL COLLECTIONS OF THE LATE MR. THOMAS MOORE, of Chelsea, including his valuable herbarium of British and Exotic Ferns, have been acquired for the Royal Herbarium, Kew.

MR. H. HUMPHRYS, late foreman at Wildernes Park, Sevenoaks, has been engaged as gardener to A. Spicer, Esq., The Rookery, St. Mary Cray, Kent.

THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY'S exhibitions for the present year are fixed to be held on April 6th and 7th, July 13th, and September 7th and 8th.

At a meeting of the LIVERPOOL HORTICULTURAL ASSOCIATION held last week, Mr. R. Wilson Ker read a paper on the Rhododendron of an extremely interesting character, and which provoked a good discussion.

THE HAVANT CHRYSANTHEMUM SOCIETY'S fourth annual exhibition will be held on November 3rd and 4th.

THE LEWISHAM AND DISTRICT FLORAL SOCIETY'S grand summer exhibition and floral fête is announced to be held on July 20th and 21st.

THE death is recorded of GENERAL GREIG, President of the Imperial Horticultural Society of St. Petersburg.

MR. CHARLES LOUIS DE SMET, the well-known nurseryman of Ghent, died on March 16th at the age of seventy-five years. Mr. de Smet took an active interest for many years in all matters affecting the interests of the Belgian nursery trade, and was much respected by all who knew him.

THE death of another eminent Belgian horticulturist is also announced in the person of M. KICKX, director of the Ghent Botanic Garden and State School of Horticulture, and president of the Royal Botanic Society of Belgium. M. Kickx was an amiable and much respected gentleman, and we regret to say died on March 27th.

Messrs. James Carter & Co. have just published the fourth edition of their "LAWNS, LAWN TENNIS AND CRICKET GROUNDS," which contains, beyond matter of a purely trade character, much useful information on the making and maintenance of lawns, a subject of some interest at this particular time.

We are requested to state that Fellows of the ROYAL HORTICULTURAL SOCIETY can obtain Volume VIII. of the Journal of the Society, entitled, "The Frost Report," and dealing with the effects of the severe frosts on vegetation during the winters of 1879-80 and 1880-81, free of charge, on application to the Secretary, Royal Horticultural Society, South Kensington, S.W.

THE provisional committee appointed to consider the best means of carrying out a scheme for the benefit of the ORPHAN CHILDREN OF GARDENERS, met on the 25th of March, when Mr. G. Deal again presided. Mr. Deal placed before the members for discussion an admirable set of rules for working the Orphan Fund, the main lines of which will be decided upon at a meeting to be held at South Kensington on April 12th, and shortly afterwards made public.

ACCORDING to our contemporary, the *Academy*, Mr. Flinders Petrie is at present at Thebes taking casts of what may be called THE OLDEST BOTANICAL WORK IN THE WORLD, namely, the representations of foreign trees and plants brought to Egypt by Thotmas III., in the course of one of his Arabian campaigns, all of which are sculptured, with the minutest attention to botanical details, on the walls of a chamber in the great temple of Karnak. The plant or tree is in most instances given on a small scale, complete, with accompanying sculptures on a larger scale, showing the leaves, fruits and seed-pods precisely as in botanical works of the present day.

THE Board of Inland Revenue have just issued revised regulations governing the permission given by the Lords of the Treasury in 1886 for the EXPERIMENTAL CULTIVATION OF TOBACCO IN THE UNITED KINGDOM. Any occupier of land intending to plant Tobacco must, on or before the 5th prox., give notice to the Secretary of Inland Revenue, setting forth the extent of land to be planted, and the place, parish, and county where it is situated. After permission is granted a declaration must be signed by the grower to the effect that the revenue officers will at all times have access to the planted land, and to the rooms where the Tobacco will be dried. All Tobacco grown and gathered must be removed to a drying room, kept there until properly cured, and then packed in bags, bales or casks of an approved size. After the packages are weighed by a revenue officer the duty must be paid, or the Tobacco deposited in a Customs or Excise warehouse. The penalty for growing Tobacco without permission, except in small quantities for scientific or ornamental purposes, still remains in force.

SCILLAS.

A CORRESPONDENT, "M., Bournemouth," p. 442, seeks to know why these Scillas—and particularly *S. siberica*—are not more grown. It is of frequent occurrence that this or that writer laments so seldom meeting with "such and such a plant nowadays," and "cannot understand why it is not more largely grown," and "that it is deserving of more extended cultivation." Here, however, your correspondent goes a step farther, and actually asks "why" this is so? This, however, is a question very difficult to answer. It is certainly very hardy, and most lovely among spring-flowering bulbs; and it is gratifying to know that your correspondent in favoured Bournemouth has them "one mass of bloom by the end of February." Things are very different "round about town," and away north they may not see their flowers for a month to come yet. The lovely *Chionodoxa Lucilæ*—the greatest rival the Siberian Squill ever had, or, perhaps, will have—is only now (March 22nd) fairly through the ground; and not a very good time for it either, with 14 or 16 degrees of frost, and several inches of snow over their lovely blossoms.

The *Chionodoxa* has, no doubt, taken the place of the Scilla to a great extent, and that deservedly; for, without exception, it is the most glorious hardy early bulbous plant that has ever reached this country, and the lovely blue and white of its flowers have found hundreds of admirers and cultivators too. It is more popular than the Scilla in question, because earlier. The blooms are much larger, and expand to their fullest extent; while in the Squill they are inclined to campanulate. Lastly, the *Chionodoxa* is such a free seeder, the seedlings coming up more like spring Onions than the choice plant it really is. Truly has it been called the "Glory of the Snow!"

The experience of cultivators of hardy plants differ considerably, and certainly mine has been very adverse to that of your correspondent respecting this Scilla. In heavy and clayey soils I have known it to dwindle to nothing, and also to be nearly or quite demolished by slugs, which bore away at the bulbs while underground, but, of course, unobserved. Climatic changes and atmospheric conditions have much to do with these plants, and the best method to adopt is to grow in quantity that plant which seems most happy and at home under any given condition.

I am not in favour of growing this plant under glass, for no plant of my acquaintance more quickly relinquishes its lovely colouring—that intense Gentian blue—than this Scilla. While writing I have before me a few of its flowers, which have been cut several days, mingling with the pure white starry flowers of *Allium Neapolitanum*. It is a charming combination, and might well be added to the list of colours which "M" regards as suitable for harmonising with this Scilla. The latter, by the way, is destroyed by artificial light.—*E. Jenkins*.

FLORISTS' FLOWERS AT SWANLEY.

"COME and see" is the invitation, open to all, advertised by Messrs. H. Cannell & Son, of Swanley. Thither I wended my way ankle deep in snow in the inclement weather of Tuesday, March 15th, one of the most winterly days we have had this season. However, a great treat was in store for me, and I was fully compensated for my venture. What a striking contrast to the winterly weather was the glorious display of brilliant winter flowers which the various houses contained. Florist flowers find a home at this world-renowned establishment, and are a special feature. The houses are built expressly for their culture, and there are many of them, most of them being 100 ft. long, span-roofed, with walks in the centre, and stages at the side. They are well adapted for the purpose for which they were constructed, and ample proof of this is furnished by the grand examples of cultivation which they contain. Many a novelty of sterling merit has been distributed from these nurseries, and I believe there are many more to come.

THE BEGONIA HOUSE.

Winter-flowering Begonias, of which there are many distinct sorts, are here grown very extensively, and when seen as they are here just now, are objects of great beauty. They flower freely and last a long time, throwing a fine succession of flowers, from the purest white to the brightest red; and for decorative purposes and cut flowers are invaluable. Conspicuous amongst the many were *nitida alba*, *gigantea carnea*, *gigantea rosea*, *semperflorens*, and a foliage variety with good pink flowers named *Gloire de Sceaux*, the dark foliage being mottled, and very attractive. This house was very gay indeed.

CINERARIAS.

Two houses are just coming into perfection, one devoted to doubles of all the best named varieties; some fine seedlings also appear here. Although double Cinerarias are no favourites of mine, as seen here they are really grand; but give me the house of singles. Here are to be seen well-grown finely-flowered plants, beautifully arranged in all the glorious colour to be found in this class, well represented in fine, bold, rich, well-shaped blooms, many of which are over 2½ ins. in diameter—not the ragged flowers so often seen, but having good broad petals overlapping each other, and showing a very fine strain. Amongst the named varieties the following took my attention:—*March Past*, *Miss Cooper* (a good blue), and *Victory*, all of which are good distinct sorts.

CYCLAMEN.

These are well done here—splendidly grown and profusely flowered—and represented by all the well-known strains and varieties, including the *Gigantea* section, of which there are many fine varieties occupying another house, and constituting another most charming sight just now. That improvements have been made in the culture of the Cyclamen during the last few years is very evident by the splendid examples to be seen here.

PRIMULAS.

These are a grand feature, and many fine novelties have originated at Swanley. House after house is devoted to the culture of this world-renowned winter-flowering plant. What struck me was the evenness of their growth, and the freedom with which they were flowering. The Queen, a good white, is here to be seen in perfection. White Perfection is another grand variety, with Fern-like leaves and red petioles; very attractive, and a most profuse bloomer. Swanley Red, Swanley Blue, Emperor, and Queen of Stripes are all well represented in large quantities of well-grown plants, which show that great care is taken in saving the seed from none but the very best.

ZONAL PELARGONIUMS.

A glorious sight! Fine trusses of good bold flowers of all the conceivable colours now to be found are here to be seen in perfection. Nothing can be more showy than a house of these at this season of the year. What struck me as being worthy of attention were Mr. Cannell, crimson, white eye; Swanley Gem, good salmon; Meteor, reddish purple; Queen of the Belgians, a good pure white; Edith George, a bright pink; and Lady Chesterfield, a deep salmon. There are hundreds of trusses open, and the sight is charming.

CARNATIONS, GLOXINIAS AND CALCEOLARIAS.

Special attention is likewise devoted to the culture of these, and a grand display will shortly be seen. Amongst the former, just now shining most conspicuously, is the best yellow in cultivation—viz., *Pride of Penshurst*, a grand and useful florists' flower. Another that took my fancy was *Mrs. W. Bright*, a good bronzy yellow, of fine substance and good shape. A visit to these nurseries at any season of the year will always be found interesting to those who are fond of seeing flowers well done; for they are certainly to be found here in wonderful luxuriance, and in quantities to suit everybody in every station.—*Rusticus*.

PARAFFIN OIL

AS A PREVENTIVE AGAINST THE ATTACKS OF BIRDS, RATS, MICE, &c.

THE great season of seed sowing is now upon us, and with it all the cares and anxieties which are incidental to the ultimate success or failure of these operations. It is well known what terrible ravages birds, rats, mice and insects commit upon seeds and young seedlings. With what perseverance will the rats and mice when they discover Peas sown, search the rows from end to end, and often destroy the whole crop; and should the seeds escape, as soon as the young plants make their appearance above ground, they are subject to the attacks of birds, who are very fond of the young and tender shoots. How often do we find whole beds of the Brassica tribe disappear, destroyed by the birds as soon as the little cotyledons make their appearance, notwithstanding the precautions which may have been taken to net the beds. The sparrows and finches are almost sure to find a hole somewhere in which to creep and commence their depredations.

I might also mention other vegetables, such as Radishes, Turnips, and so forth, but those I have already enumerated are quite sufficient for my purpose, as the same remarks will apply to all. It is often a matter of deep consideration with us how best to guard against the attacks of these enemies who so relentlessly wage war against us. I have tried several things, but for all general purposes I find nothing to equal the judicious use of paraffin oil, both for large and small seeds, and also young seedlings. For large seeds such as Peas and Beans, in sowing, I mix say a pint of paraffin with water in the proportion of one-eighth of the former to seven-eighths of the latter. This is quite strong enough, and will do for several quarts of seeds. Put say a quart of Peas into a flower pot having a piece of rag or some other substance at the bottom, which will at the same time prevent the Peas from falling out, and ensure a quick drainage. Pour in sufficient to wet all the seeds, and after it has drained through, add sufficient very white sand or wood ashes to dry the seeds, and make them better to handle, and then sow. The same mixture can be used as long as it lasts, if precaution is taken to place the flower pot over something which will hold water.

For smaller seeds, such as Radishes, Cabbages and so forth, I find it best to syringe the bed immediately after sowing—and it answers quite as well. As soon as the young seedlings appear above ground syringe them very slightly, in the proportion of quarter of a pint of paraffin to four gallons of water, but as paraffin oil is of a much lighter nature than water, and will, therefore, not readily mix with it but swim on the top, great care must be taken to keep it well stirred. Draw out a syringe of the mixture and squirt it back hard into the waterpot two or three times before each syringe-ful which is sent over the seed-beds.

Paraffin oil carefully used upon all kinds of seeds and seedlings in the manner I have described, will not injure even the most tender. I have used it this year upon the early Peas and other seedlings which were attacked by the birds and mice as soon as they made their appearance, but since I syringed them with it, nothing has touched them. Two things must be well understood: the mixture must not contain too much paraffin, and it must be kept well stirred or the seedlings may possibly be injured. This method, which I have endeavoured to describe, is very simple, most economical, and what is more to the purpose, it is quite efficacious.—*Alfred Gaut, The Gardens, Copped Hall, Totteridge*. [Paraffin is a perfect insecticide, if used with care. It is more easily mixed with water, if milk or a little soft soap is added.—*Ed.*]

ORCHIDS AT SUDBURY HOUSE, HAMMERSMITH.

Go when one may, there is always something of interest to be seen in this noted and extensive collection, notwithstanding the fact that so many are grown simply for cut-flower purposes. What will probably strike the visitor most forcibly is the vast number of cool *Odontoglossums*, filling house after house of such species as *O. crispum*, *O. Pescatorei*, *O. gloriosum*, *O. cirrhosum*, and others. The range of variety in several of these would be extremely confusing to anyone attempting to limit a species by the size, shape and colour of the flowers. All of these points are almost limitless in *O. crispum*. The superiority of some varieties of *O. triumphans* was evidenced by a fine form we noted here the other day. The spotting was very intense on a rich yellow ground. *O. crispum Ruckerianum* was conspicuous by the spotting on the sepals and petals, margined with rosy purple. The rich and varied spotting in the forms of *O. Rossii* is a feature here in winter and spring, comprising the curious *O. R. virescens*. Many fine specimens of the beautiful transversely barred *O. Cervantesi* have flowered from time to time very attractively.

The species now scientifically relegated to *Miltonia*, namely *O. vexillarium*, *O. Roezlii* and *O. Phalænopsis*, are special favourites with Mr. Peacock, and exist in large numbers. The plants of the first-named occupy a broad stage along the front of a lean-to house near to the glass, and look a picture of vigour and health. Last year they produced some 800 spikes of bloom, and may confidently be expected to produce a much finer display in a few months. The latter two species are pushing into flower now, one of which, namely, *O. Phalænopsis*, is difficult of cultivation. A great number of plants of *Phalænopsis* in baskets make a fine display from time to time. The leaves of *P. Schilleriana* and *P. Stuartiana* speak to the treatment they receive, as many of them measure from 12 ins. to 17 ins. in length. These, as well as *P. amabilis* (*P. grandiflora*, Ldl.), are flowering just now, and show a considerable range of colour in different individuals.

In another house, *Oncidium Cavendishii* with its great rigid leaves was flowering conspicuously amongst a batch of *Cœlogyne flaccida*, whose pendulous racemes of flowers may be described as pretty, but the peculiar odour emitted by the flowers is not particularly sweet. Some *Cattleyas* were flowering in the *Cattleya* house, chiefly forms of *C. Trianae* and *C. Percivaliana*. The numerous fogs that prevail in the vicinity of the river are greatly detrimental to *Cattleya* flowers in winter. Occupying one end of this house, however, a magnificent display is formed by *Cymbidium eburneum*. The pots are arranged in lines, tier above tier, all occupied by plants in a most healthy free-flowering condition. Many of the scapes bear two flowers, one at some distance above the other, although ordinarily the flowers are solitary. The delicious odour exhaled by them permeates the whole house, and is perceived on entering the house, but becomes stronger as the group is approached. Various other Orchids are flowering in different places, such as *Dendrobium Findleyanum*, *Lycaste Skinneri*, *L. mesochlæna* and *Maxillaria venusta*, with its curious mealy or pasty labellum.—*J. F.*

PORTRAITS OF GARDEN PLANTS.

ADESMIA BALSAMICA.

About eighty species of *Adesmia* are known to science, but with the exception of the present, of which the figure was taken in the gardens of Sir George Macleay, Pendell Court, none worthy of cultivation seem to have been introduced. The golden yellow flowers are produced in great abundance, and the graceful foliage and slender ramifications of the stems and branches, combine to render it a handsome decorative conservatory plant. Claude Gay says its balsamic odour in its native habitats can be detected at a great distance.—*Botanical Magazine*, t. 6921.

STROBILANTHUS COLORATUS.

The tubular pale bluish purple flowers of this species are produced in terminal panicles, 6 ins. to 12 ins. in length; it is a native of Assam and the Eastern Himalayas, at an elevation of 2,000 ft. to 5,000 ft.; and under favourable conditions it attains a height of 10 ft. in its native home, but will flower in a much smaller state if grown in pots. The specimens figured were raised from seeds sent from Calcutta by Dr. King, and flowered at Kew.—*Botanical Magazine*, t. 6922.

THE AMATEURS' GARDEN.

VEGETABLES IN SEASON.—For green vegetables this month is, perhaps, one of the most trying, both to amateurs and professionals, especially in the neighbourhood of large towns, the smoke and falling soot of which have a very deleterious effect on these crops, and together with alternate freezing and thawing completely destroys them. Few have now any Brussels Sprouts, Savoys, or Cabbages left; but where these exist they will be much appreciated. Purple-sprouting Broccoli, Chou de Burghley, and Curled Greens, or Cottagers' Kale, will now be serviceable. The two former are extremely hardy, and where properly tried are very much esteemed at this season. The white Broccoli, where they were late and stood the winter, if not ready for cutting will soon be so. The Curled Greens and Cottagers' Kale are unknown in many gardens, but deserve more extensive cultivation for use during the spring months, when their delicacy and flavour is much improved. The latter variety especially is not very inviting to the eye on account of its colour and rough appearance; but the young sprouts and leaves, abundantly produced on the stems even in summer, prove acceptable to those who have given them a trial. The coarse leaves need not be used at any time, and those produced on old plants when growth recommences in spring are mild and delicate in flavour.

Turnips, where sown late, are still in excellent condition; and Leeks, where a proper supply was planted, will furnish an excellent and wholesome green vegetable to those who like them. The perfection to which these have been grown lately render a large breadth of them unnecessary. The various roots, such as Carrots, Beet, Parsnips; and tubers, such as Potatoes and Artichokes, will continue in good condition for some months to come—indeed, till a fresh supply can be obtained. Those who commenced early to force Potatoes will, towards the end of the month, get new ones; and those who were provident or economical enough to sow Carrots, Radishes, and Lettuce between the lines will by this time have some fit for use.

PLANTING.—Owing to the occurrence of a rather protracted snowstorm during the middle and latter end of March, outdoor operations of many kinds were brought to a standstill, consequently, planting and sowing had to be postponed till the ground became more workable. Much planting that might otherwise have been completed will have to be done in April. Vegetation is, moreover, not very far advanced, and accordingly plants suffer less from the operation than if in active growth. Where necessity requires it, fruit trees, such as Apples, Pears and bush fruits, may still be transplanted. This applies to young trees, which, however, cannot be expected to bear crops unless a favourable growing season ensues, because the mutilated or pruned roots have not had time to re-establish themselves, and draw fresh supplies. Gooseberries are now too far advanced, and should not be disturbed if it can be helped. Roses may safely be transplanted yet, but the operation will have the effect of retarding growth and the production of bloom. Evergreens, such as Laurels, Hollies, Aucubas and Evergreen Conifers, may be moved with safety and propriety, but care must be exercised, especially in the case of Conifers, not to allow the soil in which they are planted to become dry.

FORCING DEPARTMENT.—As a rule, amateurs do not lay stress upon the work that may be said to belong properly to this department, and in many cases no forcing whatever is done; but those who have the leisure and the means can, by a little judicious application to the art of gardening, add much to their pleasure and comfort. Regular forcing houses or pits are of great service and admit of being put to a great variety of purposes, according to the season; these need not be extensive, but in their absence the hot-bed may often well serve the purpose. Besides the forcing of Potatoes, Rhubarb, Sea Kale, Asparagus and such things, seeds may be sown in such warm places and brought into bearing much earlier than by the usual method. Seeds of Tomatoes, Cucumbers and Melons may still be sown, but those who put them in early will now have good-sized plants if they have been properly treated. Where it is intended to plant them out in a bed, no time should be lost in getting it done so as to keep them healthy and growing. Pot on those intended to be grown in pots, while those to be placed out of doors should be placed near the glass to prevent drawing and at the same time encourage them to grow slowly. Peas raised in boxes may be planted out in sheltered places if they have previously been thoroughly hardened off.—*F.*

SPRING FLOWER EXHIBITIONS.

THE leading nurseries, in the metropolis in particular, are just now popular places of resort for the *cognoscenti*, the magnetic attraction being the displays of the flowers of spring, which seem to become more prominent every year. Messrs. JAMES VEITCH & SONS' nursery at Chelsea claims our attention first on account of the extent of the display of floral wealth now to be found there. That the Orchid houses are a fertile source of attraction goes without saying, because there are always some good things to be seen in them, but for the moment bulbous plants command the field. The show house proper, redolent with the perfume of hundreds of Hyacinths, is especially worth visiting, all the leading kinds of Hyacinths being grandly represented, and in association with a great variety of other spring-flowering subjects, form an exhibition of the most pleasing character. The Amaryllis house is just now a sight to be seen and remembered. The firm are this year flowering more seedlings than ever, and have so far been rewarded with a greater variety of novelties in form and colour than has ever before fallen to their lot. The central bed of the large house, which contains over 1,000 flowering bulbs, presents a magnificent array of massive blooms, which should be seen by all who are interested in these easily-grown and free-flowering plants, and in connection with which it may be noted, as a sign of the times, that the demand for them is increasing day by day.

At the Victoria and Paradise Nurseries, Upper Holloway, Mr. B. S. WILLIAMS has also a very fine show of Hyacinths, Tulips, &c., which occupies the front and side stages of the large winter garden facing the main road. All the leading kinds of Dutch Bulbs are represented by admirably-grown examples, and the brightness of the colours seems to be greatly enhanced by the presence opposite of the sombre fronds of the noble tree Ferns, and the green foliage of other specimen fine-foliaged plants. Mr. Williams' admirable strains of Cyclamens and Cinerarias are also well represented in conjunction with Ghent Azaleas, Lilacs, Daffodils, Lily of the Valley, &c. But Mr. Williams has something else to show his visitors—such a host of Imantophyllums in bloom as can scarcely be matched in this country. On the central stage of the large span-roofed house which contains them, are some 200 massive heads of flowers standing above the deep green leaves of the plants, which forms a perfect setting to them. True though it is that we have not yet obtained a very wide range of colours in this grand genus, an inspection of the individual plants reveals the fact that there is much variation in the form of the flowers, and for garden purposes a pleasing amount of difference in the depth of the shades of the prevailing colour—orange-scarlet. The display is an unusually good one, and well worth a visit if there was nothing else to be seen. The Amaryllis house will be the next feature, and that shortly; for though at present somewhat late, there is abundant promise of a great head of bloom. In the plant houses generally everything seems to be springing into new life, and to a lover of nature the beauty and freshness of the young growths afford an infinite amount of pleasure. Many nice things are in bloom in the Orchid houses, but things generally are being kept quiet in this department in view of later requirements.

On Highgate Hill, the Messrs. CUTBUSH & SON have also been ably maintaining their well-earned reputation as growers of Hyacinths and other Dutch bulbs. Their two show houses are very gay, and during the past week have been a great source of gratification to the residents in the locality. Looking carefully through the collection, we noted nothing among the newer varieties particularly above the level of the best old sorts as regards Hyacinths; but in Tulips, Ophir d'Or, a comparatively new sort, proves to be a grand yellow companion to such high quality varieties as the rose-coloured Proserpine and the white Joost van Vondel. We must also add a word of praise for the Heaths and Epacris, which are well done by this firm. Erica Wilmoreana and E. melanthera were especially well bloomed, and, than the latter, few Heaths are more useful, as it continues such a long time in bloom. Staphylea colchica is also extensively forced, and is really invaluable for this purpose. The new Laurustinus hirta is also made the most of, as it proves a grand forcing plant, being got into bloom early with very little trouble. Its flowers are whiter than those of the common variety, and for cutting is well worthy of the attention of those with whom quantity and quality is a *sine qua non*.

THE CHINESE PRIMULA.

A LONG and admirably practical paper on this popular plant was read before a meeting of the Birmingham Gardeners' Society, on March 17th, by Mr. Horton, gardener to Richard Chamberlain, Esq., M.P., Edgbaston.

Referring to the early history of the Chinese Primula, allusion was made to its first introduction from Canton, in 1800, by Capt. Rowe, who found it as a cultivated plant in China, and to its being figured in the *Botanical Register* from a plant which bloomed in March, 1821, in the garden belonging to a lady at Bromley, in Kent; and several varieties must have then been in cultivation judging from the illustrations in this and other botanical works of the time. Mr. Horton went on to say that, "It is not necessary for me to minutely particularise the individual efforts which during the past twenty-five years have, by careful hybridisation and selection, enabled us to fill our greenhouses in the dull and most sunless period of the year with innumerable varieties of this most useful and beautiful plant. Some of the very best varieties in cultivation at the present day have been raised and grown for years in this locality, and from observations I have made in different parts of the country, coupled with the dimensions of flowers which have been sent to me as some of the very best from friends, I feel convinced that we in Birmingham can hold our own in fine sorts of Primulas." Especial reference was made to those very fine sorts, Emperor, The Queen, Princess Louise, Marquis of Lorne and others which have been raised in Birmingham.

In sowing the seed, Mr. Horton recommends quite clean well-drained pots or pans, with plenty of drainage and a layer of sphagnum over the drainage. A soil consisting of three-parts thoroughly decomposed cow manure, which has been well baked to destroy any insect life, and one part of sifted cocoa-nut fibre, and covering them with paper; then plunging the pots or pans to the rim in a bottom heat of from 65° to 70°, and as soon as the seed vegetates removing the paper. For pricking off four to five in a pot, the compost should consist of one part turfy loam, one part leaf-mould, one part silver sand, adding a little well-decomposed cow dung, the whole being rubbed through a fine sieve.

For the final potting in June or July, Mr. Horton uses the following compost, in proportions of turfy loam, one bushel; leaf-mould, half-bushel; marl, one-third-bushel, which for a long time has been exposed to frost and the action of the air; coarse gritty sand, one-third-bushel; a 6-in. pot-full of Clay's fertiliser, and the same quantity of powdered oyster shells; also a 48 pot-full each of soot and lime, and to these ingredients a 9-in. pot-full of roughly broken charcoal, well mixing the whole.

To have good plants in bloom in 7-in. or 8-in. pots in November, seed should be sown not later than January 10th, of the finest kinds previously mentioned.

Before re-potting, Mr. Horton takes care to thoroughly water every plant the day previous, so that the ball of soil when removed into a larger pot is in a good condition to undergo the operation. About the first week in June the plants are removed to a cold frame with a northern aspect, and upon a bed of coal ashes, giving the plants all the light and air possible, but avoiding draughts, syringing lightly about 4 p.m. on hot days, entirely closing the frame subsequently about an hour. Water all plants requiring it just before damping down, prevent the admission of a great quantity of air late in the day, and conserve the moisture supplied by the syringe. Shading is not adopted during the month of June if the plants are not visibly distressed by the omission, but with the exception of the brief period mentioned, keeping more or less air on day and night, being guided by the outside temperature. The final potting should take place about the middle of June, and it is most desirable that this should be done as soon as the pot the plant is in is fairly well filled with roots; a check in this respect immediately causes the flowers to appear and vigorous growth disappear. The soil for the final potting has already been alluded to. We have no space to give more than fragments of Mr. Horton's explicit paper, which deals with every point in Primula culture. We hear, however, that the society contemplates publishing, shortly, a few of the most practical papers which have been read by members, and Mr. Horton's paper will be amongst them, and will be welcome additional information to growers of the Primula.

THE QUEEN'S VISIT TO BIRMINGHAM.

THE nursery establishment of Mr. Hans Niemand, of Birmingham, received from the reception committee instructions to decorate the public buildings visited by her Majesty, as well as the portico and interior of the banquetting room at the council house, and in the whole over 5,000 plants were used, consisting chiefly of Palms, many of them of a large size, White Lilacs, Lily of the Valley, Clematis in flower, Azalea indica and mollis, in great variety, Staphylea colchica, Deutzias, Arums, Tulips, white and yellow Italian Hyacinths, Narcissi of sorts, in quantities, Marguerites, Spiræas, Erica ventricosa and Cavendishiana, Genistas, white variegated Funkias, choice Ferns, some hundreds of Isolepis, &c., &c.

The most beautiful oriental npholstery decorations in the Queen's luncheon room, specially fitted up in a very costly manner, necessitated careful decoration with graceful choice Palms, Ferns and flowering plants, chiefly of a white colour, with a quantity of Marechal Neil Roses. The splendid white marble mantle piece, erected specially for the day, was dressed in an artistic manner with Palms, Ferns and Clematis; some of the newer kinds, in flower, were trained up and over the mirror. The retiring and other rooms were duly ornamented by groups, as well as about the dais. Large banks of specimen Palms and flowering plants were arranged on either side of the chief entrance to the Town Hall.

In the immense pavilion, erected by Messrs. Edgington, of London, for the ceremony of laying the foundation stone of the new Law Courts by the Queen, several beautiful groups of plants were arranged in the reception room, the corridors leading to the platform and about it.

At the Council House, in the spacious banquetting room, the recesses were filled in with plants, and over the portico a large group of Deodar Cedars from 12 ft. to 15 ft. high were in the background, with huge specimen Latanias and smaller flowering plants in the foreground. In addition, the decoration of Mason's College was also entrusted to Hans Niemand, boxes being fitted up in the windows and filled with plants, and large floral designs were used for the upper windows. Mr. William Spinks, formerly of Chiswick, and floral manager of the Aston Lower Grounds, Birmingham, is the manager of Hans Niemand's Nursery, and he designed and superintended the whole of the plant decorations we have alluded to, and also designed and supplied the two magnificent bouquets presented to her Majesty and Princess Henry of Battenberg by the Mayoress.

Mr. Charles Winn contributed a superb lot of cut Orchids from his fine collection at Selly Oak, and these were placed in the luncheon room used by the royal party, and were greatly admired.

A large floral arch was entrusted to Messrs. Thompson, nurserymen and seedsmen of High Street, erected opposite their shop; it was large, with a central span and two smaller arches over the pathways, and was much admired; rustic wood and evergreens were used, and baskets of flowers thrown out. Mr. R. H. Vertigauss, Chad Valley Nurseries, presented a handsome bouquet to the Mayoress, and supplied another to the children of the Grammar School for presentation to her Majesty.

DOUBLE CHINESE PRIMULAS.

IN our issue for January 15th last, we described a series of very handsome double varieties of Primulas, grown by Messrs. Sutton & Sons of Reading, and the importance of which, to all lovers of these winter-flowering plants, can hardly be over-estimated, inasmuch as that they can all be raised annually from seeds, and, therefore, can be more easily obtained than those double-flowered sorts, which have to be increased by means of cuttings.

In the accompanying illustration our artist has depicted some half dozen varieties, which we cannot, unfortunately, print in colours; but which, even in black and white, show the different intensity of shades, and varying forms to be found among these most beautiful plants, which range from pure white as in Snowdrift, rosy blush as in Rosy Queen, to carmine, scarlet and blue. The plants are all of neat habit and free bloomers, and last in perfection for some time.

They take the fancy of all who see them, and well deserve the most flattering commendation that can be bestowed on them.

HEATING WITHOUT COST.

STARTLING as this heading may appear, it is nevertheless practically true. At Broadfield, Leyland, Preston, Mr. Stanning has an ingenious arrangement for heating the houses by using the waste steam from his works adjoining the garden. In a stokehole by the side of the boilers is a cylinder 4 ft. 6 ins. long, and 2 ft. 2 ins. diameter, containing a number of tubes connected with the flow and return pipes heating the houses. Into this cylinder steam is introduced by means of a small

the works to be condensed. The dozen or so powerful steam boilers are 150 yds. distant from this part of the garden; but how many yards the steam travels through the works, and the multifarious duties it performs before reaching the tank, it is difficult to say, for it appears that a journey of 100 yds. is of no consequence to it, providing the pipes are well packed. Any frames placed on the ground over the tank, or within a short distance, receive sufficient warmth to keep out frost, and in the summer, no doubt, advantage is taken of this underground heat for Melons and Cucumbers. The houses, which are four in number, are models of cleanliness, and Mr. Stanning evidently believes in paint, and, where practicable, the inside walls receive a coat or two. In the greenhouse are two large plants

I have seen for many a day, and the whole are in remarkable health and vigour. They are growing in span-roofed cases, about 3 ft. 6 ins. wide, and some of these reach from one side of the house to the other. The bottom of the cases are fitted with lead troughs 6 ins. deep, for the purpose of holding water, over which the plants stand.

Hardy fruit culture is a leading feature at Broadfield, and over 500 maiden Apples and pyramidal Pear trees were planted ten years ago, 9 ft. apart. Amongst Apples, Golden Spire, Ecklinville Seedling, Ringer, Grenadier and Pott's Seedling fruited the second year, and were followed a year or two later by York Pippin, Lord Derby and Cellini. The best and earliest fruiting Pears were Jargonelle, Beurré Bosc, Beurré d'Arenberg, Louis



DOUBLE VARIETIES OF PRIMULA SINENSIS.

pipe with stop-cock, which is only partially turned on. This heats the water in the tubes, and circulation takes place as in an ordinary boiler without any trouble or expense from Monday morning until Saturday afternoon beyond regulating the valves in the houses.

The temperature of the water in the tubes may be kept at an uniform degree during the twenty-four hours, as the works are going day and night. A safety valve regulates any excess of steam in the cylinder. The length of 4-in. piping heated will be about 600 ft., but six times that length can be heated if desired. On Saturday afternoon a fire is lighted under one of the boilers to heat the places over Sunday. In the boiler-house, connected with the same waste-steam pipe, is a horizontal engine for pumping water for the laundry and other purposes from an underground tank near by, specially constructed to receive all the waste steam from

of *Lapageria alba* and *rubra*, planted out in the centre bed, conducted up to the glass and trained along under the roof. The first-named had eighteen seed-pods. The front stage contained the usual class of soft-wooded plants, and in the stove adjoining I noticed a large plant of *Pandanus utilis*, *Microlepis hirta cristata*, several healthy plants of *Phaius grandifolius*, *Eucharis Amazonica* and *E. candida*. The latter, Mr. Kirkman, the gardener, stated, flowers more freely than its companion. The vinery is a mixed one, planted with Black Hamburgh, Foster's Seedling and Muscat Hamburgh on its own roots, as well as worked on Hamburgh and Foster's Seedling, which is considered a great improvement on Vines on their own roots, judging from the fruit they bore last year for the first time after being worked. The conservatory is a three-span ridged erection, and contains the best collection of filmy Ferns

Bonne and Brockworth Park. On the south and west walls Doyenné du Comice, Marie Louise, Jargonelle, double grafted, Williams' Bon Chrétien, Beurré Hardy, Beurré Bosc, Seckle, Duchesse d'Angouleme and Easter Beurré succeed very well.

This year Mr. Kirkman has cut down a certain number of Apple and Pear trees that have failed to give satisfaction, and these will be grafted with more reliable sorts. The top of the trees can be reached without a step ladder, so restricted is their growth by the operation of summer pinching and root pruning when necessary. This year they are all bristling with flower buds, and with suitable weather, heavy crops may be anticipated. I am fully convinced that if we wish to secure fine fruit we must proceed on the same lines as Mr. Stanning, and not permit the trees to grow as they please in the old fashioned way.—W. P. R.

NEW PLANTS CERTIFICATED

At the Crystal Palace, March 26th, 1887.

BROWNEA COCCINEA HYBRIDA.

A handsome specimen of this in a small pot was shown on Saturday last, and proved a great attraction to visitors. The long leafy branches drooped so considerably as to detract from the apparent height of the plant. The leathery pinnate leaves were of a deep green colour, excepting the young expanded ones, which were beautifully blotched with brown. The delicate rosy scarlet flowers were borne in a huge semi-globular truss, and owing to the central ones being unexpanded, resembled one huge flower. Exhibited by Mr. W. G. Head, Crystal Palace.

CYCLAMEN, ROYAL JUBILEE.

The habit of the whole plant was of a dwarf compact character, including the leaves, which were marbled with pale grey, and the purple peduncles. The petals were broad, and the whole flower of an intense crimson. Exhibited by Mr. J. Odell, Hillingdon.

TEA ROSE PRINCESS BEATRICE.

This is a Rose of small or medium size, and rather compact in the centre, with a few of the outer petals arranged loosely. On first expanding they are creamy yellow, shaded with pink, but after a time fade almost white. The pink tint would, probably, be more strongly developed if grown in the open air. The foliage, when young, at least, is neat, and more or less stained with red; the flowers, however, are not highly scented. Exhibited by Mr. Henry Bennett, Shepperton, Middlesex.

CINERARIAS.

STELLA AND BLUE BONNET were also Certificated at Regent's Park, and described on p. 474. ADMIRATION: The flower heads of this variety were large, with the upper half of the rays pale lilac-purple, while the lower half was white, constituting in the aggregate a broad white eye. MONARCH: The flower heads of this form are large, deep purple, and self coloured. DANTE: The flower heads in this instance are also large, deep rosy purple with a white eye, and rather attractive. All the above Cinerarias were exhibited by Mr. J. James, Farnham Royal, Slough.

GARDENING MISCELLANY.

Kitchen Gardening Made Easy.—The longer I live, the more I am convinced that we employ too much labour in all matters connected with kitchen-garden cropping. A number of years of experience here points to the fact conclusively, that everlasting digging is a delusion, particularly if £. s. d. is a consideration. To illustrate my meaning more clearly, I may take at random a portion of our garden, beginning with the quarter occupied with early Broccolis, consisting of Veitch's Giant, Autumn Protecting, etc. These useful inmates of our garden were all cut and cleared off by the 4th of January last; instead of manuring and digging the quarter, we marked it out in 4 ft. beds and 1 ft. alleys, the latter forming the trenches; we then threw out the trenches as if for Celery, but not so deep, manuring each one as the work proceeded. After digging in the manure, leaving the soil unbroken, we let it rest until the middle of February, when the action of the frost had pulverised the soil, making it like a bed of ashes. We then drew a shallow drill in the middle of each trench, where we sowed our second batch of Peas, utilising the top of each ridge by sowing Turnips, Carrots, Radishes and Spinach. It will be seen that we placed the manure exactly where it is wanted—viz., under the Peas; when they break the ground, we cover them entirely over with coal-ashes to keep away the slugs, and when sufficiently high we earth up nearly to the top of the ridge. It is a great mistake to think that frost hurts young Peas; the great drawback to early Peas is the cold surface-winds of March, and my Peas being sown in trenches, the wind blows right over them. Adjoining this quarter, we have our early Cabbages on a south border, the variety being Stuart and Mein's Early; they were sown on the 15th of July, and remarkably well they look, with no "bolters" at present. This crop will be all cleared by the middle of June, and the ground planted with early Brussels Sprouts (now up), without either being manured or dug? I may be asked the question, "When do you dig," and here is my answer: The

Sprouts being early, they are all cleared by January, when we not only dig deeply but manure heavily, and plant Wilson's Ashtop Potato the first week in April. Our early border of Peas, sown in November, are peeping through the ashes, and they will be staked in the course of a few days, which protects them very much. This crop comes off in July, when the land is cultivated with a tool called a cultivator, and sown with Spinach the first week in August for standing the winter.—*R. Gilbert, Burghley.*

Stiffia chrysantha.—When out of flower, and developing its curious fruits, this evergreen shrubby or arborescent composite possesses an equal or even greater amount of interest than when in full bloom. This and another species from St. Catherine's Island differ from their congeners in the great size of their flower-heads. The flowers are orange, but the long saffron-coloured shining pappus is a conspicuous object long after the flowers have faded and dropped away. It is one of the many curious and ornamental things grown in a warm conservatory by Mr. F. Ross, gardeur to Sir George Macleay, Pendell Court, Bletchingly.

The Giant Pera Cucumber.—Eureka! The Jubilee Year is to be one in the way of horticultural surprises, and one of the earliest to greet it is the above. Where it comes from nobody seems to know; but it is announced by a Transatlantic house as the "finest Cucumber for table use ever introduced." It grows from 18 ins. to 22 ins. in length, and the circumference 11 ins. "The green Cucumbers are fit to eat at any stage; the flesh is entirely white, very clear, peculiarly crisp, tender, and brittle, with very few seeds, and free from the obnoxious green Cucumber taste." Now is the time to make a fortune. Let John, Sandy, Pat, and Taffy join hands, and dance for joy at the advent of this illustrious stranger. Who will make the first bid for a ton of seed?—*R. D.*

The Snowdrops.—Since writing the article (p. 472), under the above heading, I have again fallen in with *Galanthus pucilliformis* in considerable quantity and in a truly wild state, thus corroborating what I pointed out regarding the origin of this pretty Snowdrop. I have also been fortunate in finding a few bulbs of the pink form of *G. nivalis*, the pink suffusion being almost analogous to that in the pink Lily of the Valley. It will, I consider, be a decided acquisition. By some mistake of mine I mentioned *G. nivalis virescens* as apart from *G. nivalis* Sharlocki. This should not be so, for they are one and the same. *G. nivalis* lutea is a little beauty that I had sent from Park House, by Mr. Allen; the flowers have a decided yellow tinge, or rather the green portions of the common Snowdrop are converted into yellow, and a suffusion of the same colour permeates the whole flowers.—*A. D. Webster, Llandegai.*

Weather in the Midlands.—Only yesterday, as I saw how the Crocuses were springing up after the disappearance of the snow, I thought How does Mr. William Ingram's beautiful spring gardens at Belvoir Castle fare this spring with so much frost and snow about? and lo! this morning (the 23rd) brought me a letter from him, in which he states: "Such a March I do not remember; we have had eleven days consecutive frost, amounting to a sum of 96° of cold. This morning (the 22nd) the ground was covered with snow; a change has come since, and we have sunshine and a temperature of 50°. Spring flowers will be late; Iris reticulata has only just opened, Anemone blanda has struggled through all the bad weather, and Chionodoxa is just showing." Now the matchless spring gardens at Belvoir is generally at its highest, or rather, interesting beauty about the middle of March; this season the period will come much later.—*R. D.*

Wiring Walls.—To obviate the serious amount of damage done to walls by nailing, many owners of gardens have had them wired, a system concerning which much has been said for and against. Many of our leading gardeners recommend the plan, and no doubt it has advantages, which in due time will lead to its general adoption. The method of wiring mainly followed now is to strain the wires along the courses of the brickwork, either close to the wall or a little way from it, and to tie the shoots of the trees to the wires in whatever fashion the trainer may most favour. The tying process takes up as much time as nailing, if not more, and to reduce this to a minimum, Mr. Ward (the raiser of the famous John Hopper Rose) has designed and patented a system of fixing studs to the

wires, to which the shoots can be secured by means of eyelleted shreds—work that can be done at a very quick rate. The studs can be fixed to the wires, in process of manufacture, at any distance apart, and of any strength, so as to meet all requirements. We have not seen the plan actually carried out on a wall, but it seems to be worthy of a trial. Messrs. Hammond & Ward, 112, Allan Road, Ipswich, are the manufacturers.

Propagating Dracæna. Goldieana.—The stem of this species is much smoother and harder than most others coming under the care of the cultivator, and, accordingly, most propagators find it much more difficult to root than the others. So much is this the case, that many prefer to ring it and tie wet moss, or a pot containing soil, round the stem, and root it into such before severing it. Mr. Hudson, Gunnersbury Park, however, succeeds perfectly by removing the top, without any preparation, and inserting it in sandy soil in a close propagating frame, where it roots, retaining the foliage down to the soil.

Sisyrinchium grandiflorum.—Flowering specimens of this fine hardy spring-flowering plant recently received from Scotland, and now planted on the new rockery at Devonhurst, show that even in the cold north nature is not so unkind as one is liable to imagine; indeed, before the recent snowstorm, outdoor vegetation was in a very advanced state, as was evidenced by Primroses and other things in full flower or growth from the same place.

Cyclamens.—About 1,000 plants are now blooming in a lean-to house in Mr. Henry Little's garden at The Barrons, Twickenham. The plants, which are healthy and vigorous, are carrying individually scores of large flowers of good substance, and the colour from the purest white to intense purplish crimson. The name of Mr. Little has long been associated with this popular flower, and perhaps no amateur has done more in the way of hybridising to bring it to such perfection than he has. In the same house, on stages by the back wall, are grand specimens of Pelargoniums, measuring from 3 ft. to 4 ft. across. Mrs. H. Little, Delicatum, Magueuta Gem, Mauve Queen, Princess Teck, Miss Little, and many others are in robust health, and showing well for bloom with short-jointed growths. As many as ten trusses have been counted on one growth in a season. It is interesting to note that the plants are grown quite cool, and have withstood on one or two occasions 2° or 3° of frost, and a cleaner or more healthy lot one could not wish to see. The best sorts of zonals are also grown in large specimens.—*G. W. C., Wallington.*

Orchid Peat.—Good peat is a great desideratum with all Orchids growers, but it is more often wanted than obtainable. A sample sent us by Messrs. W. Wood & Son, Wood Green, N., shows an amount of fibre rarely seen in peat of this class. It is dry, brown, and forms a perfect mass of slender-matted fibre, which, when broken up with the hand, will constitute with sphagnum and charcoal or crocks an excellent and lasting compost. We are informed that they have recently commenced cutting on a new estate, and if the peat proves equal to the sample sent to us, and the field is extensive, the prospect for Orchid growers is a good one.

Arborescent Polypody.—We are so accustomed to associate creeping stems and rhizomes with the numerous species of Polypodium, that it would seem to be the last thing possible for us to imagine or expect a species resembling a tree Fern. Nature, however, has no end of resources; and there are some species in New Zealand, with erect stems and tufted fronds, bearing the exact counterfeit appearance of a tree Fern, so that a close observer even is liable to be deceived. There are several specimens of *P. pennigerum* showing erect stems from 12 ins. to 18 ins. in height in the gardens of the Royal Horticultural Society, Chiswick.

A Transplanting Box.—An apparatus called the Patent Transplanting Box has been sent to us by Mr. C. B. S. Webb, Wellesley Place, Wellesley Road, Colchester. It is of simple yet novel construction, and is wider at the bottom than the top. The bottom is of sheet iron and removable, so that when seeds that have been sown in it are ready to be transplanted or transferred out of doors, all that is necessary is to prepare a trench, and holding the box in to remove the bottom, when the soil drops out bodily without disturbing the roots. These boxes are made of various sizes, and can be made to order. After the plants are

in the ground the box, minus its bottom, may be utilised to protect the former from sun or frost.

Phlox Drummondii grandiflora splendens.—This is one of the very best and showiest of summer bedding plants. If Mr. Ernst Benary had never introduced another novelty but this he would have earned the gratitude of all lovers of beauty in flowers. The flowers are of the richest blood-crimson, with a white star-like centre; a good grower, and marvelously free of bloom. To my mind there is no *Verbena* that can touch it; and unlike them, it never takes the mildew or becomes infested with thrip. Now is the time to sow. Be sure and ask for *grandiflora splendens*. Years ago, when first introduced to England, the Floral Committee of the Royal Horticultural Society looked askance at it, and I fear it never obtained what it richly deserved—a First Class Certificate of Merit. At that time this high award was freely made to *Verbenas* that were of questionable value, and rarely seen again the second time; but *Phlox Drummondii grandiflora splendens* will be grown for twenty years to come.—*R. D.*

Cotoneaster microphylla.—When grown against a wall we have noticed this ornamental Himalayan shrub adapt itself so readily to its surroundings, that it spread over the wall regularly without artificial training; it can also be grown in various positions and under varying circumstances, where its adaptability is remarkable. It is planted on the rockery at the Royal Horticultural Society's Gardens, Chiswick, with the view of covering some of the more prominent and projecting boulders that could not be covered by herbaceous plants or small-growing Alpines. The plants still continue to be covered with berries notwithstanding the severity of the winter.

Camellia reticulata.—A great variety of bloom is annually obtained from a large plant of this showy-flowered Chinese species, growing in a frame in the Royal Horticultural Society's garden at Chiswick. The frame was enlarged many years ago to accommodate it, and at present, and for years back, the shoots have been tied down to keep it away from the glass, and allow the flowers room to expand. The plant is of great age, and would by this time have attained considerable dimensions if allowed free scope for development. Apart from the distinctness of the foliage, the huge rosy flowers are very different from those of the common *C. japonica*. There is a figure of the former in the *Botanical Register*, t. 1078.

Streptocarpus polyanthus.—The solitary leaf of this plant, hugging the surface of the soil more or less closely, will always be an object of curiosity independent of the showy character of the flowers. When planted out as an edging in some conservatory border, the individual leaves appear as if some one had been arranging them for amusement. This illusion is dispelled, however, when the fine deep blue flowers with their small white eyes make their appearance in succession on a short cymosely branched scape. Numerous plants are now flowering freely in an intermediate house at Pendell Court.

Antholyza æthiopica bicolor.—By growing this plant indoors, greater earliness is secured, and the long delicate green foliage is preserved in all its freshness and beauty. The latter resembles that of the better known *Tritonia aurea*, whose beauty is unquestionable when in prime condition. The long curved tubular flower is scarlet and yellow in the lower part, with the long upper lip scarlet. Mr. Ross grows it very successfully in the conservatory at Pendell Court.

Hardenbergia Comptoniana.—The beauty of this free-flowering conservatory climber, apart from the handsome leathery evergreen leaves, is self-evident when it annually comes into bloom, and lasts in perfection for many weeks during spring and early summer. The flowers are a deep blue with a white eye, which gives them a very attractive appearance, and although small, they are so abundantly produced in racemes that the plant is profusely laden with them. It is now in excellent condition at Pendell Court.

Pink, Lord Lyon.—I think that as a good grower and a free bloomer, and also for the size and rich colour of the flowers, this stands at the head of the forcing Pinks. It was raised many years ago by the late Mr. James Clark, Bury St. Edmunds, and named by him after the Derby winner, Lord Lyon. It can be easily grown in pots and flowered under glass without giving

it any artificial heat; and being a strong grower, does well in the open ground. The best way to propagate it is by taking cuttings as soon as convenient after the plants have done flowering, putting these in pots of sandy soil, and striking them in a gentle bottom heat, or under a handlight in a cold frame. When rooted, they should be potted singly, and grown on as strong as possible, finally placing them in their blooming pots about October. The flowers are of a large size, excellent form, and of a rosy purple colour with dark blotches. It is one of those things that should find a place in every collection of choice hardy plants.—*R. D.*

Thysacanthus strictus.—*T. rutilans* is, probably, much more familiar to most gardeners than this species, with, however, a habit of an extremely different character. A specimen of *T. strictus* planted out in a stove at Pendell Court, where it is regarded as a fine thing in Mr. Ross' estimation, reaches the height of a tall man, and bears a profusion of tubular scarlet flowers in short stiff racemes all over the upper part of the plant. These racemes are erect, and certainly give the plant a very different aspect from *T. rutilans*, calling for recognition on its own merits.

Saxifraga ligulata.—Here is one of the very best of spring-flowering plants for a cold house. I have one large specimen in a 16-in. pot, with about a dozen strong shoots that are laden with fine bold spikes of flower just in their full beauty. The plant has been in the same pot for five years, and when it has gone out of bloom it is stood out in the open all the summer, and the pot placed in a pan of water, which saves a good deal of trouble in the way of watering, and prevents worms from getting into it. Without the necessity for employing anything in the way of artificial heat, this fine *Saxifraga* flowers early naturally; but under glass the blossoms do not take on so great a depth of colour as when growing in the open border.—*R. D.*

Bellicide.—That this new preparation for killing Daisies and other weeds is well answering its purpose is shown by the results of its application to the lawn at Oakley Court, Windsor. Mr. T. Lockie, the gardener, writes:—"I used it on Dandelions, Plantains, &c., on a thin mossy lawn during last autumn, taking advantage of showery weather, and simply sprinkled it over the Plantains, &c., doing it with thumb and finger, and in a few days they began to wither and gradually disappear. This day (March 28th) we have been sweeping and rolling the lawn, and I find that the weeds treated with Bellicide have quite disappeared, and the places where the weeds had been are being grown over with Moss and Grass. I must say that it answers remarkably well."—*R. D.*

Iris reticulata.—When grown under the protection of glass, this proves a highly satisfactory and popular subject for the decoration of greenhouse or conservatory, but when well flowered out of doors no spring flower can vie with it in neatness, depth and contrast of colours, combined with a delicious and delicate odour. A compact well-flowered clump of an intensely blue form, contrasting well with the orange spots and blotches, is now very attractive on the new rockery at Devonhurst.

Double Wallflower.—In the conservatory of the Royal Horticultural Society, at Chiswick, are numerous large specimens of the double yellow Wallflower in pots. Occasionally we see this plant in gardens, but owing to the necessity of preserving it by frequent propagation, it is liable to die out when planted outside and left to the mercy of the elements.

Asplenium marinum.—The fronds of this evergreen native Fern are so rigid and leathery in character, that they constitute the plant a subject highly suitable for the drying atmosphere of a sitting-room. When grown liberally in a moderately warm and moist heat, the fronds assume such dimensions, that the plant as ordinarily seen in a state of nature is hardly recognisable. Even there, however, in some instances the fronds elongate, and become pendent or arching, so as to lose their rigidity and present a graceful contour. When dusty they admit of washing without danger of destroying them, as happens in the case of the more delicate popular kinds. The Fern is also excellently suited for cultivation in Wardian cases. Mr. J. Addison, of Merton Lodge, Chiswick, grows this amongst the favourite British and half-hardy Ferns. The British Ferns, however, do not enjoy the prominence they deserve in many gardens, and especially those in or near towns.

ORCHID NOTES AND GLEANINGS.

The Orchid-growers' Calendar.—From henceforth, careful shading and ventilation, and careful and liberal watering, of all growing plants, and the giving of enough water to those not growing, are matters demanding special attention. In matters of watering, once the bright sunshine of spring is with us, it is much easier to do damage to the plants by giving too little water than it is by giving too much; indeed, if the plants are well potted and properly drained, it is not easy to overdo them with good rain-water while actively growing and rooting.

The *Calanthes* which are ready should be re-potted, and with respect to them, I cannot do better than refer your readers to the clever article on the subject which your correspondent, Mr. Blandford, commenced at p. 470 of your last issue, as it embodies the best information possible on the subject. The compost recommended by him for the *Calanthes*, may be adhered to with advantage for many of the terrestrial Orchids, such as *Phajus*, *Calanthes* of the *Veratrifolia* section, strong-growing *Zygopetalums*, &c., now ready to re-pot if the condition of their flower-spikes will admit of it. The same compost, too, would grow many of the strong-growing *Cypripediums* far better than the hungry stuff they are often potted in, and with the addition of a little more peat, the varieties of *Lycaste Skinneri* would take kindly to it, and may be re-potted as they go out of flower.

The varieties of *Lælia anceps*, *L. autumnalis*, *L. albida* may now be re-potted and placed in a light airy situation in an intermediate house. Dendrobes which require re-basketting or potting should be attended to, and for any plants requiring the same attention as to pots, blocks, or baskets, and which are in a fit condition of growth, no better time can be found to do the work. Artificial heat should be checked on all the houses as much as possible, very little indeed being required in the cold house.

THE TEMPERATURES FOR THE MONTH of April should be:—Warm or East Indian house, 65° to 70° by day, 60° at night; Cattleya or intermediate house, 60° to 65° by day, 55° at night; Cool or *Odontoglossum* house, 55° to 60° by day, 50° at night.—*James O'Brien*.

Cattleya intermedia Laingi.—Under this name we have received a very fine flower from Mr. J. Laing, of Forest Hill. It has the blush or pale rose sepals, petals and tube of the labellum of the type, but the broad flat front lobe of the lip is as fine in colour as *Lælia elegans Turneri*, and much reminds us of that species. A very large and well-marked form of *Odontoglossum Cervantesii decorum*, a richly coloured *Dendrobium crassinode Barberianum*, and an equally good *Dendrobium primulinum giganteum* with rosy lilac sepals and petals also accompany it, as samples of the many fine Orchids to be found in flower with Mr. Laing.

Three-lipped Dendrobium Wardianum.—Two very curious malformed flowers of this species have been sent us by Messrs. William Thomson & Sons, Clovenfords, Galashiels. One of them has three nearly perfect lips about the same size; the two abnormal ones are imbricated one over the edge of the other, and inserted on the column right and left of the normal lip. The column is rather broad at the base, but otherwise perfectly normal, and the whole flower is large and well coloured, including the three lips. The two lateral sepals of the other flower are connate to the tip, with a yellow line at their junction. Two lips rather below the average size are developed collaterally in place of the normal one; otherwise the flower is ordinary.

Cœlogyne cristata alba.—A specimen of the grand pure white variety of *C. cristata* (figured in Vol. II. of the *Orchid Album*), bearing 270 flowers, is just now a conspicuous object in Mr. R. H. Measures' collection at The Woodlands. A fine plant is also in bloom in Mr. H. M. Pollett's collection at Fernside, Bickley; the specimen bears eight spikes with six large blooms (as large as *C. maxima*) on a spike.

Dendrobium japonicum.—When indifferently grown, this small-flowering species is not very conspicuous or attractive alongside some of the more

popular large-flowering kinds. It would seem to flower at different seasons, but at present may be seen in fine condition at Homefield, Ealing, where Mr. J. Baird grows numerous specimens of it. The flowers are produced in considerable numbers along the pseudobulbs, and are pure white with the exception of a variable blotch on the labellum; while not the least of their characteristics is the delicious odour emanating from them.

Cœlogyne flaccida.—Although no match for the popular and useful *C. cristata*, this pretty *Cœlogyne* is decidedly worth a place in every collection. The intermediate house suits it admirably if potted in the usual compost of peat and sphagnum, in well-crooked pots or baskets, and well supplied with water during the growing season; the supply of water must be reduced as the pseudobulbs reach maturity; thus treated it grows and flowers freely. One of our plants in a basket bore upwards of twenty spikes of its pretty creamy white flowers, of which there were nearly 200. Suspended, with the flower spikes drooping over the sides of the pot or basket and among the foliage, a well-flowered plant is strikingly pretty.—*James S. Brown.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CLIMBING PLANTS.—Almost daily attention should now be given to plants of a trailing nature, as they are making a rapid growth, and speedily become an entangled mass, which cannot be separated without injuring the tender bine. Allamandas, if on a trellis, should have their growths trained upward, so that they may become ripened, or they will not flower satisfactorily. Likewise Stephanotis, but the last-named is so much more floriferous if trained on wires near the roof, that one now seldom meets with trellis plants in pots, unless where required for exhibiting. The old *Manettia bicolor* when carefully trained is a pretty object, though one that is seldom seen nowadays. It well repays any care bestowed upon it.

The trailing *Clerodendrons* make first-rate specimens, and being so amenable to spur treatment, after once a specimen is formed are but little trouble, but when growing must be kept regularly trained, or the wood becomes twisted, and then will not break freely the following spring, necessitating the training of young wood to replace that not well furnished with spurs. A specimen plant well grown will last for years, and flower profusely with simply laying in here and there a shoot to furnish foliage, which should then be pruned back at resting-time.

Ipomeas, too, are another class, but require regulating every morning to keep them in order, and if this is not done now, when flowering time comes it is of an uneven nature, from the bine not having been kept in proportion, thus utterly spoiling the effect produced by these free-flowering occupants of the stoves. Again, there are the *Tropæolums* (tricolor section), and to keep which in good order must absolutely be trained each day; their growth is so fragile that they will not bear much handling, so that whether trained on trellis or birch twigs, as is generally done, they must not be neglected, or perfect specimens are quite out of the question; they are, moreover, well deserving of all the attention bestowed, so ornamental are they when staged as raised specimens in the greenhouse or conservatory.

There are many more which might be enumerated, but these will be sufficient for the purpose to draw attention to the fact that all climbers at this season require an extra amount of care, so that their full beauty may be developed when the flowering period arrives. In trailing-foliage plants the advice is even more urgent, so that the young foliage, which should afford pleasure through the season, may not be damaged.

PRIMULAS.—Our first sowing of Primulas has not come so well as usual, so we have sowed again; there is yet good time to produce a good stock for autumn flowering, which is our object in sowing them early. For spring flowering sow much later, as the plants flower much more satisfactorily and there is no necessity to pinch out the first trusses, which, almost without exception, give by far the finest flowers and trusses. I will advise later on for the sowing to be made for the production of the stock for spring flowering, and to those who have not yet tried a late sowing, I would say, give it a trial.

THE FRUIT HOUSES.

LATE PEACH HOUSE.—By adopting the plan advised at p. 460, in the treatment of the late Peach house, we have obtained an abundant set of fruit, and the trees will, in a few days, be ready for disbudding. This is what we like to see—good stout growth at the time the trees are in flower, denoting full vigour. In the early house we have continued the tying-in of the growths, removing superfluous spurs as the main growths progress, and also thinning down any fruits where too thick or badly placed, delaying the final thinning down of the crop until stoning is completed.

In training in the wood avoid, as much as possible, the shading of the fruit; for unless thus early exposed it will never fully take on that intense colouring so much admired. Particularly is this necessary with regard to pale varieties, such as Barrington, Princess of Wales, and others of the Noblesse type. The *Mignonne*, *Bellegarde*, and *Royal George*, and such-like, as a rule, always colour well. The early Figs should now shortly commence their final swelling, and as soon as this is perceptible the most liberal treatment must be adopted. Half-measures in the forcing of this fruit only result in disappointment by the production of a second-rate crop. Manure-water must be given whenever watering is resorted to, giving a change upon each occasion. A temperature of 80° may be safely maintained, and the trees be kept heavily syringed, or red spider will be apt to make its appearance. Syringing must, of course, be discontinued before the fruit changes colour, or splitting will follow; and as it ripens less water should be applied at the roots.

THE KITCHEN GARDEN.

SALADS.—Special preparations should now be made and every care be devoted to the production of a good salad; the supply of Chicory roots should be looked over and any faulty ones removed, re-stacking the remainder; according to demand so introduce the roots to the Mushroom house, to keep up a constant supply of tender heads, which are most useful in the making up of a full salad. Fortunately, we have a skeleton pit of All the Year Round Lettuce, which are growing freely and will come in most useful used in conjunction with Chicory. Radishes, too, are nearly fit for drawing, and with Celery and small salading we consider ourselves very well off.

SEED SOWING.—We have sown the seeds enumerated in last week's calendar, with the exception of the Peas, which we hope to put in within a day or two. The easterly winds have played sad havoc with recently planted crops, such as Tripoli Onions and Cabbage; the beds have been looked over and blanks made good. The weather having become so much milder we have planted out the autumn-sown Cauliflower in a warm situation, and in case of severe weather we shall give protection by placing Laurel and Spruce boughs amongst them. We have pricked out spring-sown Cauliflower, Brussels Sprouts, Lettuce and Snow's Broccoli which was sown inside.

We are also giving a good rolling to all the turf, especially to the verges, preparatory to edging and putting all into trim. We hope to sow during this week such annuals as Candytuft, *Eschscholtzia* and *Mignonette*, which, as a rule, can never be had in flower sufficiently early.—*Walter Child, Croome Court.*

FLORICULTURE.

ALPINE AURICULAS WITH GOLD CENTRES.—I may say, at the outset, their name is legion; and I suppose I shall be quite within bounds when I state that of every dozen seedlings raised every year by Mr. C. Turner, at Slough, ten, at least, have gold, and two only white centres; but we have grand golden-centred flowers allied to finely-shaded margins. In London, it will be remembered that at the April exhibition of the National Auricula Society Alpine Auriculas were divided into two classes—white centres and golden centres. I am afraid I omitted to state, in my last paper, that it would be very difficult, if not impossible, to have a white-centered Alpine Auricula with a self-coloured margin. I am not sure if seedlings come in this way; but all the named Alpine Auriculas I know with white centres have shaded margins. At the exhibition in London flowers with self-margins are admitted to competition; but at Manchester, at the exhibition of the Northern Section of the National

Auricula Society, unshaded flowers are not admitted, and shaded varieties only can compete. The northern florists are very strict on this point, and term all unshaded Alpine Auriculas nondescripts.

Let me first of all name a few good golden-centred Alpines with shaded margins—by shaded I mean a dark shade at the base of the margin, paling off into a lighter tint. In the case of some of Mr. C. Turner's new seedlings, the two colours have the dividing line between them sharply defined, like they are in the case of the laced Alpines. Here then are a few good shaded flowers, viz., *Amelia Hartridge*, gold centre, maroon-crimson, shading to reddish crimson; *Diadem*, maroon and cerise-crimson—a lovely variety when in good form, and one that has not only proved very useful as a parent, but it opens lemon, and changes to a dull cream tint, which gives it a dead appearance; *King of the Belgians*, extra fine, a splendid circular pip, deep gold centre, maroon and bright crimson, one of the best; *Mariner*, large pips, good golden centre, maroon and dullish cerise-crimson; *Mr. Dodwell*, a pretty maroon and pale crimson flower that opens with a sulphur centre, and changes to cream, yet an attractive flower. *Mrs. Ball*, bright lemon centre, dark ground shaded with rich crimson, a beautiful variety, and one that deserves to find a place in every collection; *Mrs. Llewellyn*, dark shaded with violet, good pale golden centre, a very pleasing and well-shaped flower; *Mrs. Phipps*, dark ground shaded with pale violet-purple, good centre, extra fine; *Sensation*, a bright and striking flower, sufficiently shaded to admit of its being shown as such—when well caught, very attractive; *Vesuvius*, crimson shading to purple, fine and striking; and *Unique*, one of the very best, rich golden centre, dark shaded to a reddish cinnamon; extra fine exhibition variety.

Of self-margined flowers there are *Colonel Scott*, *Fred. Copeland*, *John Ball* (extra fine), *Mercury*, *Mrs. Thompson*, *Napoleon III*, *Phoenix*, *Spangle*, *Sydney*, *Thomas Moore*, and *William Braggs*, a good useful lot.

I think it is very easy to over-pot Alpine Auriculas, and I found that at Slough a good many of them are grown in small pots. They do not appear to require a great deal of pot-room, and it is surprising to see what fine pips are produced on plants that look as if they were starved in under-sized pots. They should have a free lightish compost, made up of good loam, leaf-soil, well-decomposed manure, and a little sand to keep it open. *John Ball*, Mr. Turner's grower at Slough, states that they like a little peat, and, therefore, he puts some in the compost with which he pots them. Anyone desirous of seeing Alpine Auriculas in all their beauty should visit the Royal Nursery at Slough between the 11th and the 30th of April.—*R. D.*

HORTICULTURAL SOCIETIES.

Crystal Palace.—*March 26th.*—The exhibition of spring flowers took place in the Palace, at Sydenham, on Saturday last, when in addition to those prizes offered in the schedule, a number were awarded for extensive miscellaneous collections of Narcissi, Cyclamen, Orchids, Roses, and groups of mixed plants. Certificates were awarded for several new plants, chiefly florists' flowers, and described in another column. In the open classes, Mr. H. R. Wright, Turner Road, Lee, Kent, was first for both Hyacinths and Tulips; while Messrs. H. Williams & Sons, Fortis Green, East Finchley, were second in those classes, but first for Narcissus and Lily of the Valley. Mr. J. Odell, Gould's Green, Hillingdon, received the first award for a group of Cyclamen; Messrs. Paul & Son, The Old Nurseries, Cheshunt, Herts, first for Anaryllis; Mr. J. James, Woodside, Farnham Royal, first for Cinerarias; Mr. Henry James, Castle Nursery, West Norwood, first for a group of stove and greenhouse flowering and foliage plants; Mr. R. Wells, Longton Nursery, Wells Road, Sydenham, first for greenhouse Azaleas. In the amateurs' classes, Mr. J. Wiggins, gardener to W. Clay, Esq., Kingston-on-Thames, obtained the first prize for Cyclamen; Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham, for Cinerarias; and Mr. A. Luff, gardener to R. R. Hyatt, Esq., Hethersett, Streatham, for Lily of the Valley. An extra prize was awarded to Messrs. Barr & Son for a large group of Narcissi, supplemented by other spring flowers, such as *Iris reticulata*, *Anemones*, *Chionodoxa*, and *Galanthus Elwesii*. Messrs. John Laing & Co., Forest Hill, received an extra prize for a fine group of Orchids, consisting of *Cattleyas*, *Dendrobiums*, *Lælias*, *Odontoglossums*, and others. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a group of Narcissi, with *Anemones*, *Chionodoxa Luciliae*, *Freesia refracta alba*, varieties of *Iris reticulata*, *Korolkowia Sewerzowi*, and other spring flowers, for which he received an extra prize. Messrs. H. Williams

& Sons were awarded a prize for a rather novel but mixed group of various spring flowers. Prizes for groups of Cyclamen were given to Messrs. J. Wiggins, J. Odell, and the St. George's Nursery Co., Hanwell. Mr. H. R. Wright received an award for a mixed group of Hyacinths, Tulips, Hoteias, Odontoglossums, and others. Collections of Roses in pots were exhibited by Messrs. Paul & Son, Cheshunt, and Mr. W. Rumsey, Joynings Nursery, Waltham Cross, and were awarded extra prizes, as also were Messrs. J. Cheal & Sons, Crawley, for a fine collection of Apples.

Birmingham Horticultural.—*March 30th.*—The seventh annual exhibition of this society, by the kind permission of the Mayor, Sir Thos. Martineau, was held in the Town Hall, Birmingham, on Wednesday last. Orchids and Hyacinths were exhibited in much larger numbers than are usually seen here; and the Azaleas, Cyclamens and Roses were well done. The spacious Town Hall was well filled, and the show, as usual, was arranged under the supervision of the committee and their energetic secretary, Mr. J. Hughes.

For eighteen Hyacinths, in pots, H. Payton, Esq. (Mr. G. T. Blake, gardener), was first, his specimens of King of the Blues, La Grandesse and Grand Maitre being especially fine; second, A. W. Wills, Esq. (Mr. J. Morgan, gardener), whose Haydn, Macaulay and Marchioness of Lorne were excellent examples of good cultivation; third, The Right Hon. J. Chamberlain (Mr. E. Cooper, gardener). For twelve Hyacinths, The Right Hon. J. Chamberlain secured the first prize with a very good dozen; and W. Milward, Esq. (Mr. J. Crook, gardener), was second. In the class for six Hyacinths, C. Showell, Esq. (Mr. F. Cooper, gardener), came in first; and for six pots of single Tulips, W. Milward, Esq., again came to the front with fine specimens of Keizer Kroon, Vermilion Brilliant and Fabiola; second, W. Matthews, Esq.; third, C. Showell, Esq. For six double Tulips, the Right Hon. J. Chamberlain came in first, as also for six pots of Lily of the Valley; and for six *Spiræa japonica* in pots, the highest award went to C. Showell, Esq.; the Right Hon. J. Chamberlain being second; and Mrs. Marigold third; while an extra prize was awarded to W. Matthews, Esq. With an extra half-dozen well-flowered Azaleas, W. Milward, Esq. came in first; and Mrs. Marigold secured leading honours for six *Dielytra spectabilis*. The best three Azaleas came from W. Milward, Esq.; and the best specimen Azalea from Mrs. Grice. The Right Hon. J. Chamberlain's gardener also won first prizes for six Cinerarias, six Roses in pots, six Cyclamens, three Roses in pots and three Azalea mollis; and with three *Deutzia gracilis*, Mrs. Grice came in first.

For six Orchids, C. Winn, Esq., Selly Oak (Mr. G. Barnes, gardener), was first, showing a very fine half-dozen, which included a plant of *Cymbidium eburneum*, with ten fine flowers, an extra fine variety of *Cattleya Trianae* with large and high-coloured labellum; a fine pair of *Calanthe Regnierii*, a fine *Dendrobium crassinode*, &c.; second, A. W. Wills, Esq. (Mr. J. Morgan, gardener), with *Dendrobium Wardianum*, *Oncidium Marshallianum* and *Cypripedium laevigatum* as the most noticeable examples. For three Ferns Mr. W. Matthews came in first with *Nephrolepis davallioides* and two fine *Gleichenias*. With three Palms the Rt. Hon. J. Chamberlain again came to the front, as he did also in the class for three stove or greenhouse plants in flower. W. Milward, Esq., was deservedly awarded the premier position for twelve and six Auriculas and six Alpines. For a vase or epergne of flowers, Miss E. Cooper took the first prize with a light and graceful arrangement, and H. Weiss, Esq., showed the best ball-room and bridal bouquets. The special prize offered by Messrs. R. Smith & Co., Worcester, for six table plants, was won by the Rt. Hon. J. Chamberlain; and Mr. J. B. Thompson's special prize for eighteen Hyacinths, distinct, went to A. W. Wills, Esq.

Very fine groups of Orchids were staged by C. Winn, Esq., A. W. Wills, Esq., and the Right Hon. J. Chamberlain, not for competition. The former had several fine *Odontoglossums*, especially a densely blotched variety of crispum, named *guttatum*; six fine forms of *Cattleya Trianae*, *Dendrobiums*, *Oncidiums*, &c. In the latter group *Dendrobium nobile* and *thrysisiflorum*, *Cymbidium eburneum*, *Cypripedium laevigatum* and *niveum*, were fine examples of good culture. Mr. Wills' group was tastefully arranged with Palms and Ferns. Messrs. J. Pope & Sons, nurserymen, King's Norton, also exhibited a fine bank of *Cattleyas* and *Odontoglossums* not for competition. Mr. Thomson, nurseryman, Birmingham, was awarded Special Certificates of Merit for fifty fine Hyacinths in pots, which included all the leading varieties grown for exhibition; about the same number of Tulips in pots, a quantity of *Cyclamen persicum*, well varied in colour with extra large flowers; also a well-arranged group of miscellaneous plants in flower and foliage. Hans Niemand, Royal Nurseries, Harborne, had a very effective display of flowering and foliage plants. The Clematis and Japanese Maples intermixed with Azalea mollis, Narcissus, Lily of the Valley, Palms and Ferns well deserved the certificate awarded for them. Mr. R. H. Vertegans, Chad Valley Nursery, Harborne, exhibited some lovely wreaths and crosses, which received the highest award from the judges.

Messrs. Wright & Holmes, Moseley Road, Birmingham,

exhibited several of their well-known garden frames, hand-lights, &c.; and Messrs. Wood & Son, Wood Green, London, showed samples of their excellent Orchid peat, together with a good assortment of garden sundries. The judges were Mr. Owen Thomas, Chatsworth, and Mr. Wm. Dean, Walsall.

LAW NOTES.

LITTLE & BALLANTINE v. THE EDINBURGH INTERNATIONAL EXHIBITION ASSOCIATION.—In this action, which was tried in Edinburgh on March 21st, before Lord Fraser, the pursuers, seed merchants, Carlisle, sued the Edinburgh International Exhibition Association for £100 18s. 6d. In February, 1886, on the invitation of the defenders, the pursuers forwarded to the exhibition a number of valuable coniferous trees, shrubs and plants to form an exhibition at, as well as to adorn the grounds of, the exhibition. The plants were received at the exhibition, and planted in a portion of the grounds. In September, 1886, in order to make room for the carrying out of the Highland games, the defenders, it was stated, removed a large number of the pursuers' exhibits, and erected over the others a large wooden platform, the result being that the greater portion of the exhibits were injured or destroyed. The defenders stated that they had the permission of the pursuers' representative to remove the plants, and that he consented to the rest of them remaining in their original position. They admit that a few of the plants were accidentally broken in the course of the construction of the platform, and offer to pay the pursuers £7 7s., and expenses in full of all claims.

His Lordship to-day gave decree for £46 2s. 4d., with expenses, holding that the defenders had neglected to take proper care of the plants while under their care.—*Scotsman.*

Obituary.

With much regret we record the death, on Saturday morning last, of Mr. JOHN MCHUTCHEON, who from about the year 1844 to the autumn of 1868 was sub-editor of *The Gardeners' Chronicle*, and subsequently held a similarly responsible position on the staff of *The Garden* from its commencement in November, 1871, until his death. Mr. McHutcheon was a native of Ayrshire, and had a fair amount of practical experience in the best gardens in the south of Scotland, before he went to Chiswick about 1842 or 1843, where he was employed when selected by Dr. Lindley to succeed Mr. William Masters, his first editorial assistant. Mr. McHutcheon had been in feeble health for a long time, and literally died in harness.

WE regret to record the death on Wednesday morning of Mr. E. MCMORLAND, The Larches, Orpington, aged 69 years. About a quarter of a century ago, Mr. McMorland resided at Haverstock Hill, and possessed one of the best collections of Orchids then to be found near to the metropolis, and which subsequently passed into the hands of Messrs. James Veitch & Sons. *Cattleya Mossiæ McMorlandii* was named in his honour.

Died, at Cheam, on March 25th, Mrs. SUSANNAH FALCONER, aged 92 years. Mrs. Falconer was the widow of Mr. James Falconer, who died in 1868, after 33 years service as gardener at Nonsuch Park. He was a subscriber of one guinea per annum to the Gardeners' Benevolent Institution, and for a time was a member of the committee of management. At his death his widow was placed on the pension list without the trouble of an election, at the age of 63 years. She had thus been on the list for 29 years, and had received the sum of £356.

QUESTIONS & ANSWERS.

ORCHIDS.—*Amateur:* The cool Orchids you mention may all be kept in the same house, and treated similarly. They should never be allowed to become dry even in winter, although they require less water than in summer. Look them over every day or every second day, and see that they do not get dry. The temperature may vary from 45° to 50° Fahr. in winter, but not allowed to fall below 45° even at night. *Dendrobiums* require a temperature of 60° to 65° in winter, with a rise in summer. The temperature may now be allowed to run above this with sun heat during the day. Rest *Dendrobiums* after they have gradually and thoroughly matured their stems in autumn, when the leaves will fall off. A mixture that will suit a great many of the epiphytic Orchids should consist of about

equal parts of good fibrous peat and sphagnum, with a good admixture of crocks, charcoal (if obtainable), and sand. *Lycaste Skinneri* is benefited by some fibrous loam being mixed with the compost. See p. 491.

RHODANTHE.—*A. K.:* You may sow seeds of this annual in their flowering pots at once, or in boxes and pans to be pricked out afterwards. By pursuing the latter method, however, the seeds can be put in a soil suitable for germination, and afterwards transplanted into one that is richer; the seeds, moreover, germinate readily in any ordinary soil, and you may try either method to see which succeeds best under your treatment.

LILIAM HARRISII.—*A. K.:* After cutting the flowers, put the pots containing the bulbs in a cool house with plenty of light and air; water them occasionally till they show signs of going to rest, when you should gradually withhold water to ripen them.

MEALY BUG.—*Subscriber:* If your plants are large and valuable specimens we would not advise throwing them away. You must, however, deal with them vigorously, removing them outside the houses, even outside the potting shed. Shake away all the soil carefully and thoroughly syringe the plants with tobacco water three times a week for a fortnight, after which you may pot them up and place in a house not occupied by Orchids, where you may keep them under your eye till it is certain they are clean. The eggs hatch quickly, so that your main point is to kill or destroy all insects as they appear till the whole are eradicated.

NAMES OF PLANTS.—*D. N.:* *Dendrobium fimbriatum oculatum*, and *Phaius grandifolius* (dark-lipped var.). *J. S.:* 1, *Pittosporum Tobira*; 2, *Cryptomeria japonica*; 3, *Benthamia fragifera*. *W. C.:* *Dendrobium aggregatum*, and *Mitraria cocinea*. *B. D. K.:* *Oncidium luridum* (pale var.).

COMMUNICATIONS RECEIVED.—*H. D.—J. S.—D. P. L.—E. F. K.* (many thanks, next number)—*D. T.—W. I., junr.—C. Penny—H. J.—E. D.—M. B.—E. W. R.—W. D.—J. R. P.—F. C.—W. P.*

TRADE CATALOGUE RECEIVED.

BENJAMIN FIELD, 75a, Queen Victoria Street, E.C., and Swan Place, Old Kent Road, S.E.—Horticultural Sundries of every description.

LONDON SEED TRADE.

March 30th.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report an increased sowing demand for Clover and Grass Seeds, prices remain low, supplies of all varieties being good. Tares meet a steady sale at unchanged rates. Bird Seeds and Blue Peas move off slowly at prices current last week.

COVENT GARDEN MARKET.

March 31st.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	2	0	5	Pine-apples, St.	
Grapes.....per lb.	3	0	8	Michaels, each	1 6 6 0
Kent Cobbs..100 lbs.	60	0		Pine-apples, Eng., lb.	1 0 1 6
				Strawberries, per lb.	6 0 12 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3 0 5 0
Beans, French, per lb.	2	0	2	Lettuces ..per dozen	1 6
Beet, per dozen.....	2	0	3	Mushrooms, p. basket	1 0 2 0
Brussel Sprouts, per lb.	0	3		Onions, per bushel ..	4 0 5 0
Cabbages....per doz.	2	0	2	Parsley, per bunch ..	0 6
Carrots, per bunch ..	0	6		Radishes, per dozen..	1 6
Cauliflowers, English,				Sea Kale ..per basket	1 6 2 6
per dozen	3	0	5	Small salading, punnet	0 4
Celery, per bundle ..	2	0	2	Spinach, per strike ..	2 0
Cucumbers, each	0	6	1	Tomatos, per lb.	2 0 3 6
Endive, French, doz.	2	6	3	Turnips.... per bun.	0 6
Herbs, per bunch....	0	2	0		

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	3	0	5	Marguerites, 12 bun...	3 0 6 0
Azalea, 12 sprays	0	6	1	Mignonette, 12 bun...	4 0 6 0
Bouvardias, per bun.	1	0	1	Parma Violets(French),	
Camellias..12 blooms	2	0	4	per bunch	2 0 3 6
Carnations, 12 blooms	1	0	3	Pelargoniums, scarlet	
Cut Tulips, 12 blooms	0	9	1	12 sprays....	0 6 1 0
Czar Violets (French),				Primula, double, bnn.	0 9 1 6
per bunch 1 6 2 0				— single 12 bun.	4 0 6 0
Daffodils ..12 blooms	0	6	1	Roses (coloured)	3 0 6 0
— single..12 bunches	6	0	9	Roses, Tea per dozen	1 6 4 0
Epiphyllum, 12 blms.	0	6	1	Roses, red (French),	
Eucharis, per dozen..	3	0	6	per doz. 1 6 2 0	
Gardenias, 12 blooms.	3	0	5	— Safrano (French),	
Heliotropes, 12 sprays	0	6	1	per doz. 1 0 2 0	
Lapageria, red, 12 blms.	1	0	2	Tropæolums	1 0 2 0
Lapageria, white,				Tuberose, per dozen.	2 0 4 0
12 blooms 2 0 4 0				Violets ..12 bunches	0 6 1 0
Lilies of the Valley				White Jasmine, bun.	0 6 0 9
12 sprays 0 6 1 0				Xmas. Roses, 12 blooms	0 4 0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	Ficus elastica, each..	1 6 7 6
Arum Lilies, per doz.	18	0	24	Foliage Plants, vari-	
Cyperus, per dozen ..	4	0	12	ous, each.....	2 0 10 6
Daffodils 12 pots	8	0	10	Hyacinths, per doz. pts.	6 0 9 0
Dracæna term., doz.	30	0	60	Lily of the Valley,	
— viridis, per dozen	1	0	24	12 pots 12 0 24 0	
Epiphyllums, per doz.	18	0	30	Marguerites, per doz.	6 0 12 0
Erica hyemalis...doz.	12	0	24	Palms in variety, each	2 6 21 0
— Regerminans...doz.	9	0	12	Pelargoniums, scarlet,	
— various ..per doz.	8	0	24	per dozen	6 0 9 0
Evergreens, in var.,				Primula sinensis, p. dz.	4 0 6 0
per dozen	6	0	24	Solanums....per doz.	9 0 12 0
Ferns, in var., do ..	4	0	18	Tulips ..per doz. pots	6 0 8 0

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Anti-Dyspeptic Cocoa or Chocolate Powder.
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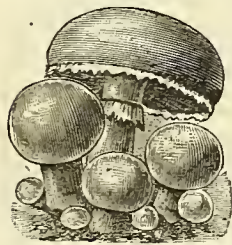
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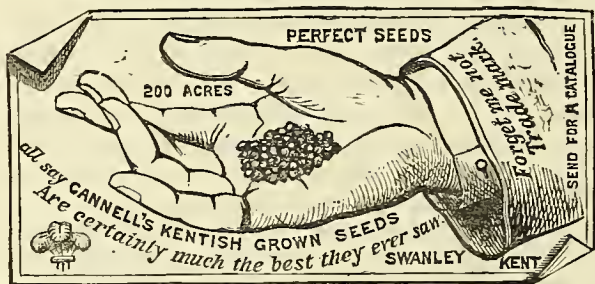
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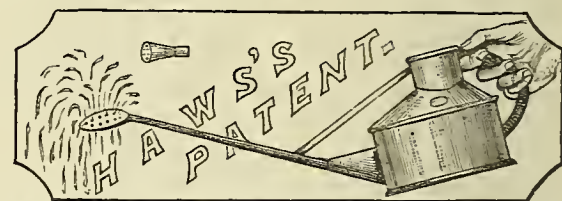
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ROYAL HORTICULTURAL SOCIETY SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m., in the Lindley Library; Fruit and Floral, at 11 a.m., and Narcissus, at 12 noon, in the Conservatory, on TUESDAY next, APRIL 12th.

Admission free to Fellows at 12 o'clock; and to the Public at 1 o'clock, upon payment of One Shilling.

N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

TUESDAY, April 12th.—Meeting of Fruit and Floral Committees of the Royal Horticultural Society, at 11 a.m.

WEDNESDAY, April 13th.—Sale of Orchids in flower, Imported Orchids and Lily Bulbs at Stevens' Rooms. Sale of Lilies, Roses, Plants, &c., at Protheroe & Morris's Rooms.

THURSDAY, April 14th.—Sale of a new Utricularia, and an importation of white Lælia anceps at Stevens' Rooms.

FRIDAY, April 15th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, APRIL 9, 1887.

EASTER FLOWERS.—Whilst the season of Easter will find an ample supply of all kinds of forced flowers wherewith to beautify festivals or religious ceremonials, with some, it is hoped, to spare for common decorative purposes, there will be no great wealth of hardy flowers to greet the season; indeed, we may say that there will be scarcity of a rather unusual kind. Easter comes somewhat early; the spring time, as far as nature is concerned, is late, and in all directions there is a singular lack of development in every form of natural production. It would be a grave misfortune were ample supplies of forced flowers to render us negligent of the hardier, but not less beautiful, flowers which adorn our gardens some time in the spring. Probably, we may be content on that head, for whilst all the perfume of Araby failed to wash clean the bloody hand of the Shakesperian murderess, so also will all the glory of forced flowers fail to obliterate the native charms of our early hardy flowers.

But in regarding what seems the special coyness on the part of floral nature to put forth her spring charms, we may, perchance, too hastily conclude that spring is a fixed quantity in time or season rather than an uncertain one.

Sometimes we feel as if spring were being altogether obliterated from the season's calendar. Winter nowadays persists in holding on his grim and icy grip for so lengthened a period, that summer follows with strange and scarcely pleasant rapidity. It need hardly be said that we see this slipping away of our traditional spring season with exceeding regret. Of all the four periods of the year that poetry and song have endowed with sentiment, the spring stands pre-eminent; but poetry and song can hardly put sentiment into a dying phrase, for spring is fast becoming a phrase, and an empty one, and nothing more. Sometimes Easter has stood as a distinct spring landmark. We have in the past found it to be the most clearly defined of winter boundaries, and also so late as to fall in the very midst of spring. This year it would seem as if winter had gathered in her Easter outpost, and had thrown out a much later or wider one, for as yet there is little to indicate that winter is gone or that summer is near.

Even the hardy laughing Daffodils seem unwilling to grace the Easter time with their nodding coronets of golden yellow; whilst the Primroses, even in their seclusion, far from the turmoil and strife of human life, seem to shiver and shrink in the cold blast or driving rain. The Violets at last, though late, have bloomed freely, but sadly denuded of their once luxuriant leafage. With such cold and wet weather the perfumed flowers still lack some of their wonted sweetness, and much of their customary brightness. We have often seen the Plum and Pear orchards at Easter white as driven snow with bloom. Now the buds seem but just shedding their scaly coatings, and that with exceeding caution, for there is a taste of rigour in the air which rather provokes somnolence than precocity. No doubt that is all right enough, and the trees are wise in failing to regard one sunny day as the beginning of the summer. Still, sentimentally we can but regret that the earliest festive season of the year should be shorn of so much that wontedly has helped to beautify it. Of ordinary spring flowers how few there are which will florally greet the Easter morn! Daisies have been trying for weeks past to show their beautiful faces, but have hardly found encouragement. Polyanthes strive one day to bedeck the earth with floral gems, only to find on the next that snow, rain or frost has robbed the precious flowers of all beauty. The very insects seem dazed, and find life gloomy, if not intolerable, in their wintry habitations. Literally there is stagnation in nature of the most prolonged kind, and to gardeners it is hard to endure. The necessities of life remain the same, although nature fails to help in satisfying them. There may come some amends presently. We may be rewarded with a grand burst into life and beauty, but such reward will be welcome only as with it comes some touch of spring or summer itself.

The practical man, to whom sentiment is folly, smiles grimly over perturbations anent the chilliness of the weather and the lateness of the season. He is satisfied all will be well later, if not all the better for the present hindrance. That may be so, but it affords poor consolation to those, perhaps, less stoically constituted mortals, who want spring to be spring as tradition has it, and not as modern weather has determined it. Do we not wish at Easter time to find the birds singing gaily in the hedgerows and woods, the grass bedecked with Daisy and Buttercup, and the woods with Primrose, Bluebell, and, perchance, where introduced, the Daffodil? Why, too, can we not have our gardens at Easter gay with myriads of lovely hardy spring flowers, around and over which the bees hum and

thousands of insects rejoice? Why can we not have soft balmy days and quiet soothing, if still somewhat chilly, nights? We want spring, real spring, a season of life, sweetness and beauty, a season to delight and to be happy in.

Gardening will be shorn of one-half its ancient associations if winter is to rob us of spring, and to shorten in a sad way to contemplate our outdoor season of enjoyment. We are not spoilt children crying for the moon, we simply ask for that which seems to have been once but is not now. Are we enduring a cycle of years in which springs are wiped out, and shall we presently come on to yet another cycle in which spring dominates and winter is driven into more limited quarters? If that be so, may the turn come soon, and with it seasons bountiful to us or posterity of Easter flowers in gardens and fields, all abundant and all joyous.

Mr. J. S. TREVOR, late gardener at Hampton House, Great Malvern, has been appointed gardener to Miss Williams, Bryngwyn Hall, Bwlch-y-Cibau, Montgomeryshire.

Mr. SANDER has been successful in importing a fine lot of a new BLUE-FLOWERED *UTRICULARIA*, and the plants will come under the hammer at Stevens' Rooms on Thursday next.

ON Wednesday, the 30th ult., Mr. R. Dean, of Ealing, delivered a very interesting lecture before the members of the Caterham Horticultural Society, the subject being "A WORLD OF WONDER IN A FLOWER," illustrated by the florist's Tulip. A number of coloured diagrams were shown, and the address gave great satisfaction to a large audience. At the close a hearty vote of thanks was passed to the lecturer by acclamation.

A GARDENER residing at Reddish, Lancashire, named John Dyer, and aged twenty-five years, recently came by his death through attempting a feat of strength which he could not accomplish. He tried several times to lift a man standing on a spade, but failed, and between five and six o'clock the same afternoon he complained of a violent pain in his stomach, gradually grew worse, and died the next morning, the cause of death being a twist of the bowels caused by the exertion.

SIXTEEN years ago the trees lining the streets and squares of Paris numbered 32,000, and these are annually assuming greater importance—a fact which speaks for itself when we are told that at the present day they number more than 87,000. Since 1870 sixty hectares have been added to the promenades. "Happy Parisians!" the *L'Illustration Horticole* exclaims. It would be interesting to know how London will compare with Paris in the matter of trees.

ON the evening of April 1st, the members of the Chiswick Mutual Improvement Association, with their friends, met at the Bolton Hotel, Chiswick, to cement friendships made during the past session. The entertainment took the form of a supper, succeeded by song and sentiment. The health of the president of the association and the host for the evening having been duly honoured, a very enjoyable meeting was brought to a close.

THE summer exhibition of the BEDFORD AND BEDFORDSHIRE HORTICULTURAL SOCIETY is fixed for July 13th; that of the SOUTH HAYLING HORTICULTURAL SOCIETY for August 11th. The last is a new society, and its creation is due to Mr. John Hepper, who was formerly gardener at the Elms, Acton. Many old friends of Mr. Hepper will be pleased to learn he is so worthily promoting the cause of horticulture on the south coast. The Chrysanthemum show of the ASCOT HORTICULTURAL SOCIETY will take place on November 9th and 10th.

ARALIA SIEBOLDI is rarely tried as a town plant, but it is really deserving of notice. In Merrion Square, Dublin, there was a very fine specimen for several years, and it may be there now, planted on the north side of the square, which is said to be the best aspect for it, and this bloomed finely every year in September and October. It is by some considered to be deciduous, but the leaves, which are of considerable size, and bold and striking, remain in beauty until quite late in the autumn. A large plant of it stood out all the past winter in a cold suburb of London, and is scarcely harmed. It retained its leaves all the winter, and they do not show so many marks of the severity of the weather as do the common Laurels.

SPIRÆA JAPONICA.

ALTHOUGH home-grown clumps of this old, well-known, and extremely useful forcing plant may not equal in size, nor oftentimes the number of flowers and spikes, that are obtained from imported ones; still, very creditable plants are to be grown from the home-grown clumps, and sufficiently good for most purposes. Through various reasons, which I need not enter into, I have planted them out, after being forced and hardened off in several different aspects, always dividing any that had been flowered in pots of over 5 ins. into four pieces, and always allowing them to remain two years before again forcing. I can now afford to allow them to remain three years without forcing them, so much has my stock increased. When I came here I found a good patch on a south-east border, but which did not force very well. I conceived the idea that if I gave them a more sunny spot they might ripen up better, so that I planted, in available spots in a sunny plantation, as many as I could in the space at command, and the remainder in the then only spare space at my command at the north-east side of a wall, and where they only got the sun until about eleven o'clock in the morning, and that partially shaded by trees. Last season I used about half from each situation; but as I did not take the precaution to mark them, I did not know, when forced, those from the sunny situation, and *vice versa*, except that about half flowered well, whilst the others were all but a failure. The trees in the plantation having grown, I was not able to plant any more there; and having left about two dozen in the sunny spot, I resolved to mark them and see the results this season. Contrary to my expectations, those from the shady spot surpass those grown in the sun, both in size and number of spikes, so that there is really no comparison between the two. They are better this year from the sunny situation than last year, which may be accounted for by the sunless autumn we had, and also through the trees shading them more than previously. I have entered somewhat fully into the plans I adopted, thinking, perhaps, that others besides myself had been giving them sun, as I have many times seen very indifferent pots of this elegant plant when improperly grown in several gardens it has been my pleasure to visit; and being everybody's plant, I would say to one and all, do not give them sun. It may, perhaps, be as well to add that they would end in failure if planted under thick trees. Even if the shade was not too great the situation would be too dry, as it is almost needless to say they are moisture-loving subjects. Anyone having a north border will find good results by planting them there; and it is, perhaps, the least useful situation for most things.—*E. Dumper, The Gardens, Summer-ville, Limerick.*

CANTUA BUXIFOLIA.

IN many collections of old-fashioned hard-wooded plants, specimens of this handsome greenhouse subject may be found tossing about, undergoing all sorts of hardships, neglect and ill-treatment. Their so-called barren or flowerless condition is the excuse for this sort of treatment, whereas this is merely the result of such neglect. At Pendell Court, Bletchingley, Sir George Macleay's gardener, Mr. Ross, grows a large specimen trained against the back wall of a cool conservatory. This, when in flower, is a sight worth seeing, and the flowering takes place in April and May.

Our illustration represents a short-tubed form of the species, which is extremely variable, taking it in its widest limits, both with regard to the length of the tube of the corolla, the expansion of its lamina, and the amount of division or toothing the leaves undergo. The typical form is described as having entire leaves, but in the Pendell Court specimen, which Mr. Ross prefers to call *C. depeudens*, the wedge-shaped leaves may be entire or more or less deeply pinnatifid or lobed, and the yellowish tube of the corolla is quite 3 ins. long, while the delicate rose-coloured lamina is less widely expanded. This agrees pretty closely with that figured in Paxton's *Flower Garden*, II., 49.

Turfy-loam, leaf-soil and sand form a compost suitable for the growth of this plant, and cultivators with liberal treatment may succeed in flowering it, but the greatest measure of success will be achieved by planting it out in a greenhouse or conservatory. The drainage should also be good; and if all these conditions are observed, the roots are less liable to fluctuations of temperature and drought, and the foliage will be retained.

HYDRANGEAS.

THIS is a very serviceable and useful class of plants, the white varieties being useful at all times whenever such are wanted for wreath-making. Under good cultivation they will produce enormous heads of flowers, which continue in great beauty for many weeks. Many market growers will have large quantities of them now forming grand heads of flowers. To obtain these good heads thus early, strong terminal cuttings should be struck about July, and as soon as rooted, should be potted off singly into a good rich compost. They will make two or three leaves before the end of autumn, and should be kept as close to the glass as possible, to keep the plants from drawing or becoming weak. During the winter season they may be kept in a greenhouse or pit from which the frost is just excluded, and be careful that damp does not settle on the crown or point of the shoot, otherwise this will cause it to damp. It is by preserving this leading shoot that the flower is obtained so early. No more water than what is just necessary to keep the wood from shrivelling will be required during the winter months, so long as they remain dormant.

About the middle of January a portion of these may be potted on into 6-in. pots in good strong loam and manure, mixed with a dash of sand. They want potting very firm, and as soon as potted, must be placed in a growing temperature of 55°, to be increased as the season advances, with an occasional syringing to cause them to start away into growth. Still keep them as near to the glass as possible, to keep them sturdy and short-jointed. Almost as soon as they show signs of growth, the head of flower will appear with the unfolding leaves, and gradually spread out as the stem rises. If kept close to the glass, these plants will not exceed 12 ins. to 15 ins. in height when full grown, and the head of flowers on the top will be as broad as a dinner-plate.

As soon as the plants have fairly established themselves in the 6-in. pots, weak guano-water must be applied to them, which causes the foliage to keep a good dark green, and also adds materially to the lasting properties of the flowers. They should never be allowed to get dry, or they will very soon lose their bottom leaves, and this spoils their beauty. Some adopt a system of plunging these young plants when first introduced into the growing-heat; it assists them to come up a little quicker, but this operation is not absolutely necessary. Cuttings struck now, and grown on all the summer under ordinary greenhouse treatment, will, to a great extent, flower at the end of the summer; but at this time they are not nearly so valuable as those earlier grown. If a good batch be struck in July, and kept as advised, a few, or a few dozens, according to the quantity grown, may be introduced into a growing-heat every month till the end of April, when there will be sufficient heat in almost any structure to bring them on. By this system of starting a few at a time, the display may be kept up far into summer.

The varieties *H. Thomas Hogg* and *H. paniculatum grandiflorum* are really serviceable where white flowers are in demand. *H. Otaksa* makes very large heads of a bright pink colour, and is very effective as a decorative plant. *H. cyanoclada* is a rather sportive form, sometimes sky-blue, green or white; but the peculiar dark foliage and stems of this variety make it a novelty amongst others.—*W. G.*

THE SCOTTISH PRIMULA AND AURICULA SOCIETY will hold its first exhibition in the Carlton Convening Rooms, Edinburgh, May 4th. Mr. W. Stratton, Annfield, Broughty Ferry, is the honorary secretary.

SOME GOOD AND USEFUL RHODODENDRONS.

SOME half-a-century ago, J. C. Loudon wrote of Rhododendrons as the pride of European gardens, as they are of their native wilds, and yet, at that time, but few species or varieties were either known or cultivated in Europe; but since then many great things have happened. Mr. Hugh Fraser has shown us that the wonderful improvement has been effected chiefly through the crossing of the hardy, late-flowering species with the early Indian sorts, particularly *R. arboreum*. This species itself is too tender for open-air culture in this country; but it is to that variety we are indebted for all the shades of scarlet, crimson and pink, which are so much admired in our present list of hardy varieties. Among the first results of hybridisation in this direction were the still well-known *R. Russellianum* and *R. altaclarensis*, fine varieties; *R. Catawbiense* *Smithii* from *R. ponticum*; and *R. Nobbianum* from *R.*



CANTUA BUXIFOLIA.

Caucasicum, all possessing in a greater or lesser degree the fine crimson flowers of their male parent.

It was soon found, however, that though sufficiently hardy to stand the winter outside in favourable situations, these hybrids inherited much of the tree habit and early-blooming peculiarity of *R. arboreum*. They were shy in forming buds, or rather they required many years before they attained sufficient size for blooming; while, in nine cases out of ten, the flowers were blighted by late spring frosts before they were fully expanded, detracting immensely from their value for out-door cultivation, and rendering it necessary for their safety that they should be potted in autumn, and placed in the conservatory until after they had done flowering. While they were, as they still are, extremely useful for this purpose—seeing that they can be had in all their glory during the winter and early spring months—it was obvious that much was still required to be done before bright-coloured Rhododendrons could be got to flower in May and June.

“Hybridisers naturally turned to the late species and their varieties, which were again crossed with the

crimson hybrids; and these, carried on with every possible combination through series of generations, has gradually developed that infinite variety of habit, form and shade of colour with which our collections are now so much enriched. It would almost seem that perfection itself had been obtained. A hybridist may consider himself fortunate if, after having raised thousands of seedlings, he finds even one sufficiently distinct from, or even up to, the high standard of those already grown. The work, however, is still enthusiastically prosecuted, and from year to year novelties and improvements make their appearance.” But it must be said that novelties are not nearly so numerous as they were a quarter of a century ago.

Transplanting of Rhododendrons may be done at any time during the autumn and winter, beginning, say, in October, by which time the buds are developed and the young wood ripe enough to bear removal without injury. In planting, they should never be placed too deeply in the soil; the latter should cover the balls about 2 ins. and then be trodden firmly about the roots after they are planted. Here is a list of good sorts that do well in the midland districts, and which may, therefore, be taken as suiting any locality in the United Kingdom:—White—*Catawbiense alba* and *The Queen*; crimson—*Brayanum*, *Blandyanum* and *Michael Waterer*; blush—*Everestianum*; rosy crimson—*Lady Clermont*; purple—*Schiller* and *Lord John Russell*; white, with buff spots—*Minnie*; rose—*Concessum*, one of the latest-blooming varieties; purple-crimson—*Caractacus*.

That the Rhododendron succeeds best in good peat is well known; but the peat is not found in every garden, nor in its immediate vicinity. In many places the expense of procuring it in sufficient quantity is a bar to the cultivation of Rhododendrons. Where this is the case, it is necessary to prepare an artificial soil that will to some extent answer the purpose of peat. I may here appropriately quote from Mr. Fraser, who states:—“On examining the root of a Rhododendron while in active growth, we find that it consists of what is commonly termed a ball or a mass of roots, netting in a quantity of the soil in which it has been growing. Round the outside will be seen an innumerable quantity of stout hair-like fibres, white and transparent, so extremely soft and brittle that it is difficult to handle them without breaking some off. These are the young roots, and the only feeders by which the plant imbibes its food. If growing in peat they are found pretty equally diffused over the ball; but if in mixed soil,

they are invariably in the greatest abundance on that side which is most in contact with any fragments of peat or other decomposed vegetable matter. Incapable from their extreme delicacy of penetrating stiff, hard soil, and peculiarly susceptible of injury from dryness, particularly while in a state of activity, these fragile rootlets soon wither and die when so exposed, entailing a serious loss upon the plant, and that at a time when it requires all the assistance it can get to enable it to perfect its growth, and form flower buds for the succeeding season. From these facts, as well as from experience of results, it seems obvious that a soil to be suitable to Rhododendrons must be soft and spongy in its texture, capable of retaining moisture, and possessed of a large percentage of vegetable matter.”

And now comes the question, “In what way can an artificial compost for Rhododendrons be made? Supposing no peat can be had, what is the best substitute for it?” Turfy loam from old pastures, cut just deep enough to include the fibre, of which it cannot have too much. Mix this with about one-half its bulk of rotten leaves and old cow-dung, and more or less sand,

according to the character of the loam. The whole mass chopped down with the spade, not too fine, and well mixed together, will form a compost which any Rhododendron will fully appreciate, and grow in with the greatest luxuriance. Charred garden refuse—such as prunings, weeds and old tan-bark—forms a valuable supplement to such a compost, and may be used liberally, when it can be had, with great benefit to the plants. In no other form should these substances be introduced, as unless they are so thoroughly decomposed as to be scarcely distinguishable from fine soil, they are not only worthless but highly pernicious. This applies specially to old tan, which has sometimes been recommended. We have never seen the young roots working freely amongst it in any state; but very often, when the decomposition was but partial, the ball was found to be covered with white fungus, and the plant in a sickly condition.

Rhododendrons undoubtedly do best in the open. Shade and drip from trees should be avoided; for while the plants will grow vigorously provided they have sufficient moisture, they require a full exposure to the sun, to enable them to ripen their wood sufficiently to withstand the winter's frost, and to form flower-buds. It is cold and drying winds that do them most injury; so that if a situation can be given the plants which is sheltered on those sides from which these cold winds blow, they will be greatly benefited thereby.—*R. D.*

GARDEN PLANTS ILLUSTRATED.

LÆLIA PURPURATA RUSSELLIANA.

The variety here noticed has precisely the same habit as the type, and is consequently indistinguishable from the latter when out of flower. The flowers are about 6 ins. across, with linear lanceolate sepals suffused with pale lilac. The petals are elliptic in outline, somewhat undulated at the margin, of a darker lilac than the sepals, and characterised by a dark mid-rib. The convoluted labellum has rosy lilac side and middle lobes, becoming fainter towards the margins, and striated with deeper coloured veins, thus differing from the intense purple of the type. The throat is yellow with rosy veins. It was named after Provost Russell, of Falkirk, N.B., with whom it flowered many years ago.—*Orchid Album*, t. 269.

ÆRIDES LAWRENCEI.

The habit of this plant is similar to that of *A. quinquevulvum*, and the flowers are like giant forms of that species, although some authors affirm that they resemble those of *A. odoratum purpurascens*. They are large, fragrant and greenish when young, but after expansion become a creamy white with a large purple blotch to each segment. The blunt, stout, incurved spur, however, remains of a greenish yellow. It is a magnificent species when well grown. A specimen was purchased by Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, for 235 guineas.—*Orchid Album*, t. 270.

HEMIPILIA CALOPHYLLA.

In this terrestrial Orchid we have an interesting little gem, consisting of a solitary elliptic-oblong leaf heavily marbled with deep brown, and throwing up a racemose scape of six to eight flowers. The sepals are green and white, while the petals are similar but smaller. The labellum is $\frac{1}{2}$ in. broad, of a deep vinous purple, finely pubescent, and constitutes the most conspicuous feature of the flower. Parish, who recently re-discovered it at Moulmein, in Tenasserim, says "the flowers are sometimes wholly purple." It grows there on limestone rocks. Specimens flowered at Kew last summer. The genus was founded by Lindley on the other known species, *H. cordifolia*.—*Botanical Magazine*, t. 6920.

TECOMA RICASOLIANA.

Judging from the illustration, this new species, named in honour of General Vincenzo Ricasoli, who received seeds of it from Goya, near Paraná, possesses considerable merit for the decoration of the stove. The leaves are compound and imparipinnate with numerous leaflets. In this respect it resembles several of the Cape species. The flowers are produced in branching or paniced cymes, and the corolla has a reddish tube, gradually expanding upwards from a narrow base. The oblique lamina is five-lobed, and of a flesh colour, striated longitudinally with rose or delicate red veins. *Bulletino della R. Società Toscana di Orticultura*, 1887, tt. 1, 2.

CATTLEYA MENDELI VAR. DUKE OF MARLBOROUGH.

The Mendeli variety of *C. labiata* may generally be recognised by the broad wavy and crisped petals, the much crisped labellum with large white blotches in the throat. The sub-variety named after, and now in the possession of the Duke of Marlborough, at Blenheim, is characterised by rosy purple sepals, broader and paler petals. The labellum is also broader at the base with a very large rich purple lamina, somewhat washed with blue, especially towards the margin, and striated with yellow lines in the throat. Western New Grenada.—*Reichenbachia*, t. 15.

ODONTOGLOSSUM PARDINUM.

Although this is described as a dwarf-growing species, the paniced flower-spikes vary under good cultivation from 18 ins., 36 ins., to 48 ins. long. The flowers are 2 ins. or 3 ins. in diameter, with lanceolate acuminate sepals and petals somewhat wavy at the margin, and revolute at the tip. The labellum is shorter and broader. The flowers are golden yellow richly spotted with brown, and are deliciously fragrant. It is a native of Ecuador and Peru, and was first introduced to this country about twenty years ago.—*Orchid Album*, t. 274.

THE HANDSWORTH NURSERIES.

THERE are at all times of the year objects of much interest to be seen in these extensive nurseries; but just now several of the glasshouses are specially gay with floral treasures. The first we entered was the Camellia house, 60 ft. by 48 ft., in the centre of which there are some noble trees of the old *Alba plena* and others, which are still gay with fine large blooms. The side stages are occupied with plants in 6-in. and 8-in. pots, some of them having as many as a dozen expanded flowers, which are well displayed amongst their dark healthy foliage.

The Orchid houses are also bright with bloom, striking amongst which are several vigorous specimens of the beautiful *Vanda suavis* and *V. tricolor*, the former having extraordinary strong spikes of bloom. Amongst the fine lot of *Phalaenopsis*, *P. Schilleriana* and *P. amabilis* were in bloom; also the rare and beautiful *Maxillaria Sanderiana*. *Lycaste Skinnerii* is represented by a large number of plants, the flowers of which vary with endless shades of colour. *Odontoglossum crispum*, *O. cirrhosum*, *O. cordatum*, *O. Cervantesii*, *O. gloriosum*, *O. maculatum*, *O. Rossii*, *O. triumphans*, *O. Pescatorei*, *O. luteo-purpurea*, and several fine varieties of *Oncidium Marshallianum* are all well-flowered. Amongst the *Dendrobiums* in flower are some nice pieces of *Ainsworthii* and the variety *roseum*, which are quite as free in blooming as their parents, viz., *D. nobile* and *D. heterocarpum*, amongst which they associate. Of *D. Wardianum* there were some finely-flowered growths drooping from baskets. Amongst other Orchids in flower are *Cymbidium eburneum* and *C. Lowianum*, very fine. There were also some *Lælia harpophylla*, *Cattleya Trianae*, *C. citrina*, some well-bloomed plants of *Cœlogyne cristata*, and many forms of *Masdevallias*, and others which time would not allow us to notice, as we wished to see the greenhouse Rhododendrons in the adjoining houses.

Amongst them there are at the present time many specimens which are objects of great beauty, arranged down the centre of a span-roofed house. The varieties now in flower are *Taylorii* and the darker form named *rubra*, *Princess Royal*, *Duchess of Edinburgh*, *Princess of Alexandra*, *jasminiflorum*, *Prince Leopold*, *Lady Alice Fitzwilliam*, *Veitchianum*, and others. The intermediate shades of colour represented amongst this valuable class of plants when mingled together with *Azaleas*, presents a picture which will not be soon forgotten. A fine batch of *Imantophyllum miniatum superbum* were in flower. I counted one head of bloom which had thirty expanded flowers of a bright orange colour. There were many more objects of interest, but time would not allow us to tarry longer.—*Visitor*.

THE GLADIOLUS.

WITH the ever-increasing onward march of improvement at work amongst Flora's subjects, this noble genus keeps time; and, moreover, we might say, without much risk of question, that the Gladiolus merits the foremost place in the ranks of those flowers distinguished for elegance, massive brilliancy, and imposing stateliness. It is within the memory of many of us when we could have almost counted on our fingers the number of varieties whose qualifications entitled

them to rank as first-class exhibition flowers; while at the present day we have our choice of an array of distinguished qualities far exceeding in excellence their predecessors.

Considered as a genus, the Gladiolus is rather numerically large in species. Loudon, in his *Encyclopædia*, enumerates thirty species, chiefly indigenous to the Cape of Good Hope; but that number has been considerably augmented, as shown by the *Dictionary of Gardening*, in which we are told that about ninety species exist, which have a geographical distribution embracing Central Europe, the Mediterranean region, West Asia and Africa, the head-quarters of the genus being South Africa.

Much might be said in favour of the many beautiful original species, if considered as border and bedding plants, and also when cultivated in pots for conservatory embellishment. But to enter into that part of the subject is passing beyond our province, our aim at present being to treat on the cultural requirements of their brilliant and more accomplished relations—the offspring of *G. Gaudavensis* and *Brenchleyensis*, hybrids secured by the persevering energy and successful efforts of hybridists, first belonging to France, and subsequently this country. But we must still give honour to France, for it is from that country that we are supplied with nine-tenths of the best flowers that furnish our exhibition tables.

CULTURE.

SOIL AND SITUATION.—Speaking of the first, it ought to be free and open, holding in its composition a copious amount of well-decomposed cow or stable manure, with a well-drained sub-soil, and the body of the upper soil not less than 18 ins. deep. The situation should have a southern aspect, sheltered from severe winds, but open to all sunshine. Preparation of the ground ought to be commenced in the month of November, proceeding with the work in this manner. First lay on the surface sufficient old stable or cow manure to cover it not less than 6 ins. deep; then proceed by taking out a trench down to the sub-soil. When this has been accomplished, next lay a good amount of the manure over the bottom of the trench, and proceed with the trenching. Laying up the soil in ridges in perfect uniformity, each ridge being separated from the other by 24 ins., and having the furrows between the ridges straight as a line, and equal in depth. This is all that is required to be done until the following spring.

PLANTING THE BULBS.—Should the weather have proved favourable and dry for some time previous, the first week in April is most suitable for planting; but it is highly important that the ground be moderately dry before this is attempted. Supposing the conditions suggested are favourable, first spread equally over the furrows river sand, to a depth of 2 ins. or 3 ins., as a receptacle for the bulbs, then plant the bulbs 15 ins. apart, in lines over the bottom of the furrows in the sand, with 24 ins. between the lines. Complete the work by drawing the ridges carefully over the bulbs with a rake and leave the surface level; and all this should be completed without putting a foot on the soil if possible.

GENERAL CULTURAL HINTS.—We have left the bulbs, after being planted, to take care of themselves, and nothing more requires to be done until the young flag-leaves have pushed above the ground a few inches, except keeping clear of weeds by careful hoeing. Never trample the ground for any reason whatever; nothing is more hurtful to this plant than binding the soil about its roots. Should a course of dry weather set in during the early stages of their development, let them have a good watering of pure water once or twice a week in the evenings. Such supplies may be administered at regular intervals till the flower-sheaths begin to appear; this is the signal to commence supplying weak liquid manure in place of pure water.

Stake each stem with a clean and stout support to prevent the action of the wind breaking them, and carefully tie with matting, leaving ample space for free growth, as it takes place in the flower stems.

PROTECTING THE FLOWER SPIKES.—This is one of the most important items in the culture of the Gladiolus; in short, it is quite impossible in our climate, especially when cold wet weather prevails, to finish a spike of flowers fit for exhibition without protecting the flowers. The best modes of protection with which I am acquainted is, first, the one in use in the nurseries at Kelso, it is a box about 30 ins. long, ▽ shaped, or

forming a triangular interior; the front is of glass which is slid down in two grooves; the box is open below to admit of the flower spike, and the top has a piece of angular glass slid in similar to the front piece; each box is furnished with two hoop-iron clasps made to slide up and down a stout stake 6 ft. long, and is held in position by means of wedges. As soon as the first flowers of a spike show colour, it should be protected and tied securely. To prevent the first opening flowers being too quickly developed, cover the front of the glass opposite the flowers with Rhubarb leaves; and make it a rule to have the upper end of the box covered and made close with the angle of the glass, which induces the flowers on the upper portion of the spike to expand at the same time as the flowers at the bottom.

STAGING FOR EXHIBITION.—It is important when selecting the spikes for this purpose to prepare those with the greatest number of open flowers, showing the individual blooms large, full and fresh, with rich and pure colours; the flowers ought all to face one way, and the spike ought to be closely set with blooms, without crowding.

PRESERVING THE BULBS.—The first consideration regarding this is to secure perfect ripening by assisting the process by means of a covering of litter over the entire border early in September, thereby excluding frost when the autumn gets advanced. It is most advisable, under these circumstances, to allow the bulbs to remain till well into the early winter, especially late-flowering sorts. The latter have their bulbs to renew after the early-flowering sorts have finished. I find, in my own experience, that the middle of November is quite soon enough to lift the bulbs, and this is my mode of procedure. Each plant is lifted intact and its name tied securely to its stem, and the plant is placed in a flat basket along with the others. The basket is then hung up to the rafters above the stokehole, in a dry shed, secure from frost, and left hanging until the foliage on the old stems is perfectly withered and dried up; then the basket is taken down and the corms are cut away from their stems, and finally placed in paper bags and put away in drawers, where they remain until required for re-planting the following spring.

PROPAGATION BY SEEDS.—The best time to sow the seed is early in March, which should be done thinly in shallow pans, using a light compost. The following is a good one—namely, two-thirds light rich loam, with one-third equal portions dried cow-manure and river-sand. Place the pans in gentle heat near the glass, and cover the surface with stout paper, after having thoroughly watered the soil with a fine-rosed watering-pot. As soon as the plants have grown a few inches, the strongest may be carefully thinned out, and again dibbled into another pan. Keep the plants throughout thoroughly warm, with a little mild air playing around them, and as they acquire strength give more air and exposure to sunlight. Gradually harden them off, as the autumn approaches, in a cold frame. When the ripening process has been accomplished, the young corms may be collected and stored like the large ones. A considerable number of them will flower the second year if they are well tended in the nursery-bed during summer. These baby corms should be planted out in a bed, as hinted, at the usual time. Place them 2 ins. apart in lines 1 ft. asunder, and treat them the following year like full-sized corms.

LIST OF FIFTY VARIETIES FOR EXHIBITION.

- **Adolphe Brogniart**, rose-tinted orange and red, white blotch.
- **Africain**, crimson, shaded maroon, white blotch.
- Anna**, cherry-tinted orange, lower petals white.
- Aramis**, rose-tinted orange, lower petals striped white.
- Archduchess Marie Christine**, white tinted with lilac.
- Atlas**, shining white, boldly striped violet.
- **Baroness Burdett Coutts**, delicate lilac, tinged rose, flamed purple.
- **Cameleon**, slaty lilac, flamed orange, white blotch.
- Camille**, magenta-lilac, flamed orange and feathered lilac.
- **Caprice**, upper petals rose-tinted lilac with white bars, lower petals and throat feathered purplish crimson.
- **Carnation**, carmine tinged, deeper flesh blotch, tinged purple.
- Daubenton**, rose-lilac, flamed carmine, white bands, with violet-crimson blotch.
- Diamant**, carmine-white, throat ivory-white blotched and striped carmine.
- Dumont d'Unville**, cherry-flaked and striped carmine.
- Eclair**, bright scarlet, flamed fiery red, white blotch.
- Edith Dombain**, white ground, flamed dark carmine, blotch carmine-purple.
- *Esmeralda**, glossy white-striped and flaked carmine-red, blotch lemon.
- Figaro**, orange-red, flamed red, large pure white blotch.

- **Giganteus**, rose, changing to cherry, blotch dark carmine, veined white.
- Hecla**, orange-scarlet with white centre.
- **Hercules**, brilliant velvety scarlet, flamed and streaked with orange-red, violet blotch.
- Hermione**, white, thickly set with lilac and carmine stripes, large white blotch.
- Hesperide**, white, profusely blotched and flaked bright rose-salmon.
- **Horace Vernet**, bright purple-red with large white blotch.
- *Impératrice Eugénie**, white, flamed violet-rose.
- *Jupiter**, fiery red shading off to dark crimson.
- **La France**, pure white, edged carmine, amaranth blotch, magnificent closely-set spike.
- **La Perle**, pure lilac, blotched violet-carmine.
- *Le Titien**, brilliant rose.
- *Le Vesuve**, intense fiery red.
- Leviathan**, delicate bright rose, flamed and striped carmine, amaranth blotch.
- L'Unique**, violet, dark lilac, tinted violet, flamed dark carmine.
- **Macaulay**, bright crimson, tinged violet, carmine blotch.
- Madame Desportes**, pure white, under petals striped violet.
- *Madame Dombain**, carmine-violet, flamed purple.
- Maréchal Vaillant**, brilliant scarlet, white blotch.
- Minerve**, rich crimson, carmine feathered, white blotch.
- Nestor**, light yellow, darker lower petals, striped red.
- Newton**, ground white, shaded crimson.
- Ondine**, white, tinted lilac, violet blotch.
- *Orpheus**, cherry-rose, flamed carmine, purple blotch.
- Parmentier**, amaranth-flamed flesh, tinged lilac, white bands.
- Pepita**, golden yellow, striped carmine over edge of petals.
- *Princess Mary of Cambridge**, white, with large carmine blotch.
- **Rayon d'Or**, creamy yellow, tinged purple (extra); the best exhibition yellow extant.
- Roseta**, delicate creamy rose blotch, and marbled cherry-carmine.
- Seduction**, rose-salmon, large white blotch.
- *Shakespeare**, white, suffused carmine, rose blotch.
- *Sir Joseph Paxton**, scarlet-rose, tinged orange, white ground.
- Tour du Monde**, cherry-red, darkening towards the edges, white blotch, edged rose-lilac.

Those indicated by two asterisks would form an excellent dozen, and those with one are well adapted for a 24-stand.—A. Kerr.

GARDENING NOTES FROM SCOTLAND.

Vegetable Notes.—Peas in many cases will be planted out from the boxes, pots, or whatever they have been grown in during the winter, preparatory for early supplies. I think, however, if growers have had such sharp frosts as are generally reported from various parts of the country, they will wish that their Peas had remained where they can be protected. Where broom is abundant, the tops answer admirably for protection, by placing them along the sides of the stakes.

We find there is not much gained by sowing under glass protection much before February, as the Peas are liable to grow tall and weakly before suitable weather permits of their being planted out in safety, and consequently they are of less value for producing abundant crops. Any kinds may now be sown; late and second early kinds sown at the same time make a good succession. Cauliflower is always a difficult vegetable to deal with for earliest supply, and where there is means to allow a few hundreds, or quantity commensurate with the demand, to be potted and protected under glass lights, the supply for first cutting is greatly accelerated. In sheltered positions with the use of hand-lights and cloches, the attention needed by earliest supplies is reduced. Much is often done by pots without bottoms placed over early Cauliflowers and other plants. A builder near us is very proud of his early Cabbages this season, which have been protected by tops of chimney pots placed over them.—Caledonian.

Royal Horticultural Society of Aberdeen.—Town Councillor Lyon, chairman of the acting directors of the Royal Horticultural Society of Aberdeen, has just received from Dr. F. Maitland Moir, Aberdeen, a beautiful silver cup, to be competed for at the summer exhibition, for the best Scotch Thistle. This will be quite a new feature and a strong competition is anticipated.

THE AMATEURS' GARDEN.

PROTECTING FRUIT TREES.—In the case of early-flowering trees, especially such as Peaches, Plums, Pears and Cherries, it is always safe and desirable, not to say necessary, to provide against late spring frosts. This, of course, refers to trees on the open wall, and which are otherwise wholly unprotected. In some private gardens the walls, especially those on which Peaches are trained, are protected either temporarily or permanently with glass; while in other cases the glass casing is sufficiently wide to admit of a row of small specimens of Cherry or Pear trees being grown along the front close to the glass, and either in pots or planted out. Amateurs are generally unprovided with any of these means of protecting early-flowering and choice fruit trees, but many have recourse to other means, which, if less efficient than are those mentioned above, will yet ensure a crop with tolerable certainty.

Spring frosts, though sufficiently intense to destroy fully expanded flowers and the embryo fruit, are easily warded off by means of some light shading material, such as tiffany. Mats would answer, but they are heavy and cumbersome, and should wind prevail cannot be held in position without destroying the bloom. This must be carefully guarded against whatever be the form of protection. A light framework of wood should project from the top of the wall, sufficiently far to carry the tiffany clear of the blossom. This framework need not be expensive nor elaborate; but may consist of a single rod, supported here and there with other and shorter ones, secured to the top of the wall. In the absence of tiffany, old fish-netting of any sort will answer admirably if two or three folds are used. The whole length of a wall may thus be protected, or single trees only. The protection had better be removed every morning to prevent any undue excitement of growth or excessive shading. On east-aspect walls it may remain till the sun has gradually dispelled any frost that may have occurred during the night.

THE FLOWER GARDEN.—Numerous hardy flowers, notwithstanding the lateness of the season, are now creating a fine display in the beds and borders. Neatness in this part of the gardener's domain, whether amateur or professional, should always be the order of the day, but especially so when various hardy flowers, and a few hours of sunshine induce the owners and all concerned to walk out and inspect them. Therefore, keep the walks clean, the lawns swept and rolled, and all borders fluently dug or forked over. In many cases where no labels mark bulbs in borders, it is frequently advisable to delay digging till the leaves of such things push above ground, and disclose their whereabouts. They are now sufficiently advanced, so that no further delay is excusable in making all such borders present a clean and well-maintained appearance. If the soil is sandy, or in any way requires fertilising, a good top-dressing of some kind of well-rotted manure carefully and equally forked into the ground will increase its retentiveness for moisture, and materially assist the growth of the plants and the development of flowers, as herbaceous plants delight in rich soils.

PLANTING.—The planting of all kinds of herbaceous and Alpine plants, including those usually regarded as florists' flowers, may now be prosecuted with vigour. A better time than the present could not be had for getting such work accomplished. Growth has just commenced, and the weather becoming favourable, no opportunity should be lost—when the soil is in workable condition—of getting all hardy subjects transplanted, re-planted, or planted out, as the case may be.

Where herbaceous plants require re-arranging in the proper lines, according to their height, now is the time to execute it; and if all plants for this purpose were marked last summer and autumn, there will be no difficulty in adjusting them into proper position, both with regard to height and colour. As far as the latter is concerned, there is generally little danger of the same colours clashing because they come at different seasons. In dividing many herbaceous plants, the spade may be used; but where the crowns are few, and the root-stock tuberous, it is much safer to lift the whole clump and divide it carefully with a knife or some similar instrument. The use of the spade for this purpose is a barbarous practice, often resulting in the destruction of valuable plants, and is, in any case, ruinous to them. Blanks that may have occurred amongst Alpine plants, either through the dampness or severity of our climate, may now be made good, provided those to be used have any claim to hardiness.—F.

SHOW, FRENCH AND FANCY PELARGONIUMS.

As a gay class of plants for making a brilliant display during the spring and summer months, the Pelargonium, grown in quantity and grown well, has claims of superior merit, and may be considered one of the most prolific and abundant flowering soft-wooded plants we possess. If not grown well they but poorly repay the grower for his trouble; but when good cultivation is adopted, their brilliancy and variety of shades in colour is scarcely surpassed by any other class of plants, more especially when shown in a mass.

To bring large plants to perfection, as they are sometimes seen at our leading summer shows, takes a few years, as well as to thoroughly establish the framework for each; and the time occupied in bringing this style of plant to perfection is considerable. What with the great amount of tying and careful watering they require, this style is not to be recommended for everyone, except their intentions are to exhibit the plant so grown. The Pelargonium may be had in the highest state of cultivation, and all the brilliancy of its colours may be brought out on one year old plants—that is plants struck from cuttings one season, and bloomed the next. All the classes may be got to perfection in this manner, but the decorative kinds (which include both Regal, French and Spotted), are more amenable to this system, for their habit is generally more compact, and the freedom with which they throw up their large trusses of flowers is something remarkable.

Cuttings of any of these varieties may be rooted in heat during February, March or April, and should the parent from which the cuttings are taken be in a healthy condition, the cuttings so rooted will make healthy young plants by midsummer, and may, if they are potted on, give a few flowers. The point of the shoot should be nipped out as soon as they are established in the first small pot. This causes them to form two or three shoots, and make nice little bushes. It is to these plants that have been rooted early we will first turn our attention. If they are cut down not later than the second week in July, and allowed to stand without water for about ten days, with the exception of a slight syringing once a day, they will soon break away into new growth, forming the foundation for several shoots where only one existed before. As soon as the latter are nicely formed, the plant must have a thorough soaking of water a few times, to wet the whole ball of soil through. If these young plants have not been in larger than 4-in. pots, they may be at once placed in 6-in. ones; and if they should have been in larger than 4-ins., they will require to be slightly reduced, but not shaken out altogether. Re-pot firmly in the 6-in. pot, and stand them in a cold pit on a rough ash bottom—the frame being all the better if it faces due south—where the sashes can be placed over them for a short time till they take root. As soon as they have re-established themselves in the new soil the sashes may be removed altogether, and the plants allowed to stand thoroughly exposed to all the sunshine they can get during August and September. By the end of the latter month the plants should have made good stocky stuff, and they should be kept as short and bushy as possible during the winter.

The best kind of house for them is one with plenty of light, and ventilation both top and bottom; and the nearer the plants can be kept to the glass the better they will do. If a house of this kind is not at hand, shelves placed near the glass in some of the cooler houses may be made to do service during the winter months. The plants will require nothing more than attention to watering, and giving as much air as possible on all favourable occasions. If the house is devoted solely to Pelargoniums, a little warmth may be kept in the hot water pipes all through the winter, providing air is given in abundance to counteract the evils that would result from too close a temperature. If the system of a little heat being always kept on be adopted, the house should have air on day and night, except it may be during severe frost. Nothing causes green fly to appear on Pelargoniums sooner than too close an atmosphere. Therefore, by all means, study the welfare of your plants by giving them the best treatment possible with regard to heating and ventilation.

If the treatment described above has been followed out, the plants by the middle of February will be in a very flourishing condition, and many of the earlier-flowering sorts will be showing for bloom. If the

plants are wanted to flower early in the season (about April), these plants must be kept as close to the light as possible, and watered with a solution of weak Guano every time they want watering. I find this plan better than giving strong doses occasionally; weak and regular applications keeps the plants growing on at a steady rate without undue excitement. If the plants are wanted to flower at a later period (the end of May or through June), the points of the shoots can be cut out, and will make good cuttings for immediate insertion. The plants will soon push up new shoots from almost every eye on the main stems, and as soon as they are well started they must be put in their flowering pots, a 7 in. or 8 in. pot being large enough in which to flower them. Really handsome plants they will make in these pots, at least 18 ins. through, and will throw up dozens of trusses of flowers fit to adorn any conservatory. The above system really takes rather over twelve months, but the plants are in every way superior, and yield twice as much bloom as the older plan which I will detail in another paper.—*W. G.*

WELLHAM HALL.

BEING in the neighbourhood of Retford a few days since, and having a little time to spare, I called at Wellham Hall, the residence of — Birkes, Esq., and was amply paid for so doing, as I had the pleasure of seeing some of the finest plants of *Dendrobium Wardianum* at present in the country—splendid large plants growing in teak baskets. They were originally imported, but have wonderfully improved since their arrival here, being covered with flowers of large size and fine deep colours. I also saw the albino variety, with its chaste and beautiful flowers. Other choice *Dendrobes* in flower included some specially fine *D. crassinode*. The *Phalaenopsis* were extremely well done, and fine varieties of *Cattleya Trianae* were in flower. Some fine plants of *Odontoglossum Alexandrae* and *O. vexillarium* were in bloom, and included some of the best varieties. It would be almost impossible to single out from this choice collection anything more than the above, so extra fine is the whole collection, and in such a high state of cultivation, that the difficulty would crop up where to begin and when to leave off. The whole of the place is singularly neat and clean, and is alike creditable to Mr. Birkes and to his able gardener, Mr. Winch, and well worth a railway journey to visit; it would be sure to please those undertaking it as it did me.—*F. C.*

DEVONHURST, CHISWICK.

ALTHOUGH they can lay no claim to antiquity, the gardens here have an interesting history attached to them from the fact of their once forming an integral part of the gardens of the Royal Horticultural Society of London. The grand old Elms, Oaks, Limes and various other trees bear testimony to this fact; but, their generally leafless condition reminds us, this is not the happiest season to notice them.

The glass is not yet extensive, but Mr. Watts, the proprietor, takes an interest in his garden, which—under the care of Mr. A. Wright, his practical and painstaking gardener—is yearly assuming greater importance and value. Besides a Peach house of considerable length, glass structures already existing are to be extended. This, we believe, is mainly for the reception of Orchids, of which several collections of imported ones have recently been added to those already existing, notably a collection from Mexico.

Those flowering at present include *Dendrobium Wardianum*, with large well-coloured flowers, *D. nobile* and *D. Pierardi*; the latter is notable for the great improvement in the stems comparable with those of last year, and in the retention of the leaves while in flower. *Miltonia Phalaenopsis*, now flowering, is noteworthy from the great improvement in the size and growth of the specimens and the depth of the purple blotches on the large conspicuously three-lobed labellum. Its congener, *M. vexillaria*, shows great vigour and exhibits three flower spikes from every pseudo-bulb. Occasionally *Odontoglossum crispum* develops three flower spikes from a pseudo-bulb, of which one proceeds from the apex of the pseudo-bulb itself, but recently three spikes were produced all from the axils of the basal leaves. A curious monstrosity appeared on this specimen in the shape of a flower with a large column,

which the miniature inconspicuous sepals, petals and labellum were unable to cover. Great variation exists amongst a group of well-flowered *Lycaste Skinneri*. As usual, the labellum is most subject to this colour variation, exhibiting shades of red or purple of great intensity, and in one case the tongue on the labellum, usually deeply stained, was deep unspotted yellow.

Camellias and Azaleas are now becoming gay, although some have yielded a constant supply of flowers all the winter. *C. Lavinia Maggi* is a beautiful pink variety striped with red, while the immense crimson imbricated flowers of *C. Mathotiana*, planted out in the conservatory, attains a diameter of 4½ to 6 ins. The hybrid *Rhododendron*, Countess of Haddington, in the same house, bearing considerably over 100 bloom-buds, will be a fine sight in a week or two. Besides the early flowering useful *Azalea narcissiflora*, *A. Herberti* is now a mass of white flowers, while *A. amœna* maintains its reputation for the production of masses of purple bloom; the neat pyramidal or conical forms into which the plants are trained, ensures economy in the matter of house-room and the greatest display of bloom.

Ferns and Selaginellas constitute an important feature at Devonhurst, and figure conspicuously at the local shows. The Selaginellas are grown on conical mounds, supported with wire framework, and look handsome when well started into growth. Amongst Ferns may be noted huge specimens of *Asplenium Fabianum* and *A. lucidum*; the latter is also grown as a basket plant suspended from the roof of the conservatory, and very well it looks in company with *Nephrolepis exaltata* and *Platynerium alcinorne*, treated in a similar manner. Several choice species of *Adiantum* are also well grown and appear at the exhibitions.

A recent addition to the varied collection is one of Cacti, from Mexico, consisting of healthy specimens of *Pilocercus senilis*, *Mamillaria* and *Echinocactus*. The short flattened stems of *M. turbiniformis* are very singular and the plant is uncommon; the rufous-red spines of *M. sanguinea* constitute it a very distinct plant; great variety of character is also exhibited by the spines of the species of *E. chinocactus*; those of *E. helophorus* are long and crimson; while those of *E. electracanthus* are variegated with crimson and yellow; and those of *E. Crussoni* are wholly yellow.

Another new feature is the reconstruction of a rockery for the cultivation of hardy alpine and other plants; *Iris reticulata*, *Sisyrinchium*, *Primula denticulata*, and other species are conspicuous amongst those flowering at present, and it is hoped this department will develop to be a feature of the place.

FLOWERING BASKET PLANTS FOR THE STOVE.

I do not think sufficient attention is paid to the culture of plants in suspended baskets; how much can be done in ornamenting houses, especially lofty ones, with basket decorations, and yet how seldom we meet with it. I have often wondered why this should be, considering there are so many lovely objects easily grown, and which are well adapted for such work. I well recollect in my early days, when a boy at the late Messrs. Rollisson & Sons, then the famed nurserymen, at Tooting, how extensively baskets were used in all the houses, and what beautiful objects they were. As then seen, Orchid and Fern houses, greenhouses and stoves all alike contained collections of plants so grown, and which, I need not say, were greatly admired. I will enumerate such stove-flowering plants as we used to grow, among which were included several varieties of *Achimenes*, splendid plants for such work; *Æschynanthus*, such as *Æ. grandiflorus*, *Lobbianus*, *pulchellus*, *splendidus* are, perhaps, the best; *Agalmyla staminea*, seldom seen now, is another good old plant. There are also several flowering *Begonias* that will do. The beautiful *Coccocypselum discolor* for this work cannot be excelled; its bright blue berries being produced freely in clusters are very beautiful. I have seen this in grand condition in the winter months, but now it is seldom to be seen. *Epiphyllums*, especially when grown upon their own roots in this way, are very graceful, and flower very freely; *Hoyas*, such as *H. bella* and *H. Paxtoni* will also do. *Impatiens Jerdoniæ* and *I. J. alba* were two plants we used to do; the former we seldom ever see nowadays. *Manettia micans* and *M. bicolor* are good and useful; *Russelia juncea*, with its bright scarlet flowers and graceful habit, is a grand thing for large baskets; *Tapina*

splendens is another useful sort; *Torenia asiatica* and *T. pulcherrima*, with their curious blue and purple flowers will also answer the purpose well. These are only a few that are well adapted for such work; there are many fine foliage plants also, as well as Ferns, that are equally useful for growing in this way, either for stove or greenhouse, which at some future time I will enumerate if you think the same will be of sufficient interest to the readers of your widely-circulated journal.—*A. Outram*. [Please do.—Ed.]

THE CORDON PEAR WALL AT HOLME LACY.

THIS wall was planted by the late Earl of Chesterfield, as an experiment with this system of training Pear trees. It faces south, and is 42 yds. long, and 12 ft. high; in this space eighty-three trees in forty-three varieties were planted. The trees used were one-year old maidens on the Quince stock. They were planted

seiller de la Cour, Beurré d'Amanlis, Beurré Hardy, Bergamotte d'Espercen, Beurré d'Arenberg, Marie Louise, Zepherin Gregoire, Doyenné du Comice, Beurré Bachelier, and Huyshe's Victoria. *Fair*: Doyenné Blanc, Doyenné Boussoch, Van Mons, Pitmaston Duchesse, Figue d'Alençon, Brown Beurré, Beurré Diel, Triomphe de Jodoigne, Doyenne Gris, Beurré Sterckmans, General Todtleben, Beurré Bosc, Hacon's Incomparable, Délices d'Hardenpont, Duchesse d'Angoulême, Passe Colmar, Duchesse d'Hiver (stewing), Beurré Rance, Leon Leclerc de Laval (stewing). *Inferior*: St. Germain, Alexandre Bivort, Susette de Bavay, Easter Beurré, Besi Mai, Doyenné d'Alençon, Chaumontel, Bergamotte Hertrich.

Since the planting of the original cordon wall, which has in every way proved successful, other excellent varieties have been planted, and are grown on this system at Holme Lacy. Among the best may be mentioned Beurré d'Angou, Beurré de l'Assomption, Emile d'Heyst, Louise Bonne of Jersey, Madame Treyve,

bottom-heat. In this house we do the propagating, and grow Cucumbers and table plants; here the Calanthes are grown. About a month, or, perhaps, three weeks after potting they are set on this slate bench, which is covered with 2 ins. or 3 ins. of small cinders, the smallest I can obtain. I like this material on which to stand pots, because it absorbs a large quantity of water, and gives it out again very freely as the atmosphere of the house gets dry.

I discovered, many years ago, that Calanthes like to feel a little bottom-heat. Some of our young men may laugh at the idea of growing Orchids on a hot-bed made up of fermenting material, such as stable litter and leaves; but I have grown many choice plants in such a place, and amongst them Calanthes. I have no desire, however, to return to that method again. Just a taste of this bottom-heat helps them on in the early stages of their growth. The valve is turned on to suit their requirements, as also the Cucumbers, which are grown at the other end of the house.



THE CORDON PEAR WALL AT HOLME LACY.

15 ins. apart at an angle of 60 degrees from east to west, after three years' growth they were brought down to 45 degrees. One half of the wall was planted in 1861, the other in 1865. In each case, the trees came into bearing in three years, viz., 1865 and 1868.

It is now nearly twenty-three years since the first crop of fruit was gathered from this wall, and although some trees will before long want renewing, yet taken as a whole, the crops are as satisfactory as ever. This year there is promise of plenty of bloom with few exceptions. Last year the crop was very good, fruit of good size and quality, some kinds weighing from 15 ozs. to 18 ozs. Having been, as is stated, planted as an experiment, both as to training and varieties, some kinds planted have not come up to the same standard of excellence as they would under different conditions of climate, soil, &c., while others which in some places are accounted worthless, here grow to great excellence.

Appended is the list of varieties grown on the wall, tabulated under the headings of good, fair, and inferior:—*Good*: Beurré Giffard, Josephine de Malines, Winter Nelis, Beurré Superfin, Glou Morceau, Con-

Marie Louise d'Uccle, Nouvelle Fulvie, Olivier de Serres, and Souvenir du Congrès.—*Chas. Denning, Holme Lacy Gardens*. [The details furnished by Mr. Denning will be read with interest by many who have watched the progress of these trees, and which were prominently brought into notice by the late Earl of Chesterfield (when Sir H. E. C. Scudamore Stanhope, Bart.), in an article contributed in 1879 to the *Herefordshire Pomona*, and which was accompanied by the annexed illustration.—Ed.]

CALANTHE CULTURE.—II.

HAVING described the time for potting and the manner of doing it at p. 470, I have now to speak of the place in which we grow them, and the general treatment given onward till the blooming season. We have a small lean-to house with a path running through the centre, or nearly so, on one side of which are shelves, one above the other. On the other or front side is a bench of slate slabs, about 3 ft. wide, beneath which is a 4½-in. hot-water pipe for

The temperature also is kept at a degree that can be borne by everything grown in the house. It ranges from 60° to 80° both night and day, whether the weather is dull or bright. The temperature should never exceed 80°, nor fall below 60°, for any length of time during the growing season. Water is given very sparingly at first, but as growth proceeds and roots increase more will be required, and as the pots become filled with roots, and foliage fully developed, it is scarcely possible to give them too much in very dry hot weather. Heavy watering late in the afternoon is dangerous, and therefore to be avoided. When the growths are finishing up, and the bloom spikes about to break through, I feed the plants with weak manure water occasionally—at first once a week, and afterwards twice but never very strong, and always according to their strength and power to utilise it.

Now the vexed question of syringing comes up, and what is my practice? Why in some stages of their growth I never take the syringe into the house where they are; but there is a period when I syringe them almost every time I see them. I have read all that has

been said for and against its use in the pages of THE GARDENING WORLD with much interest, and especially what your very able correspondent, Mr. O'Brien, has written; but all the information thus obtained leaves me still following my old method. However, I beg leave to say that the thanks of many an Orchid grower are due to Mr. O'Brien and others for pointing out so forcibly the dangers of an indiscriminate use of the syringe. I never use it till the growths are well advanced, the foliage expanded, and the weather become hot and dry. Then I find the syringe once or twice a day very useful; but as growth advances, and the bulbs swell up, I syringe them five or six times a day if the weather is very trying. This practice may be ruinous in other places where the surrounding conditions may be very different; but having proved it to be very helpful here, I still follow it. As the autumn draws near with its dull days and longer colder nights, syringing is discontinued, for, by this time, the plants require a drier atmosphere.

I need scarcely say that the pots must be set wider apart as the foliage develops and spreads, so that the light may exercise its influence upon every leaf. A thin shading is also rolled down over the glass for a few hours during very bright sunshine, all through the season, but only for a few hours each day, for the *Calanthe* delights in abundance of light, but cannot withstand the sun on the glass without shading. As the season advances, and the bulbs attain their normal size, I remove the plants to the shelves at the back of the house. Here they get more air, less syringing, but a little feeding with manure-water, as before mentioned. The secret of success is very closely linked with the treatment they receive at this period. A low temperature, moist atmosphere, cold draughts, and too much water at the roots will soon end the matter, for spots will then appear on the foliage, and soon on the bulbs. Decay having set in, it would be difficult to restore health again; therefore, I am very careful to avoid all these detrimental influences, and aim at the thorough maturation of the bulbs. This is effected by a drier atmosphere, rather less water at the roots, more air, and more light.

It is a real pleasure to an interested individual to see the plants gradually finishing up, at the same time throwing out their flower-spikes, one or two from the base, and with *Veitchii* very often one appears about half-way up the bulb or from the very top of it. Our most forward specimens generally commence blooming about the third week of October; unfortunately just about this time the foliage naturally begins to decay. When this occurs, water must be gradually withheld, though a soaking may be given at long intervals till the blooming period is nearly over, when they are kept perfectly dry in some convenient place where the temperature is never much below 50°, till potting time comes round again.

To avoid the unsightly appearance of plants after losing their foliage, I sometimes lay a few fronds of Ferns on the pots just after the first watering in the spring, and by the autumn there will be a few young Ferns, which helps to compensate for this defect for a short time. These generally die, however, for want of water before the plants have done blooming. The plants will keep good in a temperature of 50° if in a dry place when in bloom; but 60° suits them better, as the whole of the blooms will then expand. Ours have a range from 55° to 65° all through the winter months. If other growers are successful in following other methods, I advise them not to change.—*N. Blandford, gardener to Mrs. Haselfoot, Moor Hill.*

TOXICOPHLEA SPECTABILIS.

I HAVE just had sent me, from the Botanical Gardens, Edgbaston, Birmingham, a flowering branch of this valuable South African stove evergreen, reminding one of the white corymbs of an *Ixora* produced in the axils of the leaves. The shoot sent is nearly 1 ft. in length, densely furnished with flowers which are deliciously fragrant, and soon fill a room with the richly-scented perfume. The sprig of blossom was cut from a large plant Mr. W. B. Latham has in the Botanical Garden, which is fully 5 ft. in height, and is literally laden with flowers. It was sent to Mr. Latham from a private garden, where it could not be induced to bloom. Mr. Latham cut it back, when it put forth vigorous growths. These were duly matured, and the result is a wonderful crop of flowers in late winter and early spring. This appears to be the treatment it requires; and, indeed,

with judicious management, it could probably be had in flower from spring to autumn.

It is now nearly twenty years ago since I saw this plant for the first time in the gardens of Farmleigh, at Castlenock, Dublin, the residence of Captain Coote. Mr. Davis, then gardener at Farmleigh, had received this plant from abroad, and had bloomed it at the end of August. When I visited Farmleigh it was flowering on two or three-year-old wood, and some of the flowering stems were 2½ ft. in length. It was new, both to Mr. Davis and myself, and I think that was the first time the plant had flowered in this country. It was eventually purchased by Mr. B. S. Williams, of Holloway, and distributed by him.

Mr. Baines, in his new book on greenhouse and stove plants, regards it as a "very distinct and desirable stove plant. Its habit is bushy; the branches partially erect, but not very stout; leaves pale green, tough and leathery. It is a remarkably free bloomer; the flowers are tubular, five-lobed, and in general aspect individually not unlike those of a medium-sized *Bouvardia*. They are white, deliciously fragrant, and produced in corymbs at the extremities of the shoots, and also at the axils of the leaves, so as to form sprays of inflorescence."—*R. Dean.*

GRAPES: GROS COLMAR v. LADY DOWNES.

ON p. 379 I drew attention to a case wherein Gros Colmar proved itself superior to Lady Downes, grown under the same conditions, and I laid stress upon those conditions by citing another instance of improved flavour of Mrs. Pinee, grown under similar circumstances. The question I have frequently asked myself, and which at the time of writing I indirectly asked of, and suggested to your readers, was whether the fact that the vineries were heated by flues had any direct bearing upon the case? Mr. Riding, in his zeal for the defence of Lady Downes Seedling, entirely misses the point of the article, jumps to erroneous conclusions as to my meaning, and finally (p. 456), credits me with saying or implying a thing of which I had not thought.

Before proceeding, it is not only right that I should thank your correspondent for the full and lucid manner in which he has answered three of my four questions, and regret very much that he should deem my fourth question to be unanswerable, especially so because I think he has given your readers the right to expect that he would be able to answer a question, which he says is "very simple."

In entering upon a criticism or debate of any kind, it is a good plan to read very carefully the subject matter in hand, not only for the purpose of avoiding mistakes and possible pitfalls, but courtesy to an opponent requires it. Further, a correspondent should be slow to enter into a discussion, unless he is sure of being able to refer, at the moment of writing, to all that either side has already written upon the subject. I have made this deviation because I observe that (p. 456) after expressing the opinion "that Mr. Udale has altered the face of his former communication," Mr. Riding makes use of the expression, "So far as I remember, he gave us to understand, &c., &c." My statement was this, "Muscats are planted at the hottest and driest end of the house; next to these are two Vines of Gros Colmar, then comes four or five Vines of Lady Downes Seedling." How anyone with a general knowledge, as I feel sure Mr. Riding has, of Vines and Vineries, could construe that statement into "a Muscat house," passes my comprehension! The first part of the sentence itself shows that the house was *not* a Muscat house in the strict sense of the term, because the "Muscats are planted at the hottest and driest end of the house." Furthermore, the presence of two Gros Colmars and four or five Lady Downes indicated of themselves that the vinery was a late one. As I have stated, I thought the discussion would have been in a totally different direction, and I did not think it necessary to the issue to give the actual number and variety of Vines in the house; but I will now do so. There are twelve Vines, which comprise two Muscats of Alexandria, one Bowood Muscat, two Gros Colmars, six Lady Downes, and one Black Hamburg.

Now to answer Mr. Riding's last communication in detail, and like him, I do not wish to be dogmatical, but simply to state my views on the subject now at issue. Mr. Riding's reply to my first question fails to satisfy me that really good Lady Downes cannot be

grown in a house mainly devoted to Muscats, or to use his own words, "would not be in favourable company with Muscats," and it is a very common thing to see Muscats and Lady Downes in the same house; nor are they so widely divergent in their common requirements as would appear by the reasons given. I readily admit the proneness of Lady Downes to "scalding," but I deny that the little ventilation requisite to prevent that occurring would necessarily be prejudicial to the well-being of the Muscats. At colouring time I have again the same objection to the reasons given. The third and fourth reasons are taken first, because they again resolve themselves in the first and second reasons given. I deny the first reason, and affirm that Lady Downes requires as long a season in which to finish and ripen, as do Muscats, with the exception, perhaps, of Mrs. Pinee's Black Muscat. The second reason given is founded on the common idea that all Muscats require a considerably higher average temperature than other Grapes. I respectfully affirm that this idea is erroneous, and that a maximum amount of *diffused* solar light is a much more important factor in the production of first-class White Muscats, than is a few degrees of heat applied for a limited period.

I think, in Mr. Riding's reply to my second question, we get at "the kernel of the nut." In his reasons given in reply to the first query, he shows a dread of allowing his Muscats to have "fresh air"—an absolute necessity for the well-being of plants and animals alike—but plainly indicates that he is not afraid of allowing plenty of heat. He admits an improvement in the flavour of Gros Colmar under these circumstances, but confesses the flavour is not satisfactory, and I should be surprised if it was. I am still unable to see the relevancy of the word "revel" in this case, and ask you, Mr. Editor, if you can explain it to me; for it is difficult to understand how a plant can "revel" in a medium, and yet prove unsatisfactory. As I understand the word in regard to horticulture, to "revel" is to do uncommonly well. [To revel, as applied to plants, generally means to grow vigorously, which Vines could do without producing well-flavoured Grapes, and this is what Mr. Riding probably means.]

The reply to my third question is not more satisfactory than the preceding, and is simply a general answer admitting or requiring no comment.

I have stated that I think your readers have a right to expect Mr. Riding to be able to answer my fourth question; but instead of doing so, he says it is "very simple, but unanswerable," and gets away from the question as quickly as he can with due decorum, just as though it was something that would bite him if he attempted to handle it. As a matter of fact, it is nothing else than the three preceding questions resolved into one, having a generally applicable and practical bearing. Beautiful theories are knocked on the head, and we stand face to face with hard facts. Your correspondent confidently tells us where to grow Lady Downes that shall "carry off the palm" against Gros Colmar grown in the house he thinks most suitable for that variety, the Muscat house; and distinctly says, "Lady Downes would not be in favourable company with the Muscats." Yet, when asked to give the reason for Gros Colmar proving superior to Lady Downes under conditions specially adapted to the latter variety—owing to the house containing twice as many plants of Lady Downes than other kinds—and in the same kind of house that he recommends for enabling Lady Downes to "carry off the palm," he tells us the question is unanswerable. I submit, Mr. Editor, that if your correspondent is unable to answer what he admits to be such a simple question, neither is he competent to demonstrate the superiority of Lady Downes over Gros Colmar when the latter is grown under suitable conditions and produced in its best form. There is nothing singular in the fact of the best conditions suitable for Lady Downes being also the best suitable conditions for Gros Colmar, although Mr. Riding would have us think differently. Both varieties require a long period for growth and maturity; and a full share of heat and air is necessary, combined with moderate cropping and good thinning, to bring them to their highest degree of excellence.

The points of quality of the Gros Colmar at Clarendon Park, mentioned by Mr. Horsefield (p. 411), are equally applicable to the Gros Colmars mentioned by me; nor are the Lady Downes, in matter of appearance, one point behind them. The Gros Colmars are full of juice, crisp and crackling to the palate, and very refreshing;

devoid of the woody flavour incidental to samples of inferior quality, and of the "cloying" properties of some Grapes; the skin is so thin as to appear to dissolve in the mouth, and in all respects is the Grape for invalids.—*J. Udale, Elford, Tamworth.*

GARDENING MISCELLANY.

White Azaleas.—Reference has recently been made by different correspondents to *A. narcissiflora* and *A. Deutsche Perle*. The latter is an especially good variety, and is the most double of any Azalea with which I am acquainted, and a good variety for early work. I would add a third, also a double, and by far the largest in point of size, viz., *A. Andrea alba*, but not so double as *A. Deutsche Perle*. This variety will form a good succession to the two first named, and one well worthy of being added to collections where it has not yet found a place. I know this variety is by no means new, but it is good for all that.—*E. Dumper.*

Stephanotis floribunda.—I am happy to say that our experience is different from that of "W. G." (p. 473) when he says that *Stephanotis floribunda* cannot be grown "in a cool greenhouse." Some six years ago I bought a small plant, placed it in heat where it made excellent growth, when it got covered with vermin, and failed to produce one flower. For four years I tried every conceivable treatment, but to no purpose; not a bloom did I get, and I began to think my friends were right when they suggested that mine was the shy-blooming variety. Just then, however, several letters appeared in the gardening press asserting that all varieties were free bloomers, providing they received the right treatment—which was growing them cool. As my plant had hitherto been a distinct failure, I resolved to experimentalise with it during the summer of 1885, and trained it up to the roof of a cool greenhouse. During the long frost of 1885-6 the points of the shoots were killed, some leaves fell off, and the plant looked miserable. But as spring came round new growths started in abundance, and bloom-buds appeared at every joint. The first truss was cut early in May, and a never-failing succession kept up till the middle of December. The blooms were exceptionally fine, and, of course, lasted when cut longer than those grown in heat. The plant is now in perfect health, having dark and shiny foliage as well as young growths starting, and bloom-buds showing in the axils of the leaves; while, owing to the low temperature, mealy bug is absent. Now, sir, if after two such winters as those we have just experienced *Stephanotis* can be grown and flowered in a greenhouse where the thermometer has been with difficulty kept above 32°, the fact proves that "W. G.'s" assertion that a stove is necessary for the well-being of this lovely and easily-grown climber is not absolutely true in every case.—*B. D. Knox.*

Oxalis lutea.—Under ordinary cultivation in a cool greenhouse this plant would not be in flower for, at least, another month, but if grown in an intermediate temperature, it can be had in flower as early as February. The flowers are of a light yellow colour, and produced very freely. It is most effective if the roots are planted three in a 4-in. pot. This species thrives beautifully in a mixture of loam and leaf-soil with a little sand. In growing keep the plants near the glass, as it is an erect-growing kind, and looks bad when drawn.—*M. Barker, The Gardens, Watcombe Park, Torquay.*

"Curl" in Potatoes.—I enclose for your opinion some Potato haulm from a frame, not having seen a similar affection upon the Potato before. The plants were going on first-rate until about a week ago, when the pest made its appearance. You will see where the disease is in its most advanced stage, as the foliage is decaying most rapidly. Any suggestions you can make will greatly oblige.—*W. B. G.* [The Potato haulm sent in is attacked by the "curl" of Scottish gardeners; it is one form of the common Potato disease. It is unusual to see it so early, and in frame Potatoes. When a disease of this class appears under glass, it is probable that the sets were diseased at the time of planting. It would be well, therefore, to dig up the sets and send us a brief report of their condition. There is considerable confusion about the popular term "curl," just as there is with "finger and toe," "Cucumber disease," &c. In

open Potato beds it is not uncommon to see the foliage of certain plants dwarf, "curled" and discoloured; this condition is often caused by wireworms, and is as often termed "curl." Through a misunderstanding of facts, some writers have asserted that the true Potato disease is caused by wireworms. Too much care cannot be taken in the planting of Potato sets, for the planting of these, even if but slightly diseased, is one certain means of propagating and spreading the disease in the following autumn.—*W. G. S.*]

Easy Kitchen Gardening.—I am constrained to take friend Gilbert to task by asking him to explain in what way his method of successional cropping at Burghley differs from that found in most other large gardens. In myriads of places it is the rule to plant the Brassica family either with Potatoes and Peas or immediately after them, simply scratching the surface with a hoe first to clean it of weeds. Then, too, it is the rule to throw out trenches, both for late Peas or for Celery, after early crops have been removed, without first digging the soil; but I suppose even Mr. Gilbert dug between his Pea trenches in the case to which he refers, or at least levelled the soil thrown out from the trenches neatly before sowing Turnips, Carrots, Radishes, Spinach, &c. Still farther, I am sure that if the ground was not broken up for such seeds that very much was lost in refraining from so doing, as all these things require holding soil, and that would not be furnished by some 3 ins. of loose soil upon a hard base. There is a method of work which may be saving of labour, and there is a method which is slovenly, nothing being easier than to let labour-saving degenerate into slovenliness. I do not for one moment assume that such is the case at Burghley; but when lights of the profession like Mr. Gilbert preach kitchen gardening made easy, they are apt to be somewhat too literally followed by some persons. Soils vary so much that the same advice will not suit all cases, and a good practical man will soon discover for himself what form of culture is the most desirable.—*A. D.*

Beurré Rance Pear.—The appearance of this fine old Pear is not very telling on the table, but its late-keeping properties, and buttery, melting flesh render it very acceptable for dessert purposes when Pears are becoming a scarce commodity. The fruit ripens very late, and although it requires the assistance of a wall to mature it in the northern part of this Island, it succeeds very well as a standard in England (at least, in all favourable localities), where the fruit, although smaller, is more abundant and richer flavoured. It has, moreover, a rich and viuous flavour, and never tastes of rancid butter, as the name would lead us to imagine. All these qualities are well developed in Mr. Hudson's fruit room at Gunnersbury House, Acton.

Imantophyllum miniatum sulphureum.—A seedling exhibited at the Spring Show of the Crystal Palace on March 26th by Messrs. John Laing & Co. under the above name, was omitted by an oversight from the list of plants Certificated in our report. Apparently, the variation of this species in the hands of the florist is considerable, and if improvements continue to be made, we shall, probably, have many striking departures from the original. Already the flowers have been greatly modified with regard to size and colour. That under notice, which received a First Class Certificate, had flowers of a sulphury buff colour, which adds to the already existing scarlet, yellow and white.

Azalea Davisii.—This Azalea—raised by, and named after, Mr. Davis, of Ormskirk—is a very good and useful variety for forcing purposes, belonging to the *A. mollis* group. Where plants are used for the decoration of the dwelling-house it is sure to be appreciated. When first opening the flowers are cream-coloured, with the upper petals blotched yellowish; but after two or three days the creamy shade disappears, and it becomes white. It is deliciously scented, which adds much to its other good qualities.—*E. Dumper.*

Flinty Ground.—In some parts of North Herts there is an excessive number of flints in and upon the ground; so great is the number that Sir Henry Chauncy in his *History of Herefordshire* says, "After any great Shower of Rain, not anything appears save, as it were, a Heap of large rugged broken Flints"; yet, says Sir Henry, "very good Corn often grows on such Places in dry Summer; and the Reason given for it is, because the Warmth of the Flint (having a Seed of Fire in it) preserves the Corn from the cold of

Winter." The author further on more correctly says that the stones also protect the seeds from being scorched by the sun, "so as stringy Fibers of the Root reaching to the Clay below, fail not to send up Moisture to the Blade and Stalk."—*W. G. S.*

Spring Flowers at Wisley.—The late trying winter seems to have made the early spring flowers late, but more beautiful even than usual. At Oakwood we have a bank of loam covered with broom and green moss, through which small plants of *Hepatica* have thrown up their flowers. I counted eight shades of pink, and as many of blue; these with two sorts of white give an effect which could hardly be beaten in Switzerland. In some bays of the rockwork *Chionodoxa Luciliae*, *Scilla siberica*, *Galanthus* (called *Redoutei*, but as I am told incorrectly), *Narcissus nannus* and *Helleborus purpurascens*, side by side, look very pretty. *Chionodoxa sardensis*, when in good clumps, and *Scilla taurica* are, I think, equal in beauty to the favourite *Glory of the Snow*, *Chionodoxa Luciliae*. *Anemone fulgens* is very late, and will not bloom for some days. *Narcissus minimus*, which I owe to the kindness of its collector, is much admired.—*George F. Wilson, April 4th.*

Tea Rose Princess Beatrice.—We have received a copy of a coloured illustration of this attractive Pedigree Tea Rose, and having seen the Rose itself can speak of its beauty and fine appearance for the cut flower basket. It received a First Class Certificate from the Floral Committee of the Royal Horticultural Society in 1885, and at the Spring Show, Crystal Palace, recently. The outer petals are pale yellow, more or less suffused with rose at the margins, and gracefully revolute at the tips, exhibiting the firm bud-like centre, which is a deeper yellow, and gives the Rose a firm and compact appearance.

Chou de Burghley.—After passing through such a severe winter as the past one has been, it is worthy of note how well this vegetable has stood the ordeal. Broccoli are almost entirely destroyed; Brussels Sprouts, after the frosts early in January, looked as if they had passed through a fire; and even the hardy Scotch Kale fared little better; but from Christmas onwards we have found Chou de Burghley one of the most useful crops in the kitchen garden. It has been used as a Cabbage, and a very fine-flavoured one it is. Here, I think, lies the point which has caused so much disappointment to be expressed in connection with this most useful vegetable. It has been grown, and the growers, in a great many instances, have expected to find something different to a Cabbage. True, in the spring, the head contains what may be termed a small Broccoli; but I think that it is as a Cabbage that its great value lies. By sowing seed about the beginning or middle of May, and planting out in suitable quarters when ready, we shall have plenty of good Cabbages during the winter months, and superior in flavour to spring kinds.—*A. W. D.*

Winter Quoining Apple.—The name is sometimes written Winter Queening, but this is merely a popular error, as the Apple in question derives its name from the five angles with which it is furnished, the name being taken from *quoin*, an angle or corner. The fruit is sometimes described as small, but judging from a large quantity in excellent preservation at Gunnersbury House, Acton, it often attains a good medium size. The conical outline of the fruit, together with the fine suffusion of red, and the deeper markings and blotches, remind one of Cellini, which, however, is not a late keeper. It is a very old English Apple with a greenish yellow, rich and sugary flesh, and is useful either for kitchen or dessert purposes. Add to this its excellent keeping qualities and fine appearance, for which it deserves more general recognition.

Teucrium fruticans.—This plant is a member of a genus that contains numerous species, and is of comparatively recent introduction. Being a native of South Europe, it succeeds best if grown in a greenhouse. It is not so attractive as it is interesting. It is interesting because seldom seen, and the flowers are not without beauty. We are so used to certain forms and classes of plants that it seems quite a relief to have something out of the ordinary track. Many new plants do not possess this relieving power, because although, perhaps, they are widely different from existing varieties, they possess some feature that we have seen before, and the plant is therefore old yet new. The subject under notice is of branching habit

and somewhat slender growth. The leaves are of a silvery green colour, lanceolate in form, and about as large as common Fuchsia leaves. The flowers are borne upon the ends of the young growths, and arise from the axils of the leaves. The calyx is green, and consists of five partially-divided sepals; while the corolla, which is of a delicate blue tint streaked with light and dark purple, consists of a trilobed lip with two horn-like lobes converging at the base. The pistil and four stamens rise from the base, and arch over gracefully towards the lip. The plant delights in loam with a little sand and leaf-mould.—*M. Barker, The Gardens, Watcombe Park, Torquay.*

Fancy Pansies.—Pansies are beautiful at any time, but exceptionally so at this season of the year; and a boxful sent us the other day by Messrs. Dobbie & Co., Rothesay, created a lively glow in our rather dull atmosphere. The individual blooms measured from 2 ins. to 2½ ins. in diameter, and were remarkable for the intense colouring on the three lower petals especially. Dr. Hunter has the latter deep bluish purple, almost black, edged with pale yellow, while the upper appeared of a deep violet-purple. John Brown is a large fine yellow flower; and Mrs. Maxwell is notable for the indigo-blue margin to the dark ground colour, while the margin is cream. Lord Roseberry is also a large bold flower, with the upper petals purple. A very telling fine round flower is that named Mrs. T. McComb, with dark centre, clear yellow margin, and maroon-purple upper petals. A very striking large flower is the deep yellow J. Spence, with a broad black centre; and Evelyn Bruce, with black centre and flamed margin and upper petals. Tom Bell is a large dark flower, with a creamy yellow margin; while Maggie White is variously shaded with blue, black and white. Princess Beatrice, Mrs. McTaggan, and several others made up a showy and interesting lot.

Staphylea colchica.—The fine masses of white flowers produced by this species is a great recommendation to growers who desire to add variety to a collection of suitable forcing plants. The flowers are also fragrant, and the plant is much dwarfer and more manageable in pots than *S. pinnata*, which has graced old-fashioned shrubberies for many years. The trifoliate leaves are also produced at the same time as the flowers if the plants have not been subjected to forcing too early or too hard.

Lomaria gibba platyptera.—The ordinary form of this useful decorative Fern is well grown by Mr. Bones, gardener to J. Donaldson, Esq., at Tower House, Chiswick, and they form spreading well-finished heads on stems of some elevation, constituting specimens resembling the true tree Ferns. The variety under the above name is notable for the great breadth of its fronds and pinnæ, which gives a plant of small dimensions even a leafy and massive appearance. Good cultivation also conduces to the retention of the older fronds in a healthy condition.

Nicotiana affinis.—To have a few plants of this in flower at this time of the year is very handy where there is a lot of greenhouse or conservatory decoration to be done. A well-grown plant in a 7-in. pot, with its large light green leaves and conspicuous spike of white, waxy and deliciously fragrant flowers can hardly be passed unnoticed at this season of the year. Such may be had by sowing a pinch of seed in August, and growing on in a moderate temperature. The best soil is that of a rich loamy nature.—*M. Barker, The Gardens, Watcombe Park, Torquay.*

Psychotria jasminiflora.—*P. cyanococcus* is noted for its handsome blue berries, which last some time in perfection, and constitute the real value of that species for horticultural purposes. The present kind is equally valuable and ornamental for its terminal cymes of pure white flowers, which somewhat resemble those of a *Bouvardia* with a long slender tube. It is generally known in gardens under the name of *Gloneria jasminiflora*, and is now flowering in a stove at Devonhurst.

Crotons at Gunnersbury House.—The huge and handsome specimen plants, formerly grown and exhibited at the local shows by Mr. Hudson, have been disposed of to make room for large quantities of table decorative stuff. Crotons form a chief feature of the house containing this class of plants; and the dwarf condition of the plants, coupled with the maximum size and fine colouration of the leaves, reflects

great credit on their management. Whenever the plants become bare at the bottom or leggy, the top is cut off, inserted in small pots with their leaves intact, covering the stems to the very soil, and placed in a close propagating pit. Here they soon root—furnished with leaves equal in size to those grown on large specimens; and after being potted into a larger size, grown for a short time and hardened off, they are fit to be utilised for decorative purposes. Numerous varieties with broad and narrow, long and short leaves are grown.

Illicium floridanum.—The showy character of this evergreen shrub might insure its presence in green-houses more frequently than is the case. It is a member of the Magnolia family, but a very unusual type, from Alabama, while *Drimys Winteri*, its nearest ally, comes from Chili. The flowers have numerous deep purple petals, resembling those of *Calycanthus* in colour. They are produced laterally close to the growing points of the branches, and assume a pendent position. There are few species, growing in widely separated parts of the world, and with this exception yellow-flowered. It is conspicuous amongst the smaller specimens planted out in the cool conservatory at Pendell Court, where Mr. Ross has always a great variety of plants in season.

Scoliopsis Bigelowi.—It is to be regretted that this curious Lilywort has not flowers to match the showiness of its leaves. The latter spring up from the rootstock, three or more together, and are beautifully blotched with brownish purple, reminding one of the Dog's-tooth Violet: but the flowers are much less showy. They are of a brownish or blackish purple hue, with three spreading and three linear-erect segments, also three very curious reflexed stigmas. There are two known species, natives of North America, and worthy a place amongst hardy plants. The rootstock is a rhizome, and the leaves are deciduous. Flowering specimens were recently shown at Regent's Park.

Semele androgyne.—In gardens, this handsome Lilywort usually goes under the name of *Ruscus*, but compared with our native species of that genus, the Butcher's Broom, it is a stately and majestic plant, attaining a height of 12 ft. to 20 ft. or more. Two magnificent specimens at the Crystal Palace have been an important feature of that huge glass structure for many years, and at the present time are in excellent condition, and as healthy and larger than ever. The *Ruscus* proper produces its flowers on the middle of the flattened branches, whereas those of *Semele* are borne all along the margins of these leaf-like cladodes. The latter are arranged alternately and distichously on horizontal branches, so that the whole branch assumes the appearance of a long, feather-like, compound leaf, the effect of which on a large plant grown in a cool house is very striking indeed. It is much to be regretted that an easy means of propagating this fine plant has not yet been discovered.

Gesnera elongata.—Seldom do we see this fine old-fashioned winter-flowering shrubby species grown in gardens where its usefulness might be called into requisition for various purposes. The tubular scarlet flowers are produced in axillary cymes during several of the winter months. A specimen in a conservatory at Gunnersbury House having been placed in contiguity to a damp wall, threw out roots and climbed up the wall in a similar manner to that pursued by many of its near family relatives.

Fuchsia arborescens.—For a large cool conservatory this forms a magnificent object, and flowers profusely every year, as shown by a tall specimen at Pendell Court. It is a native of Mexico, and is figured in the *Botanical Register*, t. 943. The flowers are comparatively small, and pale rosy purple, but produced in terminal panicles in such profusion as literally to hide the ample foliage all over the upper part of the plant.

Centropogon Lucyanus.—We occasionally hear of the utility of this plant for winter flowering; but for this purpose it is generally, if not always, grown in pots. Even under these conditions, when the treatment is liberal, the plant, owing to its vigorous constitution, produces a great amount of bloom from the apex of every stem, and these are succeeded by lateral branches which also flower freely. When planted out, however, in a house with plenty of light, as at Pendell Court, Bletchingley, the size attained by the plant, and the enormous quantity of bloom produced is truly surprising. The scarlet tubular flowers backed up by healthy foliage are very attractive.

ORCHID NOTES AND GLEANINGS.

Lycaste mesochlæna.—The flowers of this species cannot compare with those of *L. Skinneri*, either in breadth of the floral organs or the rich and varied tints of colouration; but the flowers are decidedly large for the genus, and different in appearance from the general run of these Orchids in cultivation. They are pure white, or nearly so, with the upper sepal 3 ins. in length, and the others only a trifle shorter. The labellum is fimbriated and similarly coloured to the rest of the flower. We recently saw a flowering specimen at Sudbury House, Hammersmith.

Odontoglossum triumphans.—The range of variation in the flowers of this species is remarkable, and the more of them we see the higher is our opinion of their value for decorative purposes alongside of other popular species. A very fine form at Sudbury House, Hammersmith, in Mr. Peacock's extensive collection, is notable for the number and intensity of the chocolate blotches on the sepals and petals, and the large blotch on the tip of the labellum was also very intense. Another form flowering at Devonhurst, Chiswick, is conspicuous for the roundness of the flowers, and the broad imbricate, not starry, sepals and petals, which measure ¾ in. in diameter. The labellum is also unusually broad, and the blotches are large and well defined, though not more numerous than usual.

Oncidium unguiculatum.—This variety of *O. tigrinum*, although the flowers are not so large as the type, yet makes up in quantity what it lacks in size of individual blossoms. On Tuesday, March 22nd, I removed a plant of three spikes from the conservatory, where it was placed a few days before Christmas, and which has still several blossoms in good condition on each spike. I did not count the flowers, so that I cannot say for certain what number there were, but the two best spikes must have had from thirty to forty flowers on each, whilst the smaller had from twenty to thirty. I am under the mark rather than over. Whilst in the conservatory it stood on a stand by itself, and added much to the general appearance of the structure. I had others of the same variety there, but which were cut some time since. Two or three plants help to make a good effect, more especially in a small house as ours is.—*E. Dumper, Summerville Gardens, Limerick.*

Vanda tricolor.—A very fine variety of this useful Orchid has been flowering for some time past at Pendell Court, the seat of Sir George Macleay. It possesses a vigorous constitution, and, although of considerable size, is furnished with leaves down to the very base of the stem. The leaves are 12 ins. to 14 ins. in length, nearly 2 ins. in breadth, and Mr. Ross may well be proud of the specimen. The flowers are closely aggregated on stout peduncles, and heavily spotted with purple on a pale yellow ground. The segments are so long, and the delicious odour emanating from the flowers so strong, that we are deterred from calling it *V. suavis* only because the ground colour of the sepals and petals is yellow and not white.

Maxillaria acutipetala.—At first sight this species very much resembles *M. picta*, and is by no means unattractive, while a great profusion of flowers are produced by a small specimen. The leafage is abundant, and retained during the flowering period, so that the plant possesses a double value on that account. The sepals and petals are creamy yellow, deeper coloured internally, but rather heavily blotched with purple externally. The labellum is white spotted purple. There is a figure in the *Botanical Magazine*, t. 3966, and a profusely flowered specimen in the collection at Pendell Court.

Odontoglossum Wardianum.—We have just received a bold and striking flower of this species from Messrs. Ireland & Thomson, Edinburgh. The individual petals measure 2 ins. in length by 1¼ ins. in breadth, while the expanse of the two somewhat exceeds 4 ins. They are, furthermore, nearly of uniform width, and not narrowed to the point, while they, as well as the other organs of the flower, are of a firm and wax-like consistency. The labellum, when flattened, was orbicular in outline, and measured quite 1½ ins. in diameter. Although in colour it exhibits nothing unusual, the flower certainly speaks of superior cultivation.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

THE GREENHOUSE.—We have shaken out the whole stock of Fuchsias and re-potted them, staging them in one of the succession vineries. As soon as they start again, cuttings will be taken off and inserted, which prove extremely useful for decorative purposes during the autumn. The zonal Pelargoniums we have now given a stage of the greenhouse to themselves. The effect is much better when thus staged than if mixed with other flowering plants, added to which they are not really required, there being quite a plethora of plants in bloom just now.

BULBS will not now need to be placed in heat, but will succeed better if removed to a frame with a south aspect; the flowers also last much longer than if forwarded in heat. Lachenalias are now coming into full beauty, many of the pots being full of the pretty spikes of bloom, which are much admired. It is quite a wonder these plants are not more generally cultivated, seeing how readily they respond to a little attention, and how distinct they are from other spring-flowering subjects. Moreover, they are not like the majority of bulbs, requiring annual replenishing, which is a consideration with many. Work in this department is abundant, but the potting off of all seedlings is a matter that must not be neglected.

TUBEROUS BEGONIAS have come remarkably well from seed, and have been potted off and placed on a shelf in the stove near to the glass until they establish themselves, when they will be transferred to cooler quarters. Cyclamen and Gloxinias have been similarly treated, and we are glad enough to have such work out of hand.

IN THE STOVE.—Dendrobium Jenningsii is fully in bloom, and suspended on blocks is much admired. Vanda suavis is throwing out some rare spikes of bloom, five are now showing from a vigorous young plant; and what with Maxillaria and other Orchids, coupled with an abundance of the bright scarlet spathes of Anthurium Scherzerianum, the structure is quite interesting. The pans of Dracaena eyes which were put in are now quite ready for potting off singly, and must receive attention. Stock struck in this way annually always allows of the throwing away of leggy plants, which are useless for decorative purposes, and young plants generously treated give by far the finer foliage, thus revealing the true character of the plants. So far none can surpass for general work the graceful D. Cooperii; D. Goldiana we do not care for; D. Chelsoni is a good free upright grower and distinct; D. Baptisti and D. Regina are too apt to lose their foliage to be relied upon, but when good specimens are secured they are extremely pretty. Several others might be named, but we will close the list with the addition of the somewhat ancient D. terminalis, still one of the most useful.

THE FRUIT HOUSES.

VINERIES.—Continue until completed the stopping and looping down of the Muscat and succession vineries, so as to prevent the damaging of the young foliage by being in contact with the glass; for it must be remembered that if damaged, the Vine is robbed of much of its vigour, and the crop must of necessity suffer accordingly. The succession house should now be in flower, so follow the treatment advised as for the early house, only that the houses may be more freely ventilated, which will greatly assist in fertilising the clusters. A night temperature of 65° should be maintained, and 80° by day, and little fear need be entertained even with the worst setter. Of course, keep the rods tapped with the hand on every occasion of attending to the house, and carefully avoid all damping between 10 a.m. and 2 p.m. With the stopping of the Muscats it will be advisable to leave more foliage, say three leaves beyond the cluster, and with the laterals two leaves instead of one; the more foliage the greater the development. As the colouring period arrives, surplus foliage can readily be pruned out, as is generally done.

Not being quite ready to devote the house to the second sowing of Melons, we have shifted them into 32's, which will last them for another fortnight, by which time the house will have been prepared for their reception as before stated. We grow all our Melons in pots, using 14-ins. for the earliest, with a size larger for the summer-fruited batches. Manure should at

once be prepared for making up the outdoor Mushroom beds. Any sheltered open shed will answer the purpose provided the beds are protected from drying winds. We prefer making up the beds in a cellar, the temperature remaining more equable. In the house proper care must be taken that too high a temperature is not kept, or the crop will surely fail. The drying spring winds have a very prejudicial effect upon the crop. Our house being lofty, and, consequently, very airy, we have hung mats along the front of the beds, which are kept syringed during the day and night, thus doing away with frequent waterings of the beds. — *Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Shropshire Horticultural.—*March 31st.*—The spring show of this society was held as usual in the Music Hall, and although during the greater part of the day it was very wet, the Hall was inconveniently filled by the public at times, and we think the committee would do well another year to make use of the room adjoining for staging some of the exhibits. The plants would look much better if not so crowded together. It was one of the most successful spring shows yet held by this society, the amateurs showing in strong and increasing numbers as well as the gardeners. The following is a list of the awards:—Open classes—Collection of twelve plants in flower: First, the Misses Bannerman (gardener, Mr. Shepherd); second, Messrs. Pritchard & Sons, nurserymen; third, Mrs. Juson, (gardener, Mr. Farrant). Eighteen Hyacinths, Messrs. Pritchard & Sons, first and second; twelve Hyacinths, Col. Wingfield (gardener, Mr. J. Lambert), first and second. Four Azaleas, large untrained plants in flower: First, Col. Wingfield; second and third, Messrs. Pritchard & Sons. Four Azaleas, trained: First Mrs. Juson; second, Messrs. Pritchard & Sons; third, Mrs. Juson. Three Orchids; First, the Misses Bannerman; second, Col. Wingfield; third, Mrs. Juson. Four Dielytras: First, the Misses Bannerman; second, Rev. J. D. Corbet (gardener, Mr. R. Milner); Six Cyclamen: Messrs. Pritchard & Sons, first and second. Six Cinerarias: First, Rev. J. D. Corbet; second, the Misses Bannerman. Six Chinese Primroses: First, Mr. J. Barker; second, T. S. Eyton, Esq. (gardener, Mr. Rudge). Six Spiræas: First, Rev. J. D. Corbet; second, T. S. Eyton, Esq. Six Roses in pots: First, the Misses Bannerman; second, Rev. J. D. Corbet. Four Callas: First, T. S. Eyton, Esq.; second, the Misses Bannerman. Twelve pots Tulips: First and second, Messrs. Pritchard & Sons. Six pots Lily of the Valley: First, Col. Wingfield; second, Messrs. Pritchard & Sons. Collection of bulbs and collection of flowering shrubs: First and second, Messrs. Pritchard & Sons. Collection of spring hardy herbaceous plants in flower: First, Messrs. J. Dickson & Sons; second, Messrs. Pritchard & Sons. Ball bouquet: First, Messrs. Perkins & Sons; second, Messrs. Jones & Sons. Bridal bouquet: First, Messrs. Perkins & Sons; second, Messrs. Jones & Sons. Twelve cut Roses: First, Mr. Murrell; second, the Misses Bannerman.

Mr. Murrell, Messrs. Jones & Sons, Messrs. Pritchard & Sons, and Mr. Myers, nurserymen, contributed pretty collections each of flowering plants and shrubs. Col. Wingfield exhibited a box of cut flowers, and the Misses Bannerman six pots of good Strawberries, not for competition. — *Salopian.*

QUESTIONS & ANSWERS.

Pinguicula Bakeriana.—*T. M. C.*: When the leaves of this plant die down to a small, conical, bulb-like crown in autumn, there are annually a number of smaller ones arranged round the base of the principal or old one. The plant is readily propagated by this means; but if you are fortunate enough to obtain seeds, sow them immediately on a peaty and sandy soil, and never allow them to become dry. They may lie a long time before germinating; but if they are good, by keeping the soil continually moist, they will probably come up after the lapse of some months, according to the season. Be careful not to wash the light seeds away if much watering is necessary. The correct botanical name of the plant is *Pinguicula caudata*.

POPPY.—*Omicron*: *Papaver somniferum* is the species of which the chemists sell the capsules for fomentation. It is a common garden annual, and seeds can be obtained from any respectable seedsmen.

PLANTING CONIFERS.—*Conifer*: In reply to the question asked at p. 461, I may state that the season is more propitious now than ever for the planting or transplanting of conifers, so that the work of planting may now be commenced. *Cupressus Lawsonianus* and *Thuja gigantea* grow rapidly, and would soon form excellent shelter. The former, as well as *Cupressus nutkanensis*, retain their fine intense green colour throughout the winter. To these add *Thuja orientalis*, *T. occidentalis*, *Juniperus virginiana*, *J. excelsa*, *J. chinensis*, and *J. communis* erecta. *Retinospora obtusa* and *R. pisifera* also grow moderately fast, and might occupy a line in front of the others. The *Thujas* are very hardy, but they change to a brownish or yellowish green during winter, while a bluish tint will be imparted by the *Junipers*. Different tints of colour are also imparted to a collection by many varieties of several of the above-mentioned. — *Tarus.*

POTATOS AND SOOT.—*Omicron*: You can sprinkle soot in the drills if you like, it will certainly do no harm. Plant in drills 2 ft. apart, and the sets 12 ins. asunder.

HARDY FERN.—The limits of the word hardy are not very defined, seeing that if planted out the British Fern *Adiantum Capillus-Veneris* is almost invariably killed by the severity of our winters. *Lastrea Goldiana* and *Adiantum pedatum* are exotic forms, yet they are hardier with me than the British species mentioned. Should I be justified in exhibiting the exotics as hardy Ferns?—*Enquirer*. [You would certainly be justified in exhibiting them simply as hardy Ferns, but you would do well to note whether British plants were meant or hardy Ferns of any sort.—*Ed.*]

BIRMINGHAM GARDENERS' SOCIETY.—*South Saxon*: We will endeavour to bear your request in mind. It is not always possible to give the price, owing to the difficulty of ascertaining what it is.

NAMES OF PLANTS.—*M. P.*:—*Narcissus cernuus* (of gardens), *Primula verticillata*, *Eupatorium petiolare*. *Mrs. Leadbetter*: *Begonia Evansiana* (with large red-veined leaves), *Begonia imperialis* (with brown blotched leaves), *Dendrobium crepidatum*, *Cymbidium aloefolium*.

COMMUNICATIONS RECEIVED.—*A. F. B.*—*J. May.*—*J. R.*—*W. G.*—*W. T.*—*R. D.*—*C. D.*—*W. N.*—*G. D.*

LONDON SEED TRADE.

April 6th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a brisk sowing demand for Clovers and Grasses. Prices of English grown seeds are unchanged. Useful German Red Clover is offering at remarkably low prices. Alsike, White and Trefoil unchanged.

COVENT GARDEN MARKET.

April 6th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	2 0	5 0	Pine-apples, St.		
Grapes, per lb.	3 0	8 0	Michaels, each	1 6	6 0
Kent Cobbs, 100 lbs.	60 0		Pine-apples, Eng., lb.	1 0	1 6
			Strawberries, per lb.	4 0	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces, per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, per lb.	0 3		Onions, per bushel	4 0	5 0
Cabbages, per doz.	2 0	2 6	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	3 0	5 0	Sea Kale, per basket	1 6	2 6
Celery, per bundle	2 0	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatoes, per lb.	2 0	3 6
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	3 0	5 0	Marguerites, 12 bun...	3 0	6 0
Azalea, 12 sprays	0 6	1 0	Mignonette, 12 bun...	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Parma Violets (French), per bunch	2 0	3 6
Camellias, 12 blooms	2 0	4 0	Pelargoniums, scarlet, 12 sprays	0 6	1 1
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 9	1 6
Cut Tulips, 12 blooms	0 9	1 3	— single, 12 bun.	4 0	6 0
Czar Violets (French), per bunch	1 6	2 0	Roses (coloured)	3 0	6 0
Daffodils, 12 blooms	0 6	1 6	Roses, Tea, per dozen	1 6	4 0
— single, 12 bunches	3 0	6 0	Roses, Red (French), per doz.	1 6	2 0
Epiphyllum, 12 blms.	0 6	1 0	— Safrano (French), per doz.	1 0	2 0
Eucharis, per dozen	3 0	6 0	Tropæolums	1 0	2 0
Gardenias, 12 blooms	3 0	5 0	Tuberose, per dozen	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Violets, 12 bunches	0 6	1 0
Lapageria, red, 12 blms.			White Jasmine, bun.	0 6	0 9
Lapageria, white, 12 blooms			Xmas. Roses, 12 blooms		
Lilies of the Valley, 12 sprays	0 6	1 0			

These prices may be higher during the Easter time.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 6
Arum Lilies, per doz.	18 0	24 0	Fuchsia, per dozen	9 0	12 0
Azalea, per dozen	24 0	42 0	Genesta, per dozen	8 0	12 0
Cineraria, per dozen	6 0	9 0	Hyacinths, per doz. ptes.	6 0	9 0
Cyclamen, per dozen	12 0	24 0	Lily of the Valley, 12 pots	12 0	24 0
Cyperus, per dozen	4 0	12 0	Marguerites, per doz.	6 0	9 0
Daffodils, 12 pots	8 0	10 0	Mignonette, per doz.	6 0	9 0
Dracaena term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	1 0	24 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Epiphyllums, per doz.	18 0	30 0	Primula sinensis, p.dz.	4 0	6 0
Erica hyemalis, doz.	12 0	24 0	Solanums, per dozen	9 0	12 0
— various, per doz.	18 0	42 0	Spiræas, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Tulips, per doz. pots	6 0	8 0
Fairy Roses, per doz.	10 0	12 0			
Ferns, in var., do	4 0	18 0			
Ficus elastica, each	1 6	7 6			

POTATO MARKET.

KING'S CROSS.—The ruling prices in the station yard for the week ending April 2nd were as follows:—

	Beds.	Black Land.	Linclns.	Kents	Yorks	Scotch Gy. St.	Scotch Red St.
Mags. gd. spls	70/75	55/60	65/70	75/80	87/90	75/90	100/130
Regents	..	..	70/-	80/90	75/80	70/75	90/100
By. Hebron, ..	..	..	100/110	..	..	..	..
Champions, ..	..	..	60/-	65/70	..	55/60	65/70

There is a scarce supply of Scotch and York Magnums, consequently there is a much stronger demand. For Regents there is not much demand. Enquiry for Seed quiet. Good Savoy scarce and wanted. Should there be a spell of warm weather, there will possibly be a fluctuation in the above quotations, which may have a downward tendency. — *F. W. Foord.*

SCHWEITZER'S
COCOATINA,
Anti-Dyspeptic Cocoa or Chocolate Powder.
 Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.
 THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."
 Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocos thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.
 Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.
 Cocoatina possesses remarkable sustaining properties, and is specially adapted for early Breakfast.
 In tins, at 1s. 6d., 3s., 5s. 6d., &c., by Chemists and Grocers.
 Sole Proprietors:
 H. SCHWEITZER & CO., 10, Adam Street, Strand, London, W.C.

Chrysanthemum Golden Gem.

New Golden Yellow, latest in cultivation, superior to all other late yellows yet known; dwarf, free, erect habit, requires no sticks. Illustrated Circular, opinions of Horticultural Press on application. Awarded two First Class Certificates, London, January 11, 12, and 13, 1887. Plants, 2s. each; 21s. doz. Rooted Cuttings, 1s. 6d. each; 15s. doz.; 8s. ½ doz. Cuttings, 1s. each; 10s. 6d. doz.; 6s. ½ doz. (Distributed in March).

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"**DEFIANCE**" FL. PL., one of the greatest Novelties of the year; lovely scarlet, and quite double. For cutting invaluable. 1s. each, post free. **CARNATION "PRIDE OF PENSURST,"** pure bright yellow. Grand plants in 6-inch pots, full of flower, 20s. per dozen; in 5-inch, 15s.; 4-inch, 12s.; smaller, 8s.; in 60's, 5s. per dozen. Ditto "**ALEGATIERE**," the finest scarlet.

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CATALOGUE of sixty-four pages, containing full information as to colour, height, situation, time of flowering, &c., free on application.

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 NURSERYMEN & SEED MERCHANTS,
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JOHN PEED & SONS beg to offer to the Public Seed of the above, which they have no hesitation in affirming is the grandest strain offered by any firm. Price per packet, 2s. 6d. and 5s. Bulbs, 12s., 18s., and 24s. per doz.

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 12 Selected packets of Flower Seeds for 1s., post free.
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VIOLAS—**ARDWELL GEM**, primrose yellow, extra fine; **COUNTRESS OF HOPETOWN**, a splendid white; **ELEGANS**, **QUEEN OF LILACS**, extra fine; **MRS. GRAY**, white, very sweet-scented, and a first-rate bedder; yellow and other varieties, 1s. 6d. to 2s. 6d. per dozen; 10s. 6d. to 14s. per 100. Twelve fine varieties, one plant of each, post free, 3s.; twenty-four fine varieties, one plant of each, post free, 5s. **NOTE**.—A Descriptive Catalogue, with prices, on application. Many thousand plants in stock.—**WILLIAM DEAN**, Florist, Walsall, Staffordshire.

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HORNBEAM, 4 ft. to 6 ft., 40s. per 1000.

QUICKS, stout, from 15s. to 20s. per 1000.

SCOTCH FIRS, very fine stuff, from 1 ft. to 2½ ft., 12s. to 25s. per 1000.

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SEA KALE, extra fine, for planting, 6s. to 8s. per 100.

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APPLES, PEARS, PLUMS, and CHERRIES, 18s. to 24s. per dozen.

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STANDARD APPLES, PEARS, and PLUMS, 12s. per dozen.

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SPECIAL CULTURE OF FRUIT TREES and ROSES.

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JOHN PEED & SONS have great pleasure in bringing before the public their Magic Earthworm Destroyer. This, without doubt, is the finest remedy for Lawns that are infested with worms. In the space of five minutes every worm will rise to the surface, and most of them die immediately. A mild damp morning is best for application. Mix one pint to three gallons of water. Pint bottles, 1s.; quart, 2s.; 7s. per gallon.

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NEW CATALOGUE.

MY CATALOGUE OF FLORISTS' FLOWERS has for years been acknowledged by all competent authorities to be THE BEST AND MOST COMPLETE ever published.

MY NEW ISSUE for 1887—which, like the stock it represents, is this season GREATLY ENLARGED AND IMPROVED—is now ready, and will be posted free on application to all intending purchasers. It is replete with the best Novelties of the season, and will be found to accurately describe all the BEST varieties EXTANT of PANSIES, VIOLAS, PHLOXES, PENTSTEMONS, ANTIRRHINUMS, HOLLYHOCKS, CARNATIONS, PINKS, PYRETHRUMS, DELPHINIUMS, POTTILLAS, PEONIES, AURICULAS, DAHLIAS, PELARGONIUMS, FUCHSIAS, BEGONIAS, PERENNIALS, &c., &c.

All should have a copy before buying elsewhere, as not only may a saving be effected in the first instance, but it will also prove a valuable reference book on all sections of FLORISTS' FLOWERS and their varieties.

JOHN FORBES, NURSERYMAN, HAWICK, N.B.

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TWELVE PALMS, in six splendid varieties, including Cocos Weddelliana and Phoenix rupicola, &c., 6s. 6d. per doz.

SIX PALMS, fit for immediate effect, including one large plant each of Cocos Weddelliana and Phoenix rupicola, for 4s. 6d.

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CARNATIONS.—Grenadin, the new German scarlet; a fine decorative and distinct variety. Early and free bloomer. Twelve for 1s. 6d., six for 1s., free.

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PINKS.—Beautiful pure white garden, deliciously scented. Good strong plants, to bloom well, six for 1s., twelve for 1s. 6d. Free.

GEUM.—The new double scarlet, equal to a double Geranium, quite hardy, free bloomer. Twelve for 1s., twenty-five for 2s., free.

AURICULA.—Pure snow-white, one of the most beautiful hardy spring-flowering plants in cultivation. Two for 1s., free.

SWEET WILLIAMS.—Auricula-eyed; Hunt's Improved, Barlow's strain, double varieties, extra dark and other fine strains. Good blooming plants, 1s. per dozen, free.

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STRAWBERRY PLANTS.—Selected crowns, transplanted, Black Prince, Improved Brown's Wonder, Alpha, Pauline, Sabrenr, Viscomtesse H. de Thury, Duke of Edinburgh, and other extra sorts. 3s. per 100, free.

STRAWBERRY, King of the Earlies, Mr. Laxton, grand new early variety, 5s. per 100, free. Also the Captain (Laxton), 1s. per dozen, free.

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SAVED FROM THE FINEST STRAINS.

BARR'S DESCRIPTIVE SPRING CATALOGUE OF CHOICE SEEDS

Greenhouse, Flower Garden, Wild Garden, Grass Garden, Subtropical Garden, Rock Garden, and Kitchen Garden. The Most Complete List Issued. Fully Described.

BARR'S LARGE-FLOWERED TEN-WEEK STOCK.

Splendid varieties in mixture. Per pkt., 1s. and 2s. 6d.

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Splendid Rocket varieties in mixture. Per pkt., 1s. & 2s. 6d. Splendid branching varieties mixed. Per pkt., 1s. & 2s. 6d.

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Saved from the finest Selfs, Flakes, Bizarres, and Fancy varieties, in mixture. Per pkt., 3s. 6d.

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Remarkable for their large and handsome flowers and brilliant hues—beautiful mixture. Per pkt., 2s. 6d.

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Saved from the finest strain—beautiful mixture. Per pkt., 1s.

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Handsome varieties, mixed. Per pkt., 1s. and 2s. 6d.

Barr's Descriptive Catalogue of over 2,000 Varieties of Flower Seeds free on application.

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FERNS.—FIFTY RARE HARDY ROOTS, ten varieties, including Maidenhair, Ceterach, Rutamuraria, Asplenium, Trichomanes, Polypodium Rob-tianum, Scolopendrium, Polystichum angulare, and Filix-mas. Packed in Moss and Ivy. Carriage paid, 1s. 3d.—E. ANDREWS, Beaminster, Dorset.

CLEMATIS JACKMANI, very strong and broad, 6 or 7 ft. high, £3 15s.; 5 or 6 ft. high, £3 per 100. Package included; free in Rotterdam. Orders, cash payment, or P.O.O. Samples for the same price. BOOY and ROSBERGEN, Boskoop, Holland.

National Chrysanthemum Society.

SCHEDULES now ready, and may be had (free) on application to WILLIAM HOLMES, Hon. Sec., Frampton Park Nurseries, Hackney.

ROYAL HORTICULTURAL SOCIETY.

NOTICE! Volume viii. of the Journal, entitled "THE FROST REPORT," on the effects of the severe frosts on Vegetation during the winters of 1879-80 and 1880-1, by the Rev. GEORGE HENSLow, M.A., F.L.S., F.G.S., may be had free of charge by the authors of the Reports, as well as by Fellows, on application to the Secretary, Royal Horticultural Society, South Kensington, S.W. The Report may be purchased, price 5s., from Messrs. Macmillan and Co., 29, Bedford Street, Covent Garden, W.C.

Next Week's Engagements.

WEDNESDAY, April 20th.—Royal Botanic Society's second Spring Show. Newcastle-on-Tyne Spring Show. Sale of Orchids in Flower at Stevens' Rooms. Sale of Lily Bulbs, &c., at Protheroe & Morris's Rooms.

THURSDAY, April 21st.—Sale of Imported and Established Orchids at Stevens' Rooms.

FRIDAY, April 22nd.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, April 23rd.—Sale of Roses, Fruit Trees, &c., at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 16, 1887.

THE COLONIAL AND INDIAN EXHIBITION REPORTS.—When the scheme for this exhibition was being organised, provision was made for drawing up reports on the more important exhibits representing the industries of the Colonies. Those of India were not included in the original proposal, but the reports were ultimately extended to embrace those on the Tea, Coffee and Tobacco industries, all of which are of great importance, especially that relating to Tea. The work having been carried to a successful issue and published, will prove a great boon to those interested in the welfare of our Colonies, and the prosperity of our cousins in distant lands, besides furnishing intending emigrants with a manual, replete with information respecting the inducements held forth by the different Colonial possessions. Notwithstanding the briefness of the reports, necessitated by the number and variety of the exhibits, the work extends to 505 pages, including a copious index, which will be found extremely useful in referring to the various items included in the body of the work. Almost every subject has been treated by a different author, each duly qualified for his respective subject; and the council of the Society of Arts having undertaken the super-

intendence of the publication, the burden of the editorial duties fell on Mr. H. Trueman Wood, their secretary, who may be congratulated on the superior finish and general excellence of the work.

The mining industries of our dependencies necessarily attracted a great amount of interest, and the report concerning them was drawn up by Mr. C. Le Neve Foster. The more important subjects are dealt with in fullest detail. It is important to note that coal, gold and stone are sources of great wealth to the Dominion of Canada, and that no other Colony exhibited such a number of dressed blocks of stone. Coal, gold, silver and tin, the statistics of 1885 show to be of great importance to New South Wales; but the quantity of gold raised in Victoria, and valued at £216,000,000, shows the vast importance of the latter colony as a source of mineral wealth. Copper is the most important metal of South Australia, and gold yields by far the greatest return in Queensland. Coal, gold, and the fossil Kauri Gum are most important in New Zealand; and diamonds at the Cape of Good Hope. Mr. Foster concludes his report by a general summary of the leading statistics. The minerals and gems of the Colonies are treated in a separate paper by another author, in which it is shown that extensive and valuable displays were exhibited by Canada, New South Wales, Victoria, Queensland, and other divisions of Australia, together with the Cape of Good Hope and Ceylon; but it is impossible here to do more than make passing allusions to them, and we heartily recommend the book to the perusal of our readers who may be desirous of more copious information; for every page, owing to the condensed nature of the reports, is brimful of facts that must interest a wide circle of readers. Statistics are frequently given, but its pages are not burdened with them, seeing that they are generally given in a pleasant and readable form.

The details concerning the meat and dairy products of the Colonies are of a most interesting kind, and show the close intercommunication that has existed between the Dominion of Canada and the mother country. Cheese ranked amongst the most valuable of the products at the exhibition; while meat was exhibited only in a small quantity, owing to the facility with which large quantities of live meat can be imported and sold in the markets of the United Kingdom. No other colony sends us so many live cattle as Canada. The frozen carcasses of mutton from New Zealand, kept in this condition by action of refrigerators driven by steam, was a feature of immense interest in the exhibition, and is again vividly recalled by the details of the report; while the exhibits from Victoria and other Colonies receive due attention.

A large amount of importance, as might be expected, attaches itself to the importations of grain to this country; but the reports serve to recall the fact that, with the exception of the magnificent grain trophy exhibited by Canada, the exhibits failed to excite much public interest, owing to the absence of novelty, or any features calculated to attract the attention of the sight-seeing multitude. Canada, as the oldest colony, claims and receives due attention, while wheat is considered the most important grain for the Anglo-Saxon race. Demand, supply, qualities, transport and prices are all detailed in a most interesting manner. The improvident nature of the system of cultivation is also vigorously handled. The details concerning the exhibits and importations of foreign fruit, whether of temperate or tropical countries, are of a most interesting character; but owing to their extent, variety, and the fact that gardeners generally and growers attach much importance to fruit growing, we may on a future occasion refer to the subject, showing

the nature and extent of the various fruit-growing industries, and how they affect home growers and consumers.

As we have already notified, India is included in the report on Tea, an industry which, in the latter country, is yearly assuming greater proportions, and attracting almost universal attention in this country, from the fact of its adding so materially to our national prosperity, and affording a means of subsistence to so many of our fellow subjects. The produce for the year 1886 in India alone amounted to 75,000,000 pounds, valued at £4,000,000. Besides those already mentioned, chapters are given on coffee, cocoa, sugar, vines, tobacco, cotton, wools, silk, leather, timber, drugs, musical instruments and various other industries, all of which are of the most varied character. The text and printing of the book leaves nothing to be desired, while the information given, from its having been compiled by authors well versed in the different subjects, may be relied upon as correct. Furthermore, besides constituting itself a readable manual, the book will form a useful memento of the exhibition, and also be valuable for reference to statistics in all time to come.

MR. GEORGE MAW, Beuthall, Kenley, Surrey, has been appointed a member of the Council of the Royal Horticultural Society, in the place of Mr. A. B. Mitford, who has resigned.

THE Council of the Royal Horticultural Society have decided to hold a CHRYSANTHEMUM SHOW, on November 8th and 9th, and have abandoned the idea of holding a Grape Conference in the autumn, as was proposed a few weeks ago.

MR. JAMES SMITH, at present gardener at Moredun, Midlothian, has been appointed gardener to the Right Hon. the Earl of Hopetoun, Hopetoun House, West Lothian.

MR. JOSEPH GODSEFF, who for the last sixteen years has been *chef de culture* at Mr. William Bull's nurseries, Chelsea, has been engaged as manager of Messrs. F. Sander & Co.'s extensive Orchid-growing establishment at St. Albans.

THE SCOTTISH PANSY SOCIETY will hold its forty-third annual competition in the Odd-Fellows' Hall, Forest Road, Edinburgh, on June 17th.

MESSRS. BLACKWOOD & SONS have just issued the fourth edition, revised and brought down to the present time, of that admirable work, *THE HANDY BOOK OF THE FLOWER GARDEN*, by Mr. David Thomson, Drumlanrig.

THE honorary secretary of the GRAND NATIONAL DAHLIA SHOW requests us to state that corrected schedules as regards amateurs' special prizes have been forwarded to subscribers and growers; and should anyone not have received a copy, an early application will secure immediate attention.

THE Committee appointed to draw up a scheme for carrying out the proposed GARDENERS' ORPHAN FUND met at South Kensington on Tuesday, and adopted a circular letter embodying the main features of the Committee's proposal, which will be circulated among gardeners during the next few days.

WE are requested to state that the authors of the reports furnished for the compilation of the "FROST REPORT," can obtain a copy of that work free of charge, as well as the Fellows of the Royal Horticultural Society, on application to the Secretary of the Society. The Report can also be purchased by the public, price 5s., from Messrs. Macmillan & Co., 29, Bedford Street, Covent Garden.

THE *American Gardeners' Monthly* announces the death, on March 3rd, in his ninetieth year, of Mr. WILLIAM CARVILL, a highly educated English gardener, who went to Philadelphia early in this century, and to whose ability, as a landscape gardener, many of the older places in the vicinity of that city owe the beauty and good taste for which they are famous.

GREAT diversity of opinion exists with regard to the advisability of growing the native LILY OF THE VALLEY for forcing purposes; but, with judicious

management in the matter of cultivation, there is no reason why satisfactory results may not be attainable. Mr. Bones, gardener at Tower House, Chiswick, prefers growing his own rhizomes, and believes in flooding them with water during the growing season in the open ground. His forced and flowering specimens are now well furnished, both with foliage and flowers; he dislikes leafless plants.

GROUPING PLANTS AND FLOWERS.

THE methods of arrangement that can be pursued in the grouping of plants are almost endless, as are the number and diversified forms of the plants themselves, and the intelligence and taste of the individuals who engage in this kind of work. In private establishments there is, perhaps, the freest scope for the development of individual taste in all matters relating to the grouping of plants in pots and the arrangement of cut flowers. Here the designer is not, or need not be, fettered or hampered by the conventionalities of public taste, or of exhibitions where grouping, in many instances, of a rigidly formal character is not only tolerated but encouraged.

At flower shows, where grouping is a prevalent feature of the present day, the groups are limited as to size; and owing to their arrangement along the sides of the show-room or exhibition tent, they are almost certain to take the form of a semi-circle or crescent, so as to be literally one-sided masses of plants. In such an arrangement a large central specimen forms the nucleus, and on each side of this the dominant idea is to have each plant the exact counterpart of the other, and so on for each corresponding nook and corner of the whole group. Around this it is almost certain there will be two or three lines, each consisting of one kind of plant, and all these are as densely packed and formal as possible.

Now, novelty of design should be more often encouraged at such exhibitions than is at present the case, and prizes should be offered for novelty of design coupled with graceful curves and free and easy arrangements of rigid or massive and broad-foliaged plants to show off, by contrast, the airy gracefulness of such things as Palms, Cycads, Ferns, Aralias, and numerous subjects of that nature, that could readily be furnished by any collection of moderate extent. To obtain tasteful novelty of design, everything lumpy or massive in its nature should be discouraged in the assurance that the public taste will appreciate, enjoy, and support features of artistic merit unencumbered by formality of design. Of course, this is quite another matter to the production of florists' flowers, which will always find a good percentage of admirers, notwithstanding the unsettled and changeable nature of fashion.

In public or private gardens, where the arrangements are left to the men in charge, much may be done in the way of grouping plants of a class or group having a family likeness or characters in common. The system has been both lauded and condemned; but, if intelligently conducted, it offers a great improvement on the old-fashioned dot and pudding style of arrangement or, rather, indiscriminate medley. When plants are naturally of a leggy character, or the foliage is of such a nature that it affords insufficient density to screen the background, other kinds must be employed to obtain the desired end. Nothing is calculated to give better effect to any kind of flowering plant than by exhibiting a group or mass of it, showing its range of variation in the matter of colour. Each group may have its component parts arranged so as to harmonise and constitute a separate floral picture in itself.

The arrangement of cut flowers at exhibitions may be calculated to show the effect of masses of any given colour or colours, but the lumpy nature of the individual bunches destroys any graceful or artistic feature the different kinds may possess. The elimination of the stony, indestructable-looking blacking bottles that used to constitute a salient and not very attractive feature in groups of cut flowers at London exhibitions is very satisfactory, and it is to be hoped that improvements will be effected from time to time. Surely a graceful and less lumpy arrangement of individual bunches would be more natural, more striking and attractive to the public, and, at the same time, equally convenient to exhibitors.—*Observer*.

SHOW, FRENCH AND FANCY PELARGONIUMS.

(Concluded from p. 504).

Good plants can be made that will give plenty of flowers from both Show, French and Fancy varieties. After the plants have almost finished their blooming period, water should be gradually withheld, but never allow the plant to suffer from the want of it. Do not allow the leaves to droop, or it will cause the wood to shrivel. The latter should just get nice and brown, when the plants may be cut down, and all the bottom part of the shoots can be cut up into lengths with two or three eyes to each, the flowering part at the top being of no use whatever. These cuttings may be inserted in sandy loam and leaf-soil, and will soon root if they are kept in the house where the plants have been growing; but they will root sooner if the plants could be put in a closer place, either a close cool propagating house, or on a shelf in an intermediate house. As soon as rooted the plants must be potted off into sixty-sized pots, and kept at an intermediate temperature till the roots show at the sides of the pots, when they should be gradually inured to as much air as possible. These cuttings should be got in not later than the end of July, and should be well-established in the sixty pots by the first or second week in September. The strongest should be potted into 5-in. pots by the end of September, and placed at once into their winter quarters—the same kind of position as recommended for the larger plants. The weaker ones can remain in the sixty-sized pot till the following February or March, when they must be potted into a larger size.

They will soon make roots in the new soil, and become well established before winter sets in. Air must be given in abundance, and a little warmth in the pipes if the house is devoted wholly to these plants. After they have passed the winter safely, if the plants are wanted to be made into larger specimens, they must be potted on into larger pots. In the case of those with only limited means to grow this class of plants, I should advise them always to grow young ones rooted early in the season, and not to trouble to keep older ones, for the young plants will always have the most vigour, and better repay the time spent in their culture.

As regards the soil in which to pot Pelargoniums, we always use three parts of good friable loam, one part rotten manure, with a good sprinkling of sand. Into this mixture we add about a pound of Thomson's Vine Manure for every four bushels of the soil, and mix them well together. This Vine manure should only be used when the plants are going to be put into their flowering pots. Always pot firm, and be careful the plants do not suffer for want of water, or they will soon lose their bottom leaves, and this will cause them to appear leggy.

Fancy varieties should have the warmest part of the house, and are rather more susceptible of over-watering than the other varieties; and in potting, rather more sand should be used with a little less manure. As the plants of all the classes begin to show their trusses of flowers, they will be benefited by an occasional light syringing in the morning, more especially when the day is likely to be a fine one.

In finishing up these few remarks on Pelargoniums, the person who intends to grow them well must take into consideration the locality in which he may be situated. Allowance must be made for the gardener living in the north. The latter will be obliged to keep his plants more under glass than the grower situated in the midlands or the south of England; but let the grower be situated in what part he may, he must bear in mind the principal conditions to be observed in the successful cultivation of Pelargoniums. These are a south aspect, with abundance of ventilation in the house, and plants well established in their pots before the advent of winter. If not well established before this dreary period they will never make strong plants productive of much good.

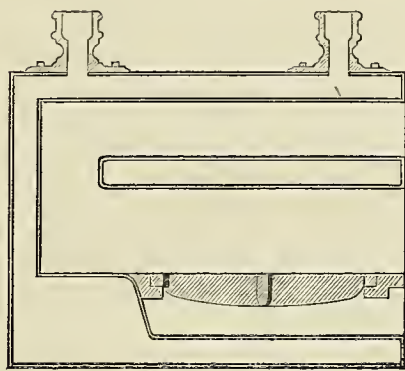
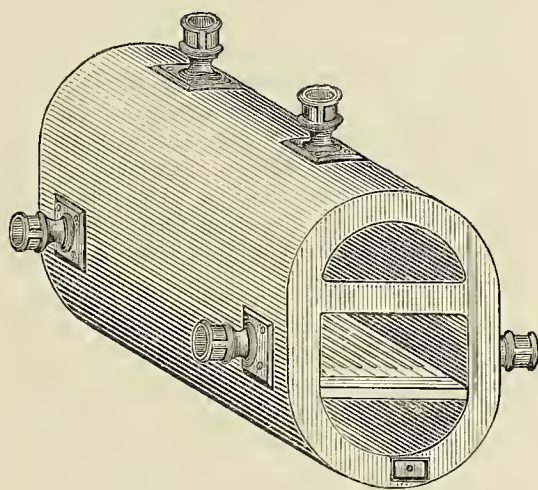
Should green fly appear at any time fumigate the house at once, for it soon spoils the foliage. This pest will generally make its appearance when the plants are sending up their trusses of bloom; and at this time they should have two or three good fumigations to thoroughly cleanse the plants before they come into flower, for as soon as they get into bloom no fumigation can be done without causing most of the petals to drop. When in flower they should have a slight

shade to protect them from the fierce rays of the sun; but as soon as the plants show signs of having almost finished blooming remove the shading, and expose them to all the light possible, to ripen the wood and fit it for flowering next season.—*W. G.*

THE "GUNNERSBURY" BOILER.

FEW subjects have been more fully discussed in the gardening papers during the past few years than the heating of horticultural buildings. Boilers of various shapes and form have been placed before the gardening world, and each has generally received high praise for economy of fuel and power of heating any number of feet of 4-in. piping. Many of these boilers, owing to their complication or other easily-detected defects, have had but a short-lived existence. A boiler that has stood the test of time and still finds favour with many good judges is the plain saddle, and the many forms of it, such as the Terminal-end Saddle, the Witley Court, and the Gold Medal.

The latter forms are now more frequently used for heating long ranges of glass than any other, and it would be interesting if we could get statistics giving the average existence of the various forms of saddle boilers. My own experience with these boilers—where



SADDLE AND FLUE BOILER, WITH ROUNDED WATERWAY BOTTOM.

there is no option but to charge them with hard water—is that their duration in sound condition seldom exceeds ten years. Many cases have come under my notice where they have not lasted six years. The weak point of all forms of the saddle is the foot, where the sediment rapidly accumulates; and though taps may be, and are generally, placed in this part of the boiler to run off the sediment, they seldom accomplish it satisfactorily.

After repeated failures with the Terminal-end Saddle and Gold Medal boilers, we were led to adopt a boiler, of which the accompanying engraving is a correct representation. It combines all the good qualities of the Terminal-end Saddle and the Witley Court without their defects, and surpasses both in heating power and long-lasting qualities. We have had three of them in constant use here several years, and we are more than satisfied with them, and confidently predict that they will not require replacing for at least twenty years. By adopting the water-way bottom we get rid of the sediment from the point where the greatest pressure is put upon a boiler, and it naturally passes to the lowest point, where there is least danger to the boiler from intense heat. This boiler should be set with a slight incline from back to front, and a plate should be put on at the lowest point, large enough to introduce a

small hoe, by which means all refuse can be easily removed.

The expense of fixing new boilers is always a serious item where economy should be the first thought of every good garden-manager; and though this boiler is a trifle more expensive in first cost, we are satisfied it is the cheapest in the end. There are few occurrences in the practice of gardening more calculated to give a man the shivers than the sudden cracking of a boiler at a critical time (and they generally go at such times), thereby endangering crops that have had months of thought and labour expended on them. It is with a view of lessening some of the anxieties of the forcing season that we have ventured to bring this boiler to the notice of your many practical readers.—*J. Roberts, Gunnersbury.*

THE ROYAL HORTICULTURAL SOCIETY.

So late as March 25th, the schedule of prizes and arrangements for this jubilee year (1887) was issued to the Fellows. It consists of thirty-nine pages, but what are they filled with? Certainly, in this year, it was expected that the council would provide at least one really good show, but so far as I read it the council does not offer one single prize or make the slightest attempt to induce exhibitors to send their plants or flowers to South Kensington. If I am correct in this, how can the council expect the Fellows to continue their subscriptions, or the public or exhibitors to take any interest in the meetings of the society?

The schedule consists of prizes presented by Mr. Hartland for White Daffodils, the Auricula and Primula Society's Show, the National Rose Society's Show, the Carnation and Picotee Society's Show, prizes presented by the Veitch Memorial Trustees for Cypripediums, Mr. Roupell's prizes for Hollyhocks, and prizes presented by Messrs. Sutton, Carter, Webb, Fidler, Deverill and Wood for Cucumbers, Melons, Peas, Cauliflowers, Kidney Beans, Onions and Potatoes, &c.

Can the status of the Royal Horticultural Society descend to a much lower ebb?—when the council have to depend upon the prizes offered by these three special societies to form the shows for their Fellows in return for their subscriptions—prizes that have been contributed by the members of these societies rather than their favourite flowers should not be exhibited. Is it not right to say, after this and the statement of affairs made at the last annual meeting, that it is quite time the Royal Horticultural Society should be reconstituted; that the society should have a home of its own, free from control from any save its own Fellows; that a list of the Fellows should be annually printed; that the council should be nominated and elected by the Fellows; that the fruit and floral committees should be nominated and elected by the Fellows; that a settled plan of election and retirement of both council and committees should be made, say one-third of each should retire annually; that the fruit and floral committees should choose their own chairman and vice-chairman (not have permanent chairmen, as at present); that the members of committees should be Fellows; and that the awards of the committees should have the votes for and against published, so that the certificates could be estimated at their proper value by the public.

These remarks are prompted in the hope that Fellows and lovers of horticulture will aid by their suggestions, and help to raise the society to what it should be, not only in name but in position—the Royal Horticultural Society.—*H. Little.*

DAVALLIA CANARIENSIS.—When thoroughly matured, the large finely-divided fronds of this greenhouse Fern are very enduring in the dry atmosphere of rooms, constituting another valuable quality in a Fern—an old inhabitant of our greenhouses and ferneries, and one that has seen much service in almost every garden. Mr. Addison, gardener at Merton Lodge, Chiswick, grows a number of specimens for the above purpose, and attributes only one fault to them, namely, the size of the rhizomes. These are of great thickness, densely covered with brown scales, giving rise to the popular name of Hare's-foot Fern, and project over and down the sides of the pot, rendering it difficult to accommodate the latter in the ornamental pots considered necessary in house decoration. These rhizomes are, moreover, sufficiently interesting in themselves to claim attention at the hands of plant lovers.

NEW PLANTS CERTIFICATED

By the Floral Committee of the R. H. S.
April 12th, 1887.

CYPRIPEDIUM LEUCORRHODUM.

THE bright green, broad foliage of this new hybrid gives the plant a robust and vigorous appearance, resembling that of *C. grande*, itself a hybrid. The upper sepal is pale blush; the petals white or almost so at the base, with the upper half of a soft rose tint; the labellum is large pale rose, suffused with white and pale yellow at the orifice of the pouch. It is a hybrid between *C. Roezlii* and *C. Schlumi albiflorum*. Exhibited by Messrs. Veitch & Sons.

AMARYLLIS.

NONPAREIL.—The flowers of this variety are of medium size, carried horizontally and almost regular in outline. They are of an intense almost uniform crimson-scarlet with the exception of a short green stripe at the base of each segment. An ideal florists' flower.

EDITH M. WYNNE.—The broad segments of the flowers of this exceedingly pretty variety recurve upwards, which has the effect of showing it off to best advantage. They have a broad white margin, passing into scarlet of different shades of intensity, giving the flowers a somewhat flamed appearance. Exhibited by Messrs. Veitch & Sons.

CATTLEYA TRIANE SCHRODERÆ.

The pseudo-bulbs of this fine variety are short, and proportionately very broad or stout. The flowers are large, but are rendered most conspicuous by the labellum, which is pale rosy purple with a large golden blotch in the throat, and by its great breadth gives character and value to the whole flower. The sepals are blush, while the broad petals are some shades darker. Exhibited by Mr. Ballantyne, gardener to Baron Schroder.

ODONTOGLOSSUM PESCATOREI VIRGINALIS.

Under this name a new and exceedingly chaste variety of this well-known Odontoglossum was shown bearing two well-flowered spikes. The sepals, petals and labellum were of the purest white, with the exception of the labellum which had a pale yellow crest. In the best forms previously seen there are purple markings more or less conspicuous on the basal half occupied by the crest. *O. P. Veitchiana* was also exhibited by Mr. Ballantyne, gardener to Baron Schroder.

ODONTOGLOSSUM CRISPUM, THOMPSON'S VARIETY.

A fine raceme of flowers (the individuals of which were of considerable size) was borne by the plant shown. The flowers were pure white, marked with a few very large reddish brown blotches on both sepals, petals and labellum. The petals were of great size, clawed, triangular, and deeply jagged or cut at the margin. Exhibited by Mr. Stevens, gardener to W. Thomson, Esq., Walton, Stone, Staffordshire.

ADIANTUM CUNEATUM, GORDON'S VARIETY.

The fronds of this variety assumed a fine drooping habit, gracefully sweeping all round the pot in which it was growing. In general appearance they resembled those of *A. c. graudiceps*, being furnished with a tassel or crest at the apex. The pinnules or ultimate segments, however, are smaller, giving the whole frond a more delicate appearance. Exhibited by Messrs. Gordon & Sons, florists, Haymarket, Edinburgh.

CINERARIA, ALEXANDER WARWICK.

In this form we have rather a striking novelty in the shape of stalked ray florets to the flower-head. The lamina of these florets is a very dark crimson, inclined to maroon, while the stalks or elongated tubes are rose-coloured. The centre of the flower-heads was small and deep purple, while the whole plant was unusually dwarf, not exceeding 10 ins. in height. Exhibited by Messrs. Gordon & Sons, Haymarket, Edinburgh.

DOUBLE CINERARIA, WILLIAM PRATT.

The flower-heads of this garden form are almost globular and deep blue. Being one of the so-called double varieties, the florets of both disk and ray are developed in a remarkable manner, so that what are called flowers in popular language appear like a series of globose or semi-globose masses terminating the branches of the inflorescence. The plants themselves were about 15 ins. high. Exhibited by Mr. Pratt, Longleat Gardens, Warminster.

ROSE, R. MINUTIFOLIA ALBA.

The specimen of this Rose shown was, indeed, a veritable pigmy, not exceeding 3 ins. to 4 ins. in height, bearing numerous small, white, open flowers, almost hiding the diminutive leaves. It is described as a Pedigree Seedling Polyantha Rose. Exhibited by Mr. H. Bennet, Shepperton.

ROSE, GOLDEN FAIRY.

This form is altogether larger than the last-named, but did not much exceed 10 ins. in height. The flowers are altogether of a different shape from those of *R. minutifolia alba*, more compact, and in the bud or half-expanded state are quite charming, and would be exceedingly useful as button-hole flowers. They are of a coppery yellow rather than golden yellow, at least, under the present conditions. The leaves are larger than in the former named variety. Exhibited by Mr. H. Bennet, Shepperton.

ROSE, THE PURITAN.

This is one of Mr. Bennett's Pedigree Roses which is coming well to the front in the United States. It was raised between *Devoniensis* and *Mabel Morrison*, and the flowers are large, white and well-formed, and the foliage deep shining green. Exhibited by Messrs. W. Paul & Son, Waltham Cross, for Mr. Evans, of Philadelphia, U.S.A. See p. 522.

VIOLET, VICTORIA.

In this new Violet we have a different shade of colour from that usually prevailing amongst the favourite cultivated forms. The flowers are rather large, fully double, with numerous petals, and of a deep violet colour with the exception of a very small eye, which, however, is hidden, or almost so. The foliage is small and deep green. A group, of considerable size, of well-flowered plants was exhibited by Mr. J. Chambers, Spring Grove, Isleworth.

AURICULAS.

ABBE LIZST (*Douglas*).—Amongst a group of Auriculas shown, this green-edged variety stood out conspicuously. The tube is clear yellow, the paste pure, and the edge a bright lively green.

SIR WILLIAM HEWETT.—This is a deep maroon-coloured self, with good paste and bright tube. Both were exhibited by Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford.

NARCISSUS CYCLAMINEUS.

The forms of *N. calathinus* are both numerous and varied, and the long cylindrical corona of that under notice constitutes it as very distinct from the typical wide and short cupped corona of *N. calathinus*. The corona spreads somewhat at the mouth, while the linear segments of the perianth are closely reflexed like those of a Cyclamen. The whole flower is yellow, and pretty amongst those of its section. Exhibited by Messrs. Barr & Son.

CYCLAMEN, QUEEN OF CRIMSONS.

The flowers of this variety were a fine deep crimson, with the segments of the corolla broad, blunt, and somewhat toothed at the margin. The reniform leaves are of good substance, with reddish petioles and the principal nerves, and marbled above with pale grey markings. Exhibited by Mr. John Odell, Florist, Gould's Green, Hillingdon, Middlesex.

ROSE CULTURE UNDER GLASS.

[A PAPER read by Mr. Clarke, foreman, Calderstone Gardens, Liverpool, before the members of the Liverpool Horticultural Association, and for which he was awarded the prize and certificate offered by the society for the best paper on this subject. The competition was open to under-gardeners only.]

Where Rose-growing is followed with spirit, there is, in most cases, a house entirely devoted to them, and under these circumstances, if well managed, blooms can be cut from Christmas until the end of June. The house, to accomplish this, should be of moderate size—that is, capable of accommodating several dozens of plants in pots, and at least two dozen planted in beds and borders.

The most suitable house is a span-roofed structure running north and south, with liberal ventilation at the top. The sides should be formed of sashes 2 ft. or 3 ft. deep, made to swing on a hinge at the top, and worked by means of a lever. Three rows of 4-in. hot-water pipes, run all round the house, will be found

sufficient. A stage of lattice-work, 3 ft. or 4 ft. wide, should be arranged round the sides and ends of the house for pot plants. For the central part of the house a bed should be made in which to plant out the Roses, and for this purpose a wall 4 ft. high should be built, running parallel with the sides and ends of the house. The path should be 4 ft. wide, and formed of ashes, which are preferable to slates or flags, for they retain more moisture and keep the house cooler; they can be kept clean by raking.

PROPAGATING.—For inside I prefer plants on their own roots, and propagated at the end and beginning of the year. In February, or as soon as cuttings can be obtained, a hot-bed should be prepared, and the cutting pots plunged in it when it is certain that the temperature will not rise above 80°. At that period of the year cuttings can be obtained from early forced plants. Growths that have flowered will do very well, but others about half-ripened are preferable. If the cuttings have two joints, those will be ample; and both leaves should be left attached. The cuttings can either be inserted, a number together in 5-in. pots, or singly in thumbs that have been filled with sandy soil. The last I recommend, because when once rooted they can be grown on without checking them in their early stages, as is the case when a number are rooted together. The uppermost eye of the cutting only should be left above the soil or surfacing of sand.

A good watering should be given after insertion, and the pots plunged in a hand-light or frame arranged on the hot-bed. The cuttings should be shaded from strong sun, and sprinkled lightly with the syringe on fine mornings, and in about three weeks they will have commenced the formation of roots.

AUTUMN PROPAGATING.—The month of August is generally chosen for cool propagation. Boxes should be prepared by placing a few large crocks over the holes for drainage, and over these a thin layer of the roughest compost, the box should then be filled within 1 in. of the rim with a fine compost, consisting of two parts loam to one part each of leaf-soil and silver sand; this should be made firm and the surface covered with a thin layer of dry sand.

Cuttings of half-ripened wood, 4 to 6 ins. in length, should have two or three of the bottom leaves removed, but not the leaf-buds in their axils. These should be dibbled in 8½ ins. apart, made quite firm and thoroughly watered. The boxes should be placed in a cold frame with a northern aspect, where they can remain until spring. They will need very little attention, but must not be forgotten, as the compost may become dry—requiring water. Boxes are preferable to dibbling the cuttings into outside borders and placing frames over them, as nearly every cutting will strike, whereas in borders they are less certain. Should the frame be required for other purposes the boxes can be removed, while the frame cannot be dispensed with when placed over those in outside borders. Those inserted in autumn will be potted and growing vigorously before spring cuttings are rooted. When no facilities for outside-Rose culture exists, those raised from cuttings in autumn will assist in keeping up a supply of bloom from June to October, just when outside plants should be yielding a bountiful supply of flowers.

COMPOST.—Good fibry loam of a heavy texture is most suitable. Two parts of the compost should consist of loam, the remainder of leaf-soil and cow-dung in equal parts, to which may be added a 6-in. potful of fine bones to two barrow-loads of the compost.

When the soil is light in texture, clay should be dried and reduced to powder, and added in proportion to its lightness; or, on the other hand, if too heavy and likely to become sour, horse-droppings, charcoal and coarse sand should be mixed with it. Sandstone, broken moderately fine, in such cases, may be used with advantage to keep the soil open. The compost should be used in a moderately moist condition, that is, not so wet as to stick to the fingers when handled, or so dry as to be easily rubbed fine.

The compost for the beds or borders inside the house should be much rougher than that used for pots, pieces one-third of a foot square will not be too large, and a good sprinkling of ½-inch bones and broken charcoal should be incorporated with the soil, which should not be made too light and rich, or else pithy long-jointed wood will be the result, instead of firm short-jointed shoots.

PLANTING.—Drainage is the first consideration, and a main drain should run along the centre of the bed,

and in connection with one of the outside drains, so that superfluous water can be carried away. In this case the base of the border should slope gradually from the sides to the centre. Over this half bricks should be arranged to the depth of 6 ins. or 8 ins., and on the surface a layer of a smaller size should be arranged to the depth of 10 ins. or 1 ft., which will be found ample, and if carefully arranged, durable. Over the drainage whole sods should be placed grass side down, and the bed filled to within 6 ins. of the top of the walls, care being taken to make the compost firm about the roots as the work of planting proceeds. Plants intended for planting out should be established in pots, and the best time to do it is when they are starting into growth in spring.

(To be continued).

GARDENING NOTES FROM SCOTLAND.

Seasonable Notes.—It is often considered indispensable that Beetroot must be sown in northern parts early in April, and some have dates in March on which their main crop of Beet must be sown; except for early use, the main supply is in good time from the middle to the end of the month. Coarse large roots are inferior in quality, but it is a mistake to raise this crop on poor, hot soil—stringy roots with inferior flavour is likely to be the result. Ground well trenched and brokeu finely, on which some crop was well cared for last year, is very suitable. It is evidently difficult to save a pure stock of Beet, as one seldom sees a good breadth grown free of “rogues.” Those who save one kind will get the purest stock; and now it is a good time to plant roots to yield seed, choosing a warm sheltered position.

Early-sown seeds should be examined in order that no sowing be allowed to result in failures; if they have not come up it may be found the seed was to blame, but more likely it has perished from the damp and cold experienced during a part of March. We noticed that Cauliflower, Kale, Cabbage, Radishes, Turnips, &c., have come up with a yellow tinge. Now that earliest Broccolis may be sown a good preparation for the seed should be made, and light soil of kindly nature should be used for covering when the ground is heavy or of a damp nature. Broccolis have suffered more this year than usual. The usual precaution of planting in hard poor soil has not, with us, been a complete success; and where a brake of short stiff plants were laid on their sides facing the north during last October, they have suffered worst. Some very late plantations have stood almost uninjured, and the kinds almost entire are Knight's Protecting, Gordon's, and Cattell's Eclipse.

ASPARAGUS.—It is now time to prepare for new plantations, and deep trenching is closely followed in northern practice. Good drainage is a most important matter when roots are kept in active growth till late in autumn on damp soil, where it is certain a large percentage will perish. We know of some good plots in our district which have been established by sowing seed where the crop was to remain; others cannot save their roots under any treatment. New plantations should have plenty of sand worked into the soil, and not too much manure at first.

SEA KALE is more easily managed, either from cuttings or seeds. It is well to soak the latter in water before sowing. We notice that Jerusalem Artichokes which were not planted till late in April last year were quite as good, or better, than those planted in March. Turnips have kept remarkably well in the ground during the past winter with soil drawn over the roots. Yellow kinds, perhaps, kept best; but Red Globe and several of the white kinds have done fairly well, and will be useful to the end of April. We have seen no forcing kind do so well as Milan. Munich is good, but not equal to the former, though neither of them are very choice kinds for later work. They are affected very readily by heat and drought; but pinches of seed sown weekly on a border during April will come in as useful successions after those under glass have served their purpose.—*Caledonian*.

Effects of the Late Frosts in East Lothian.—After the hard winter and late spring, it is surprising almost to see anything in bloom, but we seem

to be especially favoured here. I think suitable and well-sheltered situations have a good deal to do with successful spring gardening, and our situation appears especially favourable to the early flowering of Primroses, and the double as well as the single white and pink are a perfect sheet of bloom. Polyanthus are also blooming freely; and while some people are complaining of having lost all their double whites, we have not lost one. Hepaticas have stood the late frosts very well. Alyssum saxatile is just coming into bloom. Wallflower Harbinger is in good condition, and is very welcome at this season. It is a pity that there is not more done in the way of spring gardening, but I think the taste is on the increase, and I am sure all true lovers of nature will welcome it gladly; for what are all the beauties of the blazing parterre to the gentle sweetness of the herbaceous border. Old flowers have a charm about them still which all lovers of plants seem to appreciate. Our Apricots were just coming into bloom when the late frosts came on, in fact many flowers were fully expanded, and they certainly suffered a great deal; but still to-day I find many fruits of the size of a wren's egg, which is rather remarkable after 22° of frost, and the trees only covered with hexagonal nets. Peaches and Plums on walls are in full bloom, and promise a good crop. The late Edinburgh show brought out a great display of bloom. Azaleas were fully up to the mark; hardy spring flowers were exceptionally fine; Deutzias were scarcely so good as usual, but still were very fine, taking the season into account. There was a limited but excellent display of vegetables. The show was as good if not better than usual in regard to quality, while exhibits were fewer. Orchids were a special feature, and the table shown by Messrs. William Thomson & Sons, Clovenfords, Galashiels, was a most creditable display considering the northern locality.—*J. Holmes, Winton Gardens, Pencaitland, Haddingtonshire.*

Flowers of Spring.—Viscount Melville, in opening the late exhibition of the Royal Caledonian Horticultural Society, said that spring had already come, and with it had come many flowers. This was especially the season for Lilies, which came forth in great variety, and which they had all been told to consider from their youth up. They were now already in the month which Shakspeare had called “the proud pied month of April,” and with it had come those Violets, with regard to which the great dramatist had said—and they would agree with him—“you will not chide the forward Lily.” As they approached summer, they would find themselves nearer that event which was to be celebrated—he meant the Jubilee of Her Most Gracious Majesty the Queen. He was afraid that this society had scarcely existed long enough to join hands with Her Majesty in celebrating her Jubilee; but if the society continued to prosper as it had done, it would by-and-by be celebrating a Jubilee of its own. He might refer to the floral beauties they saw around them, and say in the language of the poet, “Here blushing Flora paints the enamelled ground.” Amongst the vast mass of literature which flooded the world at the present day, he knew of no book which had been written upon the subject of the influence of flowers upon the history of mankind. He thought that a most interesting and even romantic work of that description might be written. Flowers had been used as emblems of every description—of peace, of war, of love and even of death—and he gave the hint to some of his literary friends that they might set themselves to a work of the kind he had indicated.

THE AMATEURS' GARDEN.

THE GREENHOUSE.—This structure should now be very gay, notwithstanding the lateness of outdoor vegetation, and the continued cold and backward nature of the weather. Those who have a sufficient command of fire-heat are able to keep up a supply of flowering plants during great part of winter and spring by a judicious selection of suitable forcing subjects, and introducing them to heat at the proper season. But the time has now arrived, or in other words, spring has advanced sufficiently to supply any quantity of flowers independently of artificial heat, and the possessor of an unheated greenhouse or conservatory, if he grows a judicious assortment of spring-flowering plants, must now have the house quite gay. Many hard-wooded

plants are amongst the freest flowering and most handsome for conservatory work, and where properly cared for all the year round, are now repaying the care and trouble bestowed upon them.

CAMELIAS, when the amateur has learned their requirements, constitute a source of unfailing attraction for many weeks, or even months, by a selection of varieties that naturally flower at different seasons. When grown in pots or tubs they are removable at any time, so that the show house can be occupied with flowering plants only. At the same time, however, all things considered, Camellias when planted out are much more profitable, easier grown, produce the greatest amount of bloom, and are easier kept in health. Everyone, however, cannot command the convenience for planting out. They look most natural and ornamental when allowed to grow untrained and unpruned, except what is necessary to keep them in reasonable shape; but it need not be forgotten that they permit of training in numerous ways, and may be made to cover a trellis or the back wall of a conservatory in the manner of a climber with good effect, and yield great quantities of bloom.

AZALEAS.—In order of merit, probably, the popular taste would place the Azalea next to the Camellia as a useful and handsome spring-flowering plant. The Indian Azalea and its endless profusion of varieties certainly receives a great amount of well-merited attention at the hands of both amateurs and professionals. Although several of the well-known varieties have been flowering regularly, or more or less spasmodically all through the winter and spring, there will now be many forms in flower, and the chief difficulty will be in keeping some of them back, so as to ensure a succession of bloom as long as possible. Azaleas, like Heaths, must never be allowed to become dry, otherwise they are almost certain to get killed, or, at least, lose their leaves, disfiguring them for some time to come. Attention must be given them at all times to keep them clear of their inveterate enemy, the thrips.

Miscellaneous subjects, besides the above, may now be reckoned upon to produce a great quantity of bloom without the aid of artificial heat. Hyacinths, Tulips and Crocuses will now be at a discount indoors, seeing that those in the open ground, in spite of cold east winds, are struggling bravely to expand their blooms. Several Heaths, such as Erica hyemalis and E. melanthera continue to prolong the season, and many varieties of the closely allied Epacris keep them company. In many large gardens the shrubby or woody greenhouse subjects, almost universally designated New Holland stuff, have been greatly neglected of late years, or almost eliminated from collections to make room for the at present more popular soft-wooded plants of various kinds. This is a grand mistake, which it is hoped will be rectified before long by admitting a due share of such things into collections of winter-flowering plants. The deliciously-scented Boronia megastigma, B. heterophylla, and the bright-coloured B. elatior add value to any collection of conservatory plants, while endless variety is contributed by Cytisus, Coronilla, Acacias, Bauera, Metrosideros, Hardenbergias, Kennedyas, besides such shrubs as Forsythia, Syringa, Prunus Pissardi, and even hardy herbaceous plants.

MELONS, CUCUMBERS, &c.—Now is a critical time with plants of this class which have been forced on to furnish the main crops, or one somewhat in advance of it. In many cases these have been sown with the intention of planting out in prepared beds, in pits that are generally used as forcing-houses for various purposes in the early part of the season. Melons and similar things are sometimes sown too early, and suffered to stand in small pots, or even the seedling pots, until such time as the beds can be cleared of their winter and spring occupants to receive them. During this they are not only losing time but often get into a stunted or unhealthy condition, which is afterwards difficult to overcome. This may partly be avoided by shifting the plants into a larger size, to keep them growing steadily till the beds can be prepared for their reception. If they are intended for pot culture, the young seedlings may be put into their fruiting pots at an early stage. Put no more soil into the latter than is necessary to give them a start, filling up subsequently with rich well-manured soil as the plants grow and the roots thoroughly permeate it. Keep a watchful eye on the young seedlings, whether planted out or not, and guard them against the attacks of wood-lice, black-beetles, cockroaches, slugs and all vermin of that character, by laying phosphorus paste, hollow slices of Turnips, Carrots, Potatoes, or even Cabbage leaves. Visit the plants also at night, when the depredators may be surprised and caught.—*F.*

THE CHRYSANTHEMUM.

SEASONABLE NOTES.—Chrysanthemums potted as directed in *THE GARDENING WORLD*, p. 424, will now require further attention. Plants that were potted singly, as there directed, will now be ready for another shift, this time into $4\frac{1}{2}$ -in. pots; but the strongest may be put into 6-in. pots. Care should be taken that they are well crocked to ensure perfect drainage. Turn the roots out of the pots with the ball of earth intact, and place the plants into those of a larger size, having previously filled them sufficiently to bring the roots to within 1 in. of the rim. Then fill up with soil to within $\frac{1}{2}$ in. of the rim, press down firmly, and place the plants in a frame for a few days, after which they can be placed outdoors if the weather be favourable, merely sheltering them for a few nights.

Our plan is to put a temporary framework around the plants, over which mats are thrown at night to protect them from injury through slight frosts that might occur. Recently-struck cuttings should be duly potted on when well rooted, and those inserted now will make very useful plants for conservatory decoration.

Chrysanthemums intended to be planted in the borders should be grown on in pots or boxes, and be well hardened off before being planted; and as soon as the weather permits they may be planted. The varieties most suitable for this purpose are the early and medium early-flowering ones. Where these have been struck and potted singly they should be looked over, and shoots requiring stopping seen to at once, as it is advisable to get the number of breaks required as early in the season as possible. The plants will then have a longer interval in which to ripen the wood. Cuttings of these varieties may still be inserted, especially those that bloom very early, such as *La Bien Aimée*, *La Petite Marie*, and its yellow sport, *MM. Paul et Son* (much preferable to the last-named variety), and *Surprise* (which latter has already given us blooms this month). They will make very useful plants for blooming in 6-in. pots.—*W. E. Boyce, Archway Road, Highgate, N.*

ANEMONES.

I HAVE just been reading an interesting sketch of the Anemone, translated from a treatise published in France in the early part of the present century; therein it is stated that the fine and striking Anemone coronaria came originally from the Indies. That it is a flower of great antiquity cannot be denied, for does not curious traditions concerning its origin find a place in Grecian mythology? It is said that Venus turned her lover, the dying Adonis, into an Anemone or Wind-flower, in order that he might live for ever; but whether our Anemone represents that of the ancients, or that known by them as the Wind-flower, is, perhaps, open to doubt.

Referring to the translation I have mentioned, I may state that M. Bachelier, a celebrated French florist, is credited with having introduced the Anemone into France about 1770, importing at the same time the Chestnut. A connoisseur visiting his garden found there, when his Anemones were in flower, an astonishing quantity of very fine sorts, both double and single. It would appear that M. Bachelier raised a great number of very fine forms from seed, and so jealously guarded his possessions that he would give away neither plants nor seeds until he had secured a large stock of them. Money having failed to purchase, stratagem was resorted to in order to get some of the coveted spoil, and the successful effort made by an ingenious councillor of the French Parliament deserves a record. The *Chronicle* states:—"The seed very much resembles down, and is indeed called by that name, and when it is quite ripe it easily attaches itself to worsted stuff. This councillor went to see M. Bachelier's flowers when the seed was quite ripe, dressed in his robe of office, and he ordered his lacquey to allow it to trail. When they were near the Anemones he turned the conversation upon a plant which diverted their sight another way, and then with a flourish of his gown he passed it over the heads of the seed pods, and, of course, some seeds were left upon it. The lacquey, duly instructed, folded up the tail of the gown, the seeds attaching to it were hidden within the folds, and M. Bachelier, not suspecting anything, of course, knew nothing of the ruse, and fine Anemones soon ceased to be his exclusive possession."

The Anemone is a flower that was very popular years ago, and select collections were grown for exhibition

purposes, much as Dahlias, Roses and Auriculas are at the present. But beautiful and useful as it is, it appeared to lose its hold upon the public; though there are signs that it is again rising in the popular estimation. Now, many fine varieties of Anemones are raised from seeds, and in order to call public attention to them, they are designated "Poppy" or "French," or Empress Anemones, but by whatever name they are known they are as beautiful as they are useful, and hardy in character.

Great quantities of Anemones are grown by the bulb-growers of Holland, and the dried roots are sent to this country in August and September, when good varieties can be purchased at a small cost. The roots, when they come into contact with moisture, soon swell out, and when potted or planted in the open ground throw up a vigorous growth.

Seedlings are easily obtained from seed, which can be sown in a shallow box or pan, and the same placed in a cold frame, or in any quarter where it can be shaded from the sun by day and kept fairly moist. The seeds will soon germinate, and when the plants are strong enough they can be planted out in a prepared bed, and the majority of them will flower the following spring; any inferior ones can be thrown away. Seed should be taken from a few fine varieties, and in this way a remarkable strain can be secured.

The roots of choice sorts can be taken up when the leaves have died down, and put away carefully for planting another season; but a renewal by means of seedlings every year is an excellent practice. As to soil, a good deep sandy loam suits it well. Provided the soil be at all holding, the Anemone is not very fastidious as to its character; but it is not likely to succeed in a stiff retentive clay.—*R. D.*

CARNATIONS AND PICOTEEES.

GROWERS of Carnations and Picotees for show purposes are now busy potting their plants into their flowering pots. As to the size of the pots in which the plants are flowered, Mr. E. S. Dodwell in his excellent book on the *Carnation and Picotee* remarks:—"We use three sizes of pots for blooming, viz., 9-in., 8-in. and 7-in., respectively; for a few, indeed, of weakly habit, or small late struck cuttings, 6-in. pots are ample. In the larger size we place three, or if very robust, two plants; in the 8-in. two plants, if of medium growth; and in the 7-in., one or two if of very weakly habit," and he adds with significant emphasis, "the cultivator will find it useful to study these little matters, and use a pot in accordance with the strength of the plant, for five flowers may not be looked for until the soil has been well occupied, and the roots are in full contact with the sides of the pot."

As a matter of course, the compost in which the plants are potted is prepared beforehand. It should be got together in the autumn, and it is far more important it should be sweet and pure than highly stimulating. Anyone not having taken time by the forelock will do well to get some good loam from just below a rich pasture, say three parts, and make a fourth part of well-decomposed manure and good leaf-soil. Having previously examined the ingredients, to pick out such insects, worms, &c., as the eye can discover, it should be well turned over two or three times, and thoroughly mixed; some rough sand may be added with advantage.

Firm potting is a matter of the first importance. Mr. Dodwell points out the advantages derived from the practice in the following way. "It saves from the great injury of extreme saturation by heavy rain, and its correlative evil, drought; and further, as soil well firmed is not subject to the excessive fluctuations of heat and cold which follow that of a loose texture, and as experience and theory alike teach that successful cultivation depends upon the nearest realisation of an equable temperature, gradually increasing according to the necessities of the plants, and the avoidance of sudden changes from heat to cold, and drought to moisture. Firm potting goes far to produce for us these conditions, therefore, I prescribe it."

The soil at the time of potting should be nicely moist; not dry on the one hand or sticky on the other. At the bottom of the pots should be put 2 ins. of clean crocks, then some rough fibrous soil, and then the potting can be proceeded with. After potting, a covering of clean oyster shells is recommended, as it keeps the soil cool and moist. When potted, the pots

should be placed on strips of wood or slates to prevent the ingress of worms, and a little shelter given to the plants if cold winds follow. Any plants having made leading shoots should be tied to tall sticks to prevent them being broken off by wind.—*Quo.*

EARLY WHITE AURICULAS.

A FEW years ago I saw an advertisement offering early white Auriculas, and I wrote for some plants, and when they came to hand I found they were that most delightful of the early-flowering Primulas, *P. nivea* or *nivalis*, as it is frequently termed—the Snowy Primrose of the Alps. I think that anyone who received this charming subject under the name of white Auricula would not be disappointed. The plants during the past two years have grown into good size, and they are now blooming in the most pleasing manner. Of all the species of Primulas I grow, *P. nivea* is the earliest, and I wonder it has never been grown as a market plant. When grown in pots it should be frequently divided, for it has a tendency, in common with other choice Primulas, to get somewhat naked about the base of the shoots, and as these protrude rootlets, the whole plant is likely to go off if not taken up and divided into as many pieces as possible. Every shoot will form a plant, inasmuch as each is usually furnished with little rootlets, and take hold of fresh soil immediately. It is a plant that everyone should grow who can. I find it does best in a gritty soil, and if a few stones be laid upon the surface of the pots the plant derive benefit from them; they help to keep the surface soil cool and moist.—*R. D.*

THE ERICA.

At the recent meeting of the Birmingham Gardeners' Society, a good practical paper on the Erica and its culture was read by Mr. Walter Jones, gardener to C. E. Mathews, Esq. Mr. Jones is a successful cultivator of specimen Ericas and other plants, and his remarks were therefore listened to as a known practical grower. Starting with the introduction of Cape Heaths by Mr. Masson in the time of George III., who sent home many fine sorts from the Cape when it became a British possession, he went on to treat of the culture of plants purchased from the nurseries, and recommended special attention to the ball of the plant being in a moist state before re-potting—certainly not dry—and not over-watering after potting. Details of treatment throughout to the specimen state were given, with plan of a suitable house, and the avoidance of a direct draught from ventilators on to the plants. Another point urged was not allowing the sun's rays to act upon the pots, and keeping them syringed in hot weather.

Very clean sweet drainage was urged, sifting through a fine riddle the dust-like portion, to be used as follows:—The soil to consist of good sound peat—not too spongy or too adhesive—broken up, but the fine soil used with it, not riddling it, and adding one-sixth of silver-sand, a little broken-up charcoal, and the dusty crock-siftings already alluded to, as this keeps the soil open, and the roots soon fasten on to it. The stimulant used by Mr. Jones, and recommended by him, is soot only, placed in a bag in a barrel of water, using the water in a clear state. In the discussion which followed, one member stated that he used artificial manures, especially Standen's; but the use of such manures was generally condemned during the debate as dangerous and not needed.

This meeting was the closing one of the winter session, and all the meetings have been well attended, over 300 members now forming the society. At this meeting it was resolved that the papers read before the society during the session should be printed for circulation; also that a respectful congratulatory letter should be written to the Mayor, Sir Thomas Martineau, who presided at the first meeting of the society, and has always taken an interest in its doings.

RHODODENDRON PINK BEAUTY.

A LANCASHIRE correspondent sends us a fine truss of this variety bearing thirteen flowers, and this number is sometimes exceeded. It is described as one of the finest and freest-flowering of its class, with an extremely dwarf and sturdy habit. The flowers are about $2\frac{1}{2}$ ins. in length, with a slender pinkish tube becoming almost white at the base, while the limb deepens to a beautiful rosy pink. The leathery evergreen leaves that terminate

the shoots form a fine setting to the red-stalked flowers. This variety belongs to the greenhouse section of Rhododendrons, which are of course hybrids, and now becoming popular wherever a collection of greenhouse plants exists and is valued. Many of them have the slender tube and unmistakeable appearance of *R. jasminiflorum*, one of the parents that has been much used in the production of this class of decorative subjects. A marked improvement, however, is observable from time to time in the increased size of the flowers, the thickness of the tube, and the almost infinite variety of colouring that prevails. The slenderness of the tube characteristic of *R. jasminiflorum* gives to the flowers a distinctness that separates plants of this race from most others generally seen in cultivation. That Pink Beauty is one of the finest of its class there is no room to doubt, judging from the specimen sent us. Our readers will be able to appreciate what has been said concerning it from the following illustration (kindly lent us by Mr. Bull), which admirably represents it.

small houses is objectionable; but flowering plants of small size are readily produced from cuttings. The ample foliage has a glossy shining appearance, and the pale purple flowers are freely produced in axillary and terminal panicles. The plant has several synonyms, amongst which is that of *B. purpurea*. It flowers freely in a small state with Mr. Bones, at Tower House, Chiswick.

Tree Pruning.—With our increased knowledge of all kinds, it is not astonishing to note that people are beginning to exclaim, “Woodman, spare that tree.” The barbarous mutilating and tree-killing system of hacking that has been practised on our naturally beautiful London street trees is simply scandalous, and the wonder is why the authorities, in whose hands is vested the management of such, have permitted, far less encouraged, the unsightly pollarding of what would, if left to themselves even, form objects of great beauty, equalising the great heat of summer by shading the streets and houses, and materially improving the con-

into thumb pots, and when they become established in these, then rapid advance is only a question of good culture. Time was when seeds of Gloxinias were sown in June and July, in order to have plants in bloom the following spring. We have altered all that by making the Gloxinia a stove annual, sowing the seed and flowering the plants the same season. In this way we advance horticultural knowledge and correct practice, and every day works some new development of culture.—*R. D.*

Grevillea Thelemaniana.—Nearly fifty years ago this charming species was introduced from New Holland, and it is most surprising to find that it is a plant seldom cultivated. It is occasionally found in gardens where variety is of much more importance than fine quality. This can hardly be attributed to any difficulty experienced in growing it, as few plants are easier to manage in this respect, and it is without doubt the most beautiful species of the genus. It is a free-growing kind, of bushy yet graceful habit, and



RHODODENDRON PINK BEAUTY.

GARDENING MISCELLANY.

Curl in Potatoes.—I am also troubled with this disease in one sort of Potato every year, though it is planted and treated in every way the same as about twenty other sorts. Blanchard, for years past, has always come curled, discoloured, and dwarf in the tops, though the sets, when planted, are free from disease, so far as I can see, and I cannot attribute it to wire-worms. The tubers, when dug, are small but quite clean, and as free from disease as the others. I always, when planting, cover each set with two good shovelfuls of compost mixed up for the purpose, and consisting, in a great measure, of burnt refuse. I am trying it again this year, and will send you some for inspection if it reappears. I am pleased to say that I am not troubled with it under glass like your correspondent “W. B. G.”—*Salopian*.

Begonia nitida.—Those who are familiar with this old-fashioned species, know its value for winter-flowering purposes. When allowed to attain any size (for it grows to a height of 4 to 5 ft.), its presence in

dition of the atmosphere from a sanitary point of view. A feeling of dissatisfaction is now prevailing, judging from the local papers, not only of Turnham Green, but Acton, Bedford Park and Richmond. When tree-pruning is necessary, why do the authorities not employ skilled labour, seeing that gardeners are plentiful, and frequently find themselves without an occupation in winter? They are poorly paid at best, and frequently work for a lower wage than the unskilled labourer.—*A Gardener*.

Gloxinias.—“What!” said an amazed amateur the other day, “Gloxinias in flower six months from the time of sowing the seed? It cannot be.” But, I said, it is so. I saw last season at Messrs. Sutton & Sons, Reading, charming plants carrying eighteen to twenty-four blooms each six months from the time the seeds were sown. As a matter of course, it was only those plants having the strongest constitution that flowered so early. Seedling plants are found to vary considerably in vigour, as might be expected, and the weaker ones flower later than the stronger among them. Seed is sown in February in heat, and as soon as they are large enough to handle with safety are put singly

produces finely cut foliage, which gives the plant a feathery appearance. It is nearly always in flower, and sometimes it is literally covered with bloom. The flowers are of a bright reddish colour, and produced in large clusters, and they are of such a peculiarly attractive form, and so regularly arranged that the clusters look like some huge tropical insect nestling among the feathery foliage. The clusters are pendulous and of hairy appearance, and when borne on the tips of the slender branches, as they frequently are, they look curious, suggestive and beautiful. The plant delights in sandy peat, and likes a sunny position in a warm greenhouse during winter, but it requires a slight shading from the fierce rays of the summer sun.—*M. Barker, The Gardens, Watcombe Park, Torquay*.

Burchellia capensis.—Although belonging to the same natural order as the Ixora, this plant bears no resemblance of its relationship to the latter genus, except in the shrubby habit and the leathery evergreen leaves. As a stove winter-flowering plant it is very distinct, and continues in perfection for some considerable time. The tubular scarlet flowers are somewhat swollen above the middle, and aggregated in dense

clusters terminating the stems and branches. The lamina is very minute, and consequently the flowers do not present the appearance characteristic of the *Ixora*. We occasionally see it as in the collection at Gunnersbury House.

Lonicera sempervirens minor.—One often wonders why the cultivation of this fine Honeysuckle out of doors is so seldom practised in England. Many admirers doubtless grow it in conservatories and green-houses for its own intrinsic beauty; but others do so probably from the mistaken idea of its not being hardy. It withstands the severity of a Scotch winter even on an open wall, and although it may lose its foliage, it grows and flowers freely during summer. Mr. Hudson grows it well in the conservatory at Gunnersbury House.

Bignonia Tweediana.—Many of the Bignonias are often grown in houses that are too warm to develop their flowering properties to any reasonable or satisfactory degree, and are accordingly discarded in many cases as worthless. The species under notice is nearly hardy, but not sufficiently so to withstand our winters out of doors. The huge flowers are deep yellow or orange, and measure considerably over 3 ins. in length, while the five-lobed spreading yellow lamina is also of great breadth, and renders the flowers very conspicuous. Mr. Ross, gardener at Pendell Court, grows a plant in the warm conservatory and another in the cool one, but finds it flowers most freely in the latter.

The Puritan Rose.—Some fine blooms of this Rose, one of Mr. Bennett's latest Pedigree varieties, were shown at South Kensington on Tuesday, and duly honoured with a First Class Certificate. The flowers created a considerable amount of interest, inasmuch as that they were grown in Philadelphia, and had been sent over here to Messrs. Paul & Son, Waltham Cross, for exhibition. The blooms, one half of which were packed with damp wadding in an air-tight tin case, and the remainder sent in an ordinary wooden case with the stalks in water, were despatched from New York in the s.s. *Umbria*, on April 2nd, reaching Liverpool on the morning of the 11th, and Waltham Cross on the evening of the same day. The flowers were wonderfully fresh, and certainly showed what advantages American growers have in the way of light, the blooms being of a size, and the foliage of such a depth of colour, that could not be matched here. The freshest and least damaged blooms were those sent in the air-tight case. The Puritan Rose has a history which is worth recording. Some four or five years ago we were walking through Mr. Bennett's houses, in early spring, when he called our attention to a seedling plant, with an unexpanded bud on it, and which Mr. B. then thought would probably come yellow. It flowered in due time: was not yellow, but nearly white, and was propagated for further trial. When it bloomed for the second time it failed to please its raiser, who ordered his grower to throw it away. From sheer neglect, however, this was not done, and the next season another chance was given to it. It flowered, and, as the florists say, "came grand"—the despised seedling had grown into a perfect beauty, and was so greatly prized that Mr. C. A. Evans, of Philadelphia, U. S. A., subsequently bought all the stock of it for £500. The moral is evident:—Don't be in too great a hurry to throw away well-bred seedlings.

Northaw Brussels Sprouts.—Mr. Joseph May has sent us from the gardens, Northaw House, Barnet, a sample of the strain of Brussels Sprouts which he grows, and which, considering the advanced period of the year, well merit attention. The seeds were sown in February of last year in a cold frame, and the plants are consequently somewhat over a year old. The Sprouts sent were medium-sized, very firm, button-like heads, and, when cooked, mild and agreeable in flavour. Seeing that Sprouts from the same were exhibited at the November London shows, and are still good, the variety would seem to deserve extended cultivation for a late supply.

Artificial Manures.—As potting time keeps advancing, I think it would be of service if some of the various experiences of your readers were recorded on this subject, including their failures, where they exist, either from negligence or want of knowledge. My experience in growing the *Chrysanthemum* for exhibition during the last few years has been considerable, and I have been fairly successful with these manures, as far as the flowering is concerned; but as soon as the roots seem to have fulfilled their part of

taking in food, and driving it into growth and flower, the soil seems to act as poison to the continued existence of the plants, which are then expected to produce cuttings. They appear to be doing this; but before they are fit for removal, in my case, the pots are full of small white worms, about $\frac{1}{2}$ in. long, which settle at the base of the cuttings or offsets until they reduce them to a putrid watery mess. In turning out the soil of the pots there are thousands of them, which make short work of the plants left. Have any of your readers been troubled with them, and what was the remedy applied?—*H. J. F.*

Fungus on Azalea Leaves.—I send you a leaf out of a vinery, the borders in which have been top-dressed with cow-manure. Can you tell me what the black spots are, and do you think that the cow-manure is the cause?—*W. S., St. Helens.* [The minute black spots on the leaves are extremely small globular cases or boxes packed full of microscopic fungus spores or seeds. You are right in attributing them to the presence of cow-dung, as the parent fungus, named *Pilobolus crystallinus*, grows on dung. When mature, this fungus elastically projects a spore case through the air as a means of reaching other dung, and so propagating the species; the cases being glutinous stick to everything they touch, but the spores will only grow on dung; the fungus does no injury to the plants. Each perfect fungus (which is very small) produces one of the cases on the top of a short slender thread. The spore-case when growing looks like a black cap on a microscopic stick. As the fungus when ripe throws this hat or cap full of spores or seeds into the air, it has been called, on that account, *Pilobolus*, which means "the hat thrower"; *crystallinus* refers to the glassy or crystal-like appearance of the minute thread which supports the "hat."—*W. G. S.*]

Kitchen Gardening Made Easy.—All that Mr. Gilbert has advanced at p. 490 is unquestionably entitled to consideration and respect, coming as it does from a man of varied experience, and whose contributions I always read with interest. But may I venture to ask, has not Mr. Gilbert taken a mere outside view of the case when he says that we employ too much labour in preparing soils in kitchen gardening. Mr. Gilbert points conclusively that with him digging is a delusion. This seems to need an explanation, but may be as he describes, where soils are light, and climatic conditions favourable. The first study in commencing the culture of vegetables is the soil and situation. These will determine whether the application of the spade is necessary. What do we find with soils that are heavy? Just the reverse of light ones, and therefore in order to assist the growth of plants on such, and to produce good crops, the soil must be well prepared. It must accordingly be loosened around the roots, when the latter will be better able to run amongst it than when left in a compressed state. Digging and forking rich soils is not a delusion, but ameliorates it by aerating and rendering it warmer. This also enables it to absorb heat from the sun, and gives the rains a better chance of penetrating to the roots. Easy gardening in such soils is a delusion. Personally, I have had to work both classes of soils, and have always found that heavy soils take more labour than light ones, simply because of their adhesive nature. It seems evident to me that the soil with Mr. Gilbert is light, as instanced by the quarter of spring Cabbages which will be cleared by the middle of June next. If Brussels Sprouts can be planted to follow these without digging, the class of soil tells its own tale. In heavy soils I find it good practice to manure and rough dig as much as possible before winter, and leave it to the action of the weather. This is left until about to be sown, when it is forked and broken up fine, a few feet at a time, working and sowing backwards, avoiding treading on the newly forked ground. The soil between all crops, when growing, is carefully forked again during summer, the result being far more satisfactory. Of course all this is labour.—*B. L.*

Paraffin Oil as an Insecticide.—With Mr. Gaut (p. 487) I can, in a great measure, agree. The ravages of vermin are a serious consideration to gardeners; but the remedies, in many cases, take up too much time and are not always efficient. Cats are among the best preventives, but can scarcely be kept where game is preserved, especially if the usual premium be forthcoming for the tail. Next to this we find paraffin oil very effectual for saving large seeds. Where rats and mice are plentiful it will be found per-

fectly useless if diluted with water as Mr. Gaut recommends. It is of little service unless used pure, and the seeds allowed to remain overhead in it for twelve hours at the least. At the present time we have a break of Peas coming through the ground. Half of the seed having been steeped for a night in pure paraffin, they are scarcely touched by mice; the other half were only in the oil about ten minutes, and are, for the most part, destroyed. Beans treated in the latter way are a total failure. I find many people are afraid to use pure paraffin on seeds, but it is perfectly safe. We have steeped Beans overhead in it for a whole week, and grown them afterwards. On the farm here Wheat is always steeped for forty-eight hours previous to sowing; Peas, as a rule, from twelve to twenty-four hours, with perfect success. I once, by accident, upset a teacupful of pure paraffin into a pot of *Davallia Mooreana* without injuring it. This experience shows that paraffin is not such a dangerous ingredient as many imagine. As to small seeds of the Brassica tribe, we would prefer using red lead to paraffin; but netting is a simple process, and in most well-regulated gardens one net, free from holes, might be found for this purpose, and if suspended on a few hurdles or Pea-trainers run round the square the protection is complete.—*R. Bell, Morton Hall, Midlothian.*

Jacaranda mimosifolia.—I often wonder this Brazilian stove evergreen is not more grown as a table plant. It appears to do well during summer in an ordinary greenhouse. In appearance it is like *Grevillea robusta*, and small well-furnished plants are very effective indeed. I find that Mr. Thomas Baines makes no allusion to it in his recent book on *Greenhouse and Stove Plants*. Perhaps it is another instance of a good useful plant of excellent quality falling away into the ranks of neglected subjects.—*R. D.*

Verge Cutters.—Will some of your correspondents kindly give me their experience of any of the patent verge cutters now advertised. I am very anxious to try one now that all the verges are fresh edged, and in good condition. Like many others, no doubt, I prefer to have much of the time now spent in edging employed in the kitchen garden. I have not met with any of the verge-cutting machines in any garden to my knowledge, and yet they must be quite on a level for saving labour with the lawnmowing machine, if they will only do what they are credited with.—*Salopian.*

Choisya ternata.—A Mexican plant, that was classed amongst the inhabitants of the stove for a very considerable period after its introduction; but in southern latitudes it is now found to succeed best in the open air. North of London it succeeds admirably under the protection of a south or westerly wall. Under such conditions it would produce its beautifully fragrant white flowers in great abundance during April and May; but our object is to make it fit for the adornment of the conservatory during February and March, and this can be accomplished by growing a few plants in pots, using rich fibrous loam, with a little leaf-mould and sand, as the best composition. In January place in a moderate heat, and they will afford abundance of fragrant flowers during February and March.—*M. Barker, The Gardens, Watcombe Park, Torquay.*

Gymnogramma schizophylla gloriosa.—The feathery elegance of the ordinary form of this handsome, easily-grown and propagated Fern, is well known to cultivators who have to furnish decorative plants in variety, and it may interest those concerned to know that the garden variety here noted is more vigorous than the type. A figure of this plant is given in *L'Illustration Horticole*, 522, and Mr. Bones grows it at Tower House, Chiswick. It grows freely in pots, but it never looks more attractive than when grown in a basket with its leaves drooping gracefully on all sides.

Sanchezia nobilis.—The foliage of this ornamental stove plant constitutes its chief value for decorative purposes; but the flowers, although by no means abundantly produced, have an uncommon look about them, which adds considerably to the appearance and value of the plant. They are aggregated in close branched terminal panicles, and are surrounded with yellow bracts. The long tubular corolla is also yellow. The plant is easily and usually cultivated in pots; but Mr. Ross grows it planted out in a stove at Pendell Court.

Mesembryanthemum muricatum.—A very pretty evergreen species that is now flowering freely in a warm greenhouse under ordinary treatment. The various colours found in this plant give a nice effect. The young stems are reddish, the leaves glaucous, and the flowers have petals of a light pink colour, with a large cluster of delicate yellow stamens in the centre. It is of trailing habit, and very effective when allowed to droop down from pots suspended from the roof of the house.—*M. Barker, The Gardens, Watcombe Park, Torquay.*

Linum trigynum.—We usually see this plant grown in a 5-in. or 6-in. pot for flowering at this season of the year, and it may, therefore, be new and interesting to some to know that it succeeds most admirably when planted out in a warm conservatory. When this plant is healthy, its dark green foliage looks well, but not only will it grow most luxuriantly under this treatment, but it will produce an abundance of its lovely yellow flowers at short intervals all the year round. After a batch of flowers has disappeared, it will only be necessary to pinch the young growth back a little, and give an occasional watering with liquid manure.—*M. Barker, The Gardens, Watcombe Park, Torquay.*

The best Crotons for Table Decoration and General Decorative Purposes.—For the former purpose I select as the best, *Majesticus*, *Weismanui*, *Interruptus aureus*, *Elegantissimus*, *Countess*, *Rodekianus*, *Lady Zetland*, *Prince of Wales*, *Princess of Wales*, *Johannis*, *nobilis*, *Warrenii*, *Picturatus*, *Chelsoni* and *Droustii*. Then of those that are adapted for general decorative purposes, we may mention *Evansianus*, *Fordii*, *D'Israeli*, *Lord Derby*, *Williamsii*, *Imperator* or *Challenger*, *mutabilis* or *princeps*, *Queen Victoria*, *Baronne J. de Rothschild*, *Bergmannii*, *Triumphans* or *Harwoodianus*, *latimaculatus*, *Sunset*, *Stewartii*, *Mortii* and *Massageanus*. For table plants and, indeed, for exhibition and decorative purposes, I think Crotons look decidedly best when grown to a single stem. The splendid specimens Messrs. R. P. Ker & Co., of Liverpool, show at the great Manchester exhibitions are grown in this way, and nothing can possibly be more effective and striking. A number of young plants should be raised annually by anyone who makes frequent use of them.—*R. D.*

Galanthus plicatus.—This rare species is sometimes considered as a variety of *G. nivalis*, but the characters of the foliage give it a distinctness which makes it unmistakable when seen alongside of the latter and its more closely-related forms. The leaves are of great breadth, and characterised by a more or less evident intramarginal plait or ridge on each side of the midrib. They are usually of a light green colour, unlike the narrow glaucous leaves of *G. nivalis*; but a vigorous well-flowered specimen at Pendell Court, Bletchingley, seems more of a glaucous tint than ordinary. The inner segments of the perianth stand erect, like those of *G. Elwesii*.

Azalea Jean Vervæne.—The proneness of Azaleas to sport in the matter of colour is amply illustrated at Tower House, Chiswick, the property of J. Donaldson, Esq. The normal or prevailing colour of the variety under notice is soft pinkish red, with broad irregular white margins, which give the flowers a variegated appearance. The blooms are double, and their singularity and interesting character is greatly augmented by numerous self-coloured red flowers scattered irregularly over a medium-sized flowering bush.

Tacsonia exoniensis.—I dare say some of your readers will be prepared to disagree with my estimate of this fine and showy conservatory climber; but for freedom of bloom and effectiveness, I put it before *T. van Volxemi*. When in Derbyshire, last summer, I saw, in the conservatory of Willersley Castle, Cromford, three or four large plants that had made a free growth, and were flowering grandly and persistently; in fact, the wealth of bloom appeared inexhaustible. All the management the plants required was a little training of the shoots so as to keep them distributed, and taking care ample supplies of water were given to the root. In early winter the leading branches are trimmed back a bit, and that is really all the pruning given. An occasional supply of weak liquid manure is found of great advantage. I met with it also in other places. I remember that Mr. J. Tegg has it very fine at Bearwood. There is this further apparent advantage about *T. exoniensis*, it seems to do better in a cooler temperature than does *T. van Volxemi*. But this is a statement open to some degree of challenge I have no doubt.—*R. D.*

FLORICULTURE.

DOUBLE FUCHSIA, CHAMPION OF THE WORLD.—I wonder who raised this remarkable floral phenomenon? It is a large double variety, with scarlet tube and sepals, and a huge bunch of purple corollas. That is what it really amounts to. If anyone, who can obtain a bloom of it, will measure it, they will find the proportions truly astonishing. It is a Goliath among double Fuchsias, and an Anak among the largest of them. Looking round a spacious square conservatory last summer, I saw several old plants of this Fuchsia growing in pots—they must have been several years old, judging from the size of their main trunks, and they were rarely potted; the gardener, who was growing them, contented himself with top-soiling the pots every year, and feeding them with liquid manure or a little guano when they were coming into bloom. It is one of those fine places that is open to the general public on certain days in the week, and the gardener told me that of all his flowering plants the visitors most admired these huge Fuchsias. I did not wonder at it. I do not think I ever saw flowers so large before, and at the same time so full and symmetrical. This particularly large double Fuchsia is best adapted for conservatory decoration.—*R. D.*

ZONAL PELARGONIUM, PUNCH.—I met with a gardener the other day who was anxiously enquiring whether he could obtain some cuttings of this once-popular Zonal Pelargonium. He was desirous of obtaining it in order to form some huge pyramids—doing this by training the shoots round some elongated sphere. As a matter of course, to do this properly, the plants should be three or four years old, with some good, hard and well-ripened wood in them. I can remember Punch, a very strong grower, with large woolly leaves and huge trusses of crimson flowers. I dare say it could be met with in old-fashioned gardens. I saw a gentleman's mansion last summer, against the front wall of which were placed boxes of old Zonal Pelargoniums with well-ripened shoots, and these were nailed up against the wall. They put forth young growths that flowered enormously, and made a great display all the summer.—*R. D.*

ORCHID NOTES AND GLEANINGS.

Salt in Orchid Houses.—Seeing the robust condition of my Orchids, and especially the *Odontoglossums* and *Phalænopsis*, which make immense bulbs and very stout flower spikes, others beside yourself have asked me whether I used artificial manures. My reply is that after making a few experiments, and watching the result of experiments elsewhere, I came to the conclusion that it was too dangerous a practice, and I, therefore, never took to it. There is one thing, however, which I do in the *Phalænopsis* and *Odontoglossum* houses, and from which I am inclined to think the plants in my charge get great benefit. Formerly I was greatly troubled by the slugs eating the flower spikes of the *Odontoglossums* and other things, and also with the green growing on the shingle over which the plants stood; so I had it all taken out and washed in very strong salt and water, thinking it would do away with the slugs, and also stop the greening over of the shingle. It had the desired effect, and has, I believe, also a very beneficial effect on the plants, and since that time I have occasionally sprinkled a little salt on the walks, being careful, however, not to let it touch either the plants or the pots. I am only feeling my way with it yet; but, as I said before, I consider it highly beneficial, and I mean to try it in the other houses, but should like to know whether any of your other readers have had experience with salt in Orchid houses. Does not rain-water contain more salt in it than reservoir or pond water, and is not that one reason why it is better for watering plants? If so, and some of your readers can tell how much more salt it contains, or whatever chemical ingredient is lacking in the other, it might be made up when rain-water runs short.—*Benj. Searing, The Gardens, Heaton House, Cheshunt.*

Lælia euspatha.—This pretty Orchid is in flower in the fine collection of R. H. Measures, Esq., at The Woodlands, Streatham. In growth it is much like *L. grandis*. The flowers are in size and shape

much like *L. purpurata Russelliana*; sepals and petal bright rose, lip rose with dark crimson throat. A very pretty and distinct species.

Odontoglossum cordatum Kienastianum.—This seems to be intermediate between *O. cordatum* and *O. maculatum*. The sepals are quite those of *O. cordatum*, but rather more barred with chestnut-brown than in the type; the petals are bright light yellow, with brown spots near the column; and the lip, instead of being white as in *O. cordatum*, is pale yellow, and in form and in the disposition of the brown blotches at its serrated margin bears much resemblance to *O. maculatum*. It is in flower with A. H. Smee, Esq., at The Grange, Hackbridge, and also with R. H. Measures, Esq.

LAW NOTES.

ANOTHER RATING CASE.—THE OVERSEERS OF LEWISHAM v. HENRY JAMES COBB.—This was an application made on the 6th inst. at the Greenwich Police Court by the overseers for payment of £2 11s. rates in respect of defendant's cottage and nursery grounds, Derby Villas Nursery, Forest Hill. Mr. Coxwell, 15, Walbrook, appeared for Mr. Cobb, and contended that according to the recent decision in the case of *Purser v. the Worthing Local Board* (see p. 477), Mr. Cobb could only be assessed in respect of the nursery grounds at one-fourth only, but as regards the cottage occupied by him at the full value. Mr. Chitty, the collector, opposed on the ground that there was one assessment only. Mr. Montagu Williams considered there should be separate assessments for the land and the cottage, and having referred to the Inhabited House Duty Act, 1857, adjourned the summons for a week to allow the parties to come to terms. When the case was resumed on Wednesday last, it was contended on behalf of Mr. Cobb that under Section 211 of the Public Health Act, he was entitled to be rated at only one-fourth of the assessment for his nursery grounds; but it was objected that the Public Health Act did not apply to the metropolitan district, except where specially provided, and that an objection which was raised to the mode of assessment would be outside his worship's jurisdiction. Mr. Montagu Williams did not consider his court was the place to decide the question Mr. Cobb raised, and made an order for payment of the rates, remarking that the case at Worthing, to which reference was made last week, did not appear to be exactly like the present one, as he believed there was no dwelling-house on the property in that instance. It was intimated that possibly there would be an appeal against his worship's decision.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CARNATIONS.—The whole of the stock of Carnations must now be gone over, as, at this season, green-fly is apt to attack them, and, if neglected, much injury is done to the young growth and foliage. We generally mix a lump of soft-soap in some soft water and dip the plants in, afterwards rinsing them in clear water; sometimes it is necessary to repeat the operation, but not often, if taken in time. The plants should now be re-staked. All the *Souvenir de la Malmaison* type are of heavy growth, and need to be firmly secured to keep them in proper position; our plants are now growing freely, and have been thus attended to. We propagated as freely as we could that grand yellow, *Pride of Penshurst*. It strikes very freely, and is worthy of all the care that can be bestowed upon it. What nicer button-hole bouquet, arranged with its own leaves, can be made? Few indeed.

We annually sow a few packets of seed, and as a rule obtain some extremely useful flowers from them. We have already potted off a good batch of this season's seedlings of *The Bride* and *Le Grenadin*; which, if kept shifted on, make fine plants for flowering next spring, and are much appreciated. Those of good form and growth are propagated, while, as a matter of course, many are single, and consequently worthless; still we are amply repaid by some really excellent flowers. There are now many grand varieties to select from them, but to all who may take them in hand let me say avoid all coddling; let the house in which they are staged be kept quite cool and freely ventilated, or

the growth made will be weak and the flowers anything but satisfactory. As a rule they will bear several degrees of frost with impunity, but at the same time it is not wise to put them to too severe a test in this direction.

We have yet many seedling things which require potting off, but every structure appears full to overflowing. Many things are now, however, going out of flower, and numbers of the winter-flowering plants can be discarded now that sufficient stock is struck, thus making room for the staging of young plants, which if neglected in their infancy seldom, if ever, regain their full vigour. The old stock of

SOLANUMS have been cut back hard and placed in a cold pit. As soon as the weather permits they will be planted out, and a little later on this season's seedlings with them. As the *Cinerarias* go past their best, let those intended for propagation have the flower-heads entirely removed—but not too much of their foliage at this time—and be placed in a pit on a surface of ashes, watered, and allowed to gradually ripen off. Cuttings in abundance will shortly appear. For autumn flowering a packet of seed should now be sown, taking care to shade the pan from sun. We generally place the seed in a genial warmth at this season, and as soon as the little plants appear remove to cooler quarters. Unless they are kept as cool and hardy as possible they are sure to be infested with green-fly, giving endless trouble to the grower, and in the end are not satisfactory.

THE FRUIT HOUSES.

The weather continuing so very dry necessitates extra attention to the watering of Vine borders, and we are, to-day, busy in that respect. We have removed the covering from the outside border of the early vinery, giving a good dressing of Clay's manure and then a thin mulching of straw litter to prevent evaporation. The canes are carrying a heavy crop, so that frequent feeding is rendered necessary, as the Vines are old. We have also watered the succession house, the Muscat and the Fig house; and also given a mulching to the latter of half-rotten manure. The Muscats are now in full flower, so that the temperature has been raised to 72° by night and 80° by day, by fire heat, with a rise of 10° by sun; of course, being careful not to damp down the house near mid-day.

See that the shelves containing Strawberries are made good. As the fruit is gathered let the plants be removed and the most forward from the next batch take their place. Should any of the plants be required for planting out or for fruiting next autumn they must be put into cold frames, regularly watered, and gradually hardened off before being placed out of doors. We have placed a batch along the whole length of the Potato pits, a position admirably suited to bring on the late varieties, such as Sir C. Napier, and being so freely ventilated a good "set" is always secured.

Melons are now growing very freely; we find it advisable to set the blooms daily until a sufficient number are swelling away together, when they are kept pinched off. The earliest lot will not carry more than three fruits each; but the succession ones may, according to the variety, mature as many as five or six of 2 lbs. to 3 lbs. each.

THE KITCHEN GARDEN.

Still the same unfavourable weather for the growth of all green crops prevails, and the stocks are now becoming very short. Broccoli, which should have been cleared off during March, are now only just showing signs of making a start; consequently the cropping of some of the squares will not be as originally intended. Winter Spinach is now of the utmost value, and furnishes almost daily pickings. Ellam's Cabbage is turning in nicely, but so very small; and the later plantings, although alive, have got considerably smaller than when planted out.

CAULIFLOWERS do not make the least attempt to grow; and, while the cold north-easterly winds prevail, watering must not be attempted to assist them. Taking it altogether, this is a most harassing season. We have put in our main sowing of Carrots; also an early lot of Beet-root, using Nutting's for the purpose, as we find this the best all-round variety. We have put in another breadth of Turnips, fearing, as is so often the case, that the earliest would bolt. We have also removed the stools of a square of Curled Kale, which had been hard picked; and lightly dressed and dug

the ground ready for Potatos. This will render late planting necessary, but for reasons above-stated it cannot be avoided.

We have also put in a sowing of Pale Dun French Beans, on a very warm border. Should they escape the spring frosts, they will come in most useful. The pricked-out Cauliflower, Brussels Sprouts, &c., having made a good start, the lights have been entirely removed from them during the day.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*April 12th.*—Daffodils again formed the main feature of the display, and these with a considerable number of good new plants made up a pleasing little show, which was visited in the course of the afternoon by H.M. The King of the Belgians, who on seeing the grand varieties of *Amaryllis* exhibited, must have been struck with the great advance made with this flower since he was present in the same place on the day when *Amaryllis* Leopoldi was christened and certificated. The Messrs. Veitch had Certificates for two lovely varieties on this occasion, and exhibited besides several others of great merit; also *Azalea obtusa alba*, and a group of well-flowered plants of *Pieris* (*Audromeda*) *japonica*, hardy and useful for outdoor purposes or for pot culture. Mr. B. S. Williams, Upper Holloway, was accorded a vote of thanks for *Vanda cristata*, *Phalenopsis Stuartiana nobilis* and *Anthurium atrosanguineum*. He also exhibited some fine plants of *Boronia megastigma*, *Ochna multiflora*, *Tillandsia Lindenii*, *Himantophyllum aurantiacum* and several *Sarracenias*. Messrs. Barr & Son, 12 and 13, King Street, Covent Garden, exhibited a fine group of *Narcissi*, enlivened by the intense blue *Chionodoxa sardensis*, *C. Luciliae*, *Saxifraga ligulata* and others, for which they were awarded a Silver Banksian Medal.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, staged a large group of *Narcissi*, augmented with various greenhouse or hardy plants, such as *Lacheualias*, *Ophrys tenthredinifera*, *Helleborus colchicus*, *Primula rosea*, *Zephyranthes carinata* and others. He was awarded a Silver Banksian Medal. Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, S.E., exhibited a large group of cut *Narcissi*, for which they received a Silver Banksian Medal. Several other plants were mixed in the group, such as *Anemone fulgens*, *Muscari botryoides alba*, *Chionodoxa Luciliae* and *C. sardensis*. Mr. F. Ross, The Gardens, Pendell Court, Bletchingley, exhibited a group of good and rare plants and cut flowers; amongst them *Paulownia imperialis*, *Eranthemum eboracensis*, *Angræcum sesquipedale*, *Streptocarpus polyanthus*, and *Dendrobium fimbriatum oculatum superbum* were conspicuous. One out of three varieties of *Vanda tricolor* was very noticeable for the union of the petals with the upper sepal in all the flowers of the spike. He was awarded a Bronze Banksian Medal. Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, exhibited a beautiful group of various popular and ornamental garden Ferns, amongst which the bronzy *Pteris aspericaulis*, *P. tricolor*, and the variegated *P. cretica* Mayi were conspicuous. Many beautiful *Davallias* and *Adiantums* were also notable, including *A. cucullatum* Pacotti. A Bronze Banksian Medal was awarded for the group.

A Silver Banksian Medal was awarded to a group of New Holland plants from the Royal Gardens, Kew. It included *Boronias*, *Darwinias*, *Agapetes*, *Pentapterygium*, *Bauera*, *Tetratheca*, *Acacia*, *Rhododendron argenteum*, red var., *Kennedyia nigricans* and *Primula Reidii*, a new Himalayan species. Messrs. H. Lane & Son, The Nurseries, Berkhamstead, exhibited a large group of different varieties of *Azalea mollis*, edged with *Aspidistra lurida*, for which they were awarded a Silver Banksian Medal. Mr. R. Dean, Ealing, exhibited *Primula longibarda* (Backhouse), a purple-flowered species in the way of *P. pubescens* or *P. ciliata*. Messrs. H. Page & Sons, The Nurseries, Teddington, were accorded a vote of thanks for an exhibit of three forms of *Odontoglossum*. Messrs. John Laing & Co., The Nurseries, Forest Hill, London, S.E., received a vote of thanks for *Cattleya Lawrenceana*, and a Cultural Commendation for a large finely flowered specimen of *Dendrobium Ainsworthii*. They also showed the curious-coloured *Odontoglossum Edwardi* and *Lavatera arborea variegata*.

R. J. Measures, Esq., Cambridge Lodge, Camberwell, exhibited a new white zonal *Pelargonium*, Miss F. Measures, and a vote of thanks was accorded for the exhibit. Mr. G. F. Wilson, Heatherbank, Weybridge, received a vote of thanks for an exhibit consisting of *Hellebores* and a variety of *Primula denticulata*. J. T. Gabriel, Esq., 6, Palace Road, Streatham Hill, exhibited *Cattleya Trianae* *Gabrielliana*, *Odontoglossum Rawsoniana* and *O. Andersonianum* Gabriel's var., for the latter of which he received a vote of thanks. H. M. Pollett, Esq., Fernside, Bickley, showed *Cattleya intermedia amethystina*; and F. A. Philbrick, Esq., Oldfield, Bickley, exhibited *Cymbidium eburneum* *Philbrickianum*, with two flowers on a spike. F. Wiggins, Esq., Clare Lawn, East Sheen, showed a large well-flowered specimen of *Dendrobium Findleyanum*. Besides the Rose certificated, Messrs. William Paul & Son, Paul's Nurseries, Waltham Cross, Herts, exhibited Tea Rose—The Bride and Mrs. John Laing, for the latter of which he was granted a vote of thanks.

At the meeting of the Fruit Committee, Mr. D. Inglis, The Gardens, Howick House, Lesbury, exhibited a basket of Cabbages, named Howick Stone, for which he was accorded a vote of thanks.

Royal Caledonian Horticultural.—*April 6th and 7th.*—This was one of the best spring shows held under the auspices of this society (in the Waverley Market), and it was pleasing to note that the adverse character of the weather, experienced for some months, was not reflected in the show, which, in point both of extent and quality, was equal to any and better than most of its predecessors. There was a slight falling off in the number of entries as compared with last year, but, as has been indicated, the exhibits were of greater extent.

The local nurserymen were not so well represented as usual, and Messrs. R. B. Laird & Sons were left alone in the field of competition. Their exhibits were, however, up to their usual standard of excellence, and would successfully meet a good deal of opposition. The band stand was enclosed with some magnificent *Rhododendrons* in perfect bloom, which had a striking effect on the general appearance of the show. Their hardy *Rhododendrons* also comprised some fine varieties of beautiful colour and form. The table of plants shown by the Messrs. Laird was admirably arranged, and showed an effective combination of colour. It included *Azaleas*, some very finely-flowered *Heaths*, *Lily of the Valley*, and sweet-scented greenhouse *Rhododendrons*, the table being neatly edged with *Maidenhair Fern*. The *Azaleas* shown separately by the same firm were well flowered, and not so stiff as some of the others, a little green peeping through between the bloom and relieving the great mass of colour. Messrs. Thomas Methven & Sons sent for exhibition their usual large table of spring-flowering plants, comprising chiefly forced hardy shrubs, *Azalea mollis*, *Ghent Azaleas*, *Indian Azaleas*, *Lilacs*, *Heaths*, *Cyclamens* and *Deutzias*; the table being set off by the graceful foliage of *Palms* being introduced among the flowers. Messrs. Ireland & Thomson contributed a table filled with a choice collection of flowering and foliage plants. Messrs. James Dickson & Sons also showed a table of spring-flowering plants, including *Azaleas*, *Spiræas*, *Tulips*, and two very pretty boxes of *Maréchal Niel* *Roses*.

In the gardeners' and amateurs' class the hardy spring-flowering plants proved a never-failing source of attraction. They filled two tables, and made up in themselves a very neat and pretty exhibition; prominent among the display being a fine assortment of *Narcissus*, *Auriculas* and *Primulas*. Mr. Robertson Munro took the first prize for the table with a collection distinguished by the rarity of many of the varieties; the second prize went to Mr. George Sinclair, who had also a very tasteful exhibit. Perhaps the most conspicuous object in the show was a table in the centre of the market, on which the *Azaleas* were arranged, with their great profusion of bloom towering up in the form of a pyramid. Mr. John Paterson, gardener to Mr. Syme, Millbank, came to the front as usual with some magnificent specimens of high cultivation. The Cape *Heaths* were very good, and among the *Orchids* were many good specimens. Mr. Curror's first-prize lot of six was made up of three splendid *Dendrobiums* and *Cattleya Trianae* with eight spikes, having three fully-developed flowers on each. In close proximity to this table was a beautiful collection of *Orchids* shown by Messrs. Thomson & Sons, Clovenfords, which formed a centre of attraction for visitors. *Deutzias* have probably been better represented, but they were on the whole a fair show, the prize plants being highly meritorious. There was a large entry of *Cinerarias*, which gave evidence of great skill in cultivation, showing a distinct advance in the direction of ornamental beauty. Foliage plants were a very creditable display for the time of year, as were also Ferns; while the *Pelargoniums* were so fresh and well-bloomed that they appeared to have been grown in July rather than in the early spring. *Primulas* and *Auriculas*—to promote the cultivation of which a society has been formed, and will hold its first exhibition next month—were shown

in stroug force, and made a very interesting appearance. Hyacinths are naturally looked upon as one of the features of the spring show, but this year they were hardly up to their former standard of merit. The spikes were not so heavy as in some past years, but the exhibition in this department was, notwithstanding, a very pleasing one. Tulips were only middling, and there was also a small show of Narcissus. Fruit is not looked for in large quantities at this season, but there was a very nice collection. There was a good competition in Strawberries; the Grapes were shown fresh and in fine bloom; and the Apples and Pears were of such high quality as to give proof of the increased attention bestowed on this branch of fruit-growing since the Apple and Pear Congress, held under the auspices of the society two years ago. There was a good exhibition of vegetables of the various kinds.

Scottish Horticultural Association.—*April 5th.*—At the first meeting for the session, held at 5, St. Andrew Square, Edinburgh, Mr. David P. Laird, president, delivered the inaugural address. Mr. Alex. Milne, vice-president, was in the chair. Mr. Laird said he had accepted the presidency with great diffidence, but would do his best to uphold the dignity of the association, whose aim was to keep horticulture up to the high standard expected from them as Scotsmen. He suggested that in future short notes on exhibits might be read at the meetings, with interest and instruction to the members. He also suggested co-operation in some way with the societies which had sprung up in Aberdeen, Paisley, and other places since the association was started ten years ago. Speaking next of horticultural exhibitions, he said they were a great power for good; they caused what it was to be hoped was a healthy state of emulation among gardeners generally. There were, however, exhibitions and exhibitions, and it would be far better if a lot of those little flower shows were done away with. Many of them were started not for the benefit of horticulture, but for the benefit of a private purse. They went on for a number of years and then broke down, when it appeared that one had got a bigger share of the prize-list than others. Regarding the management of flower-shows, he said it was a great advantage not to have too many gardeners in connection with the management, and instanced the Yorkshire Gala, on the committee of management of which there was not a single nurseryman or gardener. The committee, however, took suggestions from gardeners, and acted upon them if they thought proper. The founders of the Royal Caledonian Horticultural Society, too, must have thought pretty much as he did, because, in constructing their council, they took care that one-third should be men not practically connected with horticulture. After speaking hopefully of the association's forthcoming Chrysanthemum show, he deprecated the sending of youths who had no natural taste for gardening to the trade, and said that journeymen gardeners should not look to the money value of a situation as long as they were young men, but should go where they could get the best training. In conclusion, he briefly traced the rapid strides made by horticulture during the fifty years of the Queen's reign, and said he was sure there was a great field of work yet open for horticulturists.

Dumfries Horticultural Improvement Association.—*April 7th.*—The monthly meeting of this association was held in Greyfriars Hall, the president, Mr. McCreath, occupying the chair. Mr. Chalmers, Terregles Gardens, read a very interesting and highly instructive paper on "Hardy Bulbous Plants." He drew marked attention to the great merits this class of plants had alike for large or small gardens, and their usefulness for either conservatory or drawing-room decoration. Instancing the Bulbocodium vernum and the Winter Aconite (*Eranthis hyemalis*) as being among the earliest of our spring-flowering bulbs, he showed how, with the aid of other bulbous plants, such as the Snowdrop, Crocus, Hyacinth, Daffodil or Narcissus (which is deservedly becoming very popular), and Liliums of sorts, a continuous show of fine flowers might be kept up till far into the autumn. The paper was of a very practical character, and Mr. Chalmers illustrated it by exhibits of blooms grown in the open at Terregles. At the close, the meeting (which was a large one) accorded him a hearty vote of thanks. The exhibits included a number of neat button-hole bouquets, shown by young gardeners, and a fine collection of mosses, numbering three dozen sorts, collected by Mr. Scott, one of the gardeners at Terregles, almost exclusively in that neighbourhood, and very neatly mounted.

St. Ann's Amateur, Floral and Horticultural, Nottingham.—The general monthly meeting of this society was held at the Queen's Arms Inn on the 5th inst., Mr. Thacker, president, in the chair. There was a good display of plants and flowers. Mr. G. Priestly, senior, exhibited some very large specimen Azaleas, being one mass of bloom; Mr. Hallam exhibited a very good bridal bouquet, and Mr. Thacker a quantity of cut blooms of Orchids, amongst which was a very fine named variety of *Odontoglossum Alexandræ*. Messrs. J. Franks, G. Garrick and J. Stoneystreet exhibited some good plants, and a large quantity of Crocuses, on which a discussion arose as to their origin, cultivation, &c.—*J. S. F.*

QUESTIONS & ANSWERS.

PLANTS FOR HEAVY SOIL.—*Hackney:* If you are desirous of growing Pansies there is no reason why you should not give them a trial. By ameliorating your soil with stable manure, decaying leaves, bracken, and similar material, you might be able to grow Pansies with tolerable success. They do not require much sun if they have a fair amount of light. Hyacinths, Tulips, Narcissus, Anemones, Winter Aconite, Primroses, and Polyanthus would flower in such a garden with fair treatment. Christmas Roses and other species of Hellebores would flower in shade, but like an open soil. Amongst hardy herbaceous plants several Saxifragas, Petasites fragrans, Vinca major, V. minor, Myosotis sylvatica, M. dissitiflora, Arabis albidia, Alyssum saxatile, Aubrietia deltoidea, and similar things would flower. Several shrubs, such as Ribes sanguinea, Daphne mezereum and Erica herbacea, would flower in partial shade. You do not say what class of plants you would like most.

BRUGMANSIAS.—*W. J., Waltham:* You would be likely to obtain plants of the species you mention from either Messrs. Bull, Veitch or Williams.

CROTONS.—*John Proctor:* There are no evident marks of disease or vermin about the specimens of leaves sent us, so that we are inclined to attribute the withering of their tips to fluctuations of temperature. This is most liable to happen to young leaves, but old ones are by no means exempt from it under certain conditions. You state that your plants are grown close to the glass, and if the leaves touched the latter there would be no difficulty in tracing the evil. On the other hand, the temperature might have fallen very low on some cold morning before the fires could be stirred up to counteract it. The evil might not show itself very visibly for some days, so that it could easily be overlooked at the time. The tips of the leaves of any plant are the first to suffer from cold.

IMPATIENS HAWKERI.—Having recently seen a plant under this name, I am anxious to know whether it is synonymous with or merely a misspelling for *I. Hookeri*.—*Anxious.* [The two plants are perfectly distinct, and in no way related to one another except as species with similarly flattened flowers. The habit of the stems, freedom of flowering, and the colour of the flowers are all perfectly distinct.—*Ed.*]

CAMELLIAS.—Would any correspondent say what is the best time to graft Camellias? I have several small plants obtained from suckers, and would like to insert better varieties on these stocks than the plants from which they were taken.—*E. G.*

PANSIES.—*A. B. L.:* Garden Pansies should be propagated annually in the autumn. By far the largest and best blooms are obtained from cuttings of young unflowered shoots if possible at that time, and inserted either in a sheltered place in front of a wall or preferably in a cool frame. The bedding Violas are propagated in the same way, but are hardier, and cuttings may be inserted in prepared soil in a sheltered but otherwise unprotected place.

ROSES.—*Silvia:* Roses of any kind may be pruned now, as we do not expect frost to do harm to plants of this nature in April. The directions given from time to time in these columns should be followed in the matter of pruning. As far as Tea Roses are concerned little pruning will be necessary. All that is requisite is to shorten back those shoots whose tips have been killed, and thin out the weak ones where there is no room to tie them in.

ORCHIDS FROM LIVERPOOL.—*Liverpool Horticultural Co.:* Your flowers of *Dendrobium Wardianum* Lowi are superb; the flower particularised may certainly have some of *D. crassinode* in it, although it is not like Baron Schroder's fine *D. Wardianum* crassinode. If all the *Odontoglossum Cervantesii* morada come like the flowers sent it is very distinct—a large rose-tinted flower with peculiar spotting.

CATTLEYA SP.—*C.:* The *Cattleya* species of Mau's importation which flowered with you in November and again now, is not yet determined. We had a grand flower, something like the finest and largest *C. Mendelii*, in March, from R. H. Measures, Esq., and we saw flowers of it in December; it should, therefore, be winter or spring flowering.

ONCIDIUM MARSHALLIANUM.—*J. T.:* We know of no test by which *Oncidium Marshallianum* can positively be selected from *O. crispum* and other allied varieties in imported plants. Old growers usually make a very shrewd guess, but they cannot quite tell how they do it. Of course it is easy to pick out some and say they are not *Marshallianum*, but not so easy to correctly select what you want.

NAMES OF PLANTS.—*Reginald Young:* No. 1 is the broad petalled and finest form of *O. crispum*; 2 and 3 are very large, but would not be reckoned of equal value with 1 by growers; 4 is *Dendrobium thyrsiflorum* (Schroderi has four angled pseudo-bulbs like Farmeri); 5 is *O. luridum*; 6, the violet-spotted lip is *O. tripudians*, the other is *O. triumphans*; 7, unless this is very weak and badly flowered, which it does not appear to be, it is *Maxillaria lepidota*. *J. M.:* *Chrysoplenium oppositifolium*. *Peter Elliot:* 1, *Iris reticulata*; 2, *Sisyrinchium grandiflorum*; 3, *Primula rosea*; 4, *Corydalis solida*. *A Subscriber:* *Cælogyne ochracea*.

COMMUNICATIONS RECEIVED.—*D. McD.*—*J. C. & Co.* (many thanks).—*W. Piercy.*—*W. T., junior.*—*D. T.*—*H. C. & Sons.*—*J. R.*—*W. C.*—*W. B.*—*J. F.*—*S. H.*—*M. T.*—*N. S.*—*J. H. H.*

TRADE CATALOGUES RECEIVED.

DOBBIE & Co., Seed Growers, Seed Merchants and Florists, 55 to 63, High Street, Rothesay, N.B.—Abridged Catalogue of Plants, &c.

ROBERTSON MUNRO, Abercorn Nurseries, Edinburgh.—Illustrated Descriptive Catalogue of Alpine and Herbaceous Plants.

CHARLES TURNER, Royal Nurseries, Slough.—General Spring Catalogue of Soft-wooded and Stove and Greenhouse Plants.

E. H. KRELAGE & Son, Haarlem, Holland.—Special Offer of Bulbous and other Plants from the Cape.

LONDON SEED TRADE.

April 13th.

Messrs. HURST & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate demand for Agricultural Seeds, the continued dry weather having retarded farming operations. English Red Clover is scarce and dearer. Foreign Red, White and Alsike are selling at very low prices. Rye Grasses firm. Mustard and Rape dearer. Bird seeds unchanged.

COVENT GARDEN MARKET.

April 14th.

FRUIT.—AVERAGE WHOLESALE PRICES.			
	s.d.	s.d.	
Apples, $\frac{1}{2}$ sieve	2 0	5 0	Pine-apples, St.
Grapes	per lb.	3 0	Michaels, each
Kent Cobbs .. 100 lbs.	60 0	8 0	Pine-apples, Eng., lb.
			Strawberries, per lb..

VEGETABLES.—AVERAGE RETAIL PRICES.			
	s.d.	s.d.	
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle
Beans, French, per lb.	2 0	2 6	Lettuces .. per dozen
Beet, per dozen	2 0	3 0	Mushrooms, p. basket
Brussel Sprouts, per lb.	0 3		Onions, per bushel ..
Cabbages per doz.	2 0	2 6	Parsley, per bunch ..
Carrots, per bunch ..	0 6		Radishes, per dozen ..
Cauliflowers, English,			Sea Kale .. per basket
per dozen	3 0	5 0	Small salading, punnet
Celery, per bundle ..	2 0	2 6	Spinach, per strike ..
Cucumbers, each	0 6	1 0	Tomatos, per lb.
Endive, French, doz.	2 6	3 6	Turnips per bun.
Herbs, per bunch	0 2	0 4	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.			
	s.d.	s.d.	
Arum Lilies, 12 blms.	3 0	5 0	Mignonette, 12 bun...
Azalea, 12 sprays	0 6	1 0	Parma Violets (French),
Bouvardias, per bun.	0 6	1 0	per bunch
Camellias .. 12 blooms	2 0	4 0	Pelargoniums, scarlet,
Carnations, 12 blooms	1 0	3 0	12 sprays ..
Cut Tulips, 12 blooms	0 9	1 3	Primroses, 12 bunches
Czar Violets (French),			Primula, double, bun.
per bunch 1 6	2 0		— single 12 bun.
Daffodils, dble., 12 bun.	2 0	4 0	Roses (coloured)
— single .. 12 bunches	1 6	4 0	Roses, Tea per dozen
Epiphyllum, 12 blms.	0 6	1 0	Roses, red (French),
Eucharis, per dozen ..	3 0	6 0	per doz. 1 6
Gardenias, 12 blooms.	1 6	3 0	— Saffrano (French),
Heliotropes, 12 sprays	0 6	1 0	per doz. 1 0
Lapageria, red, 12 blms.			Tropæolums
Lapageria, white,			Tuberose, per dozen ..
12 blooms			Violets .. 12 bunches
Lilies of the Valley			White Jasmine, bun.
12 sprays 0 6	1 0		Xmas. Roses, 12 blooms
Marguerites, 12 bun...	3 0	6 0	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.			
	s.d.	s.d.	
Aralia Sieboldi, doz. .	6 0	18 0	Foliage Plants, vari-
Arum Lilies, per doz.	18 0	24 0	ous, each
Azalea per dozen	24 0	42 0	Fuchsia per dozen
Cineraria .. per dozen	6 0	9 0	Genesta per dozen
Cyclamen .. per dozen	12 0	24 0	Hyacinths, per doz. pts.
Cyperus, per dozen ..	4 0	12 0	Lily of the Valley,
Daffodils 12 pots	8 0	10 0	12 pots 12 0
Dracæna term., doz. .	30 0	60 0	Marguerites, per doz.
— viridis, per dozen	1 0	24 0	Mignonette .. per doz.
Epiphyllum, per doz.	18 0	30 0	Palms in variety, each
Erica, various .. doz.	18 0	42 0	Pelargoniums, scarlet,
Evergreens, in var.,			per dozen
per dozen	6 0	24 0	Primula siuensis, p. dz.
Fairy Roses .. per doz	10 0	12 0	Solanums per doz.
Ferns, in var., do ..	4 0	18 0	Spireas per dozen
Ficus elastica, each..	1 6	7 6	Tulips ... per doz. pots

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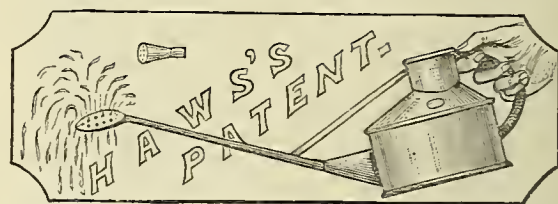
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ROYAL BOTANICAL and HORTICULTURAL SOCIETY of MANCHESTER.
FLORAL MEETING in the Town Hall, Manchester, on the 29th inst.
The ANNUAL WHITSUNTIDE HORTICULTURAL EXHIBITION will open at Old Trafford on the 27th MAY.
BRUCE FINDLAY.
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THE THIRTIETH ANNUAL EXHIBITION, August 16th. Amount offered in Prizes, £237. Schedules now ready.

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ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m., in the Lindley Library; Fruit and Floral, at 11 a.m., and Narcissus, at 12 noon, in the Conservatory, on TUESDAY next, APRIL 26th. National Auricula and Primula Society's Show. Admission free to Fellows at 12 o'clock; and to the Public at 1 o'clock, upon payment of 2s. 6d.
N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Second National Co-Operative Flower Show, SOUTH KENSINGTON, August 23rd, 1887.

£60 in PRIZES for Flowers, Fruit, and Vegetables. Silver and Bronze Medals. Certificates of Merit. Numerous Special Prizes. Schedules of Prizes on application to WILLIAM BROOMHALL, 1, NORFOLK STREET, STRAND, W.C. Secretary.

Next Week's Engagements.

MONDAY, April 25th.—Special Sale of Imported Orchids at Protheroe & Morris's Rooms.

TUESDAY, April 26th.—Royal Horticultural Society, Meeting of Fruit and Floral Committees.—National Auricula and Primula Society's Show.—Special Sales of Flowering Orchids at Protheroe & Morris's, and Stevens' Rooms.

WEDNESDAY, April 27th.—Sale of Orchids, Roses, Shrubs, &c., at Stevens' Rooms.—Sale of Lilies, Roses, &c. at Protheroe & Morris's Rooms.

THURSDAY, April 28th.—Sale of Imported and Established Orchids at Stevens' Rooms.

FRIDAY, April 29th.—Sale of the first portion of the stock of Orchids, the property of the New Plant & Bulb Co. In liquidation. At Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 23, 1887.

THE ROYAL HORTICULTURAL SOCIETY AND ITS PROGRAMME.—Mr. Henry Little has got an answer to his complaint respecting the poverty-stricken character of the Royal Horticultural Society's Schedule for the present year, in the announcement of the intention of the Council to hold a Chrysanthemum Show in November next; but we doubt if it will afford him much satisfaction, though were we inclined to be satirical, we might aver that it will delight the lovers of the sadly-neglected and greatly-abused "Mum"! It would be hard work, though, making fun of the announcement of the show in that direction, because it so happens that of all flowers none have been so encouraged, patronised and exhibited as the Chrysanthemum; nay, we might even say that it has been petted beyond all anticipation, and its admirers are so satiated with exhibitions of it

everywhere—and first-class shows, too—that it would seem hard to poke in another without damaging or displacing one or other of the longer-established fixtures.

Under these circumstances, it does seem that in proposing to hold yet another Chrysanthemum exhibition the Council is about to perform that which is supererogatory. But more than that, there would seem to be an element of intentional and injurious combativeness introduced into the proposal in fixing the dates of the show to conflict with that admirable, old-established and first-class exhibition held at Kingston, while the second day will be identical with the first day of the exceptionally grand display which the National Chrysanthemum Society yearly holds at the Westminster Aquarium. Can it be that the Council are jealous of the great and growing reputation of the National Chrysanthemum Society, and hope to cripple it by thus establishing a two-days show of the popular flower on the day preceding the Aquarium exhibition? It looks like it; but, still, failure is foredoomed, for Chrysanthemum growers are peculiarly loyal, and will hold on at all hazards to "the National" ship.

Of all things another Chrysanthemum show in London is least wanted, and of all places where one is least likely to be successful South Kensington is that place. When we remember what fine, interesting and truly valuable exhibitions of fruit and vegetables have been held at South Kensington, it is not possible otherwise than to deplore the disappearance of these from the Royal Horticultural Society's programme. Mr. Little's concern seems to be with plants specially, of which he is an enthusiastic grower; but it must not be forgotten that plant exhibitions swallow up much money; and still further, it seems evident that, as far as the metropolis is concerned, these special plant exhibitions are in process of decadence, for the simple reason that the public do not care for them. We may deplore with our correspondent the decadence of the Royal Horticultural Society, and also, specially, its dependence upon advertising prizes to fill its schedule; but the latest proposal of the Council to hold yet another Chrysanthemum show seems fraught with stupidity—a distressing premonition, we fear, of the end which cannot be far off.

Mr. THOMAS BAILEY, the veteran gardener at Shardeloes, died on Sunday morning last, aged 81 years.

Mr. RICHARD CARR, gardener to the Duke of Portland, at Welbeck, was accidentally killed at Retford station on the night of the 13th inst.

THE third exhibition of the PORTSMOUTH CHRYSANTHEMUM SOCIETY will be held in the new Drill Hall, Landport, on November 10th and 11th.

A FLOWER SHOW AND FANCY FAIR, in aid of local hospitals, is announced to be held in the Victoria Park, Portsmouth, on July 5th, 6th, and 7th.

THE fourth annual exhibition of the SURREY CHRYSANTHEMUM SOCIETY will be held on November 7th and 8th in the Public Hall, Rye Lane, Peckham.

THE READING CHRYSANTHEMUM SHOW is fixed for November 15th.

A TELEGRAM from Jersey states that owing to the cold weather, the crops of NEW POTATOS are in a backward condition, and it is not expected that many will be shipped until June.

ARRANGEMENTS will shortly be made by which residents in the neighbourhood of the ROYAL HORTICULTURAL SOCIETY'S GARDENS AT CHISWICK, who are not Fellows of the society, will be admitted to the gardens on easy terms.

Mr. DAWSON PAUL and Mr. JAMES SENDELL, Rose Lane Works, Norwich, have dissolved partnership by mutual consent, and the business will be conducted in the future by Mr. Paul alone, but under the same style and title as before, viz., Boulton & Paul.

THE thirtieth annual exhibition of the CLAY CROSS FLORAL AND HORTICULTURAL SOCIETY is announced to be held on Tuesday, August 16th.

THE annual exhibition of the LEEDS HORTICULTURAL SOCIETY falling this year in the "Queen's Jubilee Week," which, no doubt, will be observed more or less as a general holiday, the committee of management have decided to continue it for four days instead of three, as heretofore.

"BEAUTIFUL LAWNS, HOW TO MAKE AND KEEP THEM," is the title of a brochure just issued by Messrs. Oakshott & Millard, of Reading, and which, in a small compass, contains much useful practical information on the subject on which it treats.

THE CHRYSANTHEMUM ANNUAL.*

MR. LEWIS CASTLE has done for the Chrysanthemum what others have done for the Rose—collected the experience of some of the most noted growers of the day on various subjects of interest in connection with their favourite flower, and issued the same in the form of an annual (at the modest price of 6½d.), which we hope will have many successors, and in future be published earlier in the season. Besides cultural articles of practical interest, the annual contains a most useful list of the varieties which have been certificated from 1859 to the end of 1886; a list of Chrysanthemum societies and shows; and a very readable review of the Chrysanthemum season of 1886.

It would not be fair to Mr. Castle to quote at any length from his pages, but we feel sure he will forgive us for transferring to our columns the following bit of Chrysanthemum lore, which will be read with interest by many of our readers, and, we hope, will whet their appetite for the remainder of the good fare provided:—

"What a host of pleasant reminiscences is started by a glance at the names of some of our Chrysanthemum fathers! Perhaps the very first that are entitled to recognition are the founders of the original Stoke Newington Chrysanthemum Society—Messrs. Holmes, Tant and James. How little they ever dreamt that their mutual resolve, while returning from the Vauxhall Dahlia Show of 1845 on the top of a 'bus, to hold a friendly competition at the old Rochester Castle in the following November (the loser to pay for a steak supper), would have resulted in such an organisation as the National Society of to-day! Truly, it was the 'day of small things,' but was none the less the foundation of one of the most successful and useful of the florists' societies that we have yet seen. It was not long ere the 'Mum' fever spread like wildfire throughout the North of London; and amongst those who had the opportunity of visiting those early shows, who will forget the truly gigantic plants staged by Mr. Holmes, the smaller but none the less creditable 'Poms' of James, or the blooms of Tant. They were, indeed, the marvels of the hour. Very soon other competitors appeared on the scene, and made their mark. Among them were 'Old George Taylor,' who wrote, it is said, the first treatise on the culture of the Chrysanthemum; Tom Merry, too, with his box of cut blooms, was for many years a prominent competitor; E. Hutton, of the Bank of England, represented the amateurs of the day; Arthur Wortley, later on secretary of the society, was often well to the fore with his flowers, mostly cut from plants grown in the open border, and trained against the wall with no other protection than a weather board above them; Scruby and Dan Monk each scored their victories—aye, and well earned they were; while our old and esteemed, and I may, I am sure, say, well-beloved friend Edward Sanderson, now the honoured president of the National, was then, as now, often the recipient of the highest honours, as witness the store of cups and trophies he cherishes at Willesden. Proud he may well be of his share in developing the love of the 'Autumn Queen.' Mr. Charles Wilkinson and Mr. Williams (the then beadle of West Hackney Church), each had their day of fame, and were recognised amongst the growers of the day. A few years later, and who will not remember the specimen Pompons of David Hutt's culture; have they ever been equalled? Certainly never surpassed. He, like Edward Sanderson, has followed the fortunes of the old society almost from its commencement, and is a member, and takes a lively interest in the welfare of the 'National' of to-day. Do they ever, I wonder, compare the display of to-day with those of early shows? What a contrast they must afford!"

* THE CHRYSANTHEMUM ANNUAL. By Chrysanthemum Growers. L. Castle, Hotham House, Merton, Surrey.

NOTES FROM LANCASHIRE GARDENS.

WOODVILLE, LYTHAM.—Calling here a few days ago, I was much pleased with the capital display of flowers in the greenhouses and conservatory. Mr. Cross, the gardener, has grown *Dendrobium nobile* in quantity, until at the present time he has nearly eighty plants, the greater number being grown in baskets, and brought into flower in successional batches. Some very nicely-bloomed specimens were gay at the time of my visit. On some of the flowering bulbs thirty-six and forty blooms had appeared. *D. thyrsiflorum* and *D. Pierardi latifolium* were also gay; so, too, was a *Saccolabium giganteum*, which had been open twelve weeks, and was still fresh and presentable. A fine specimen *D. densiflorum*, 3 ft. 6 ins. across, was just at its best; it had over fifty spikes of its rich orange-coloured blossoms.

Here also were several plants of *Anthurium Scherzerianum*, grown in about 6-in. pots, just now with three or four of its bright scarlet spathes. These were just stood in baskets and suspended from the roof, the deep colour of the bracts being very conspicuous. *Lycaste aromatica* was flowering well in a basket. This is a very old form, but still a favourite with many; and if only on account of its strong odour, is well deserving of a place in every collection.

In the conservatory I noticed a fine display of *Vesuvius Pelargoniums*, both the scarlet and the white forms. As soon as the Chrysanthemums are over—say, about the new year—Mr. Cross fills up the space with these useful plants; and as they are always grown specially for this purpose, they are in flower when brought in, and keep so for several months. They were full of bloom, the white form retaining its petals in a very satisfactory manner.

FAIR LAWN, LYTHAM, the residence of J. Fildes, Esq., boasts of a capital collection of Orchids. Calling here recently, I was much struck with a mass of the dark form of *Cattleya Lawrenceana* with five spikes of flowers, which were of fair size and capital colour. *C. Trianae* and *C. Mendelii* were also good, and hanging in the same house, with nice drooping spikes of bloom, were some good pieces of *Odontoglossum citrosum*. In the *Odontoglossum* house among some good *Alexandras*, triumphans, &c., was a strong *O. Pescatorei* with a spike bearing no less than sixteen laterals. This is at present in bud; when the flowers open it will be very gay, as the laterals and buds are pretty close together.

Mr. Tborner, the gardener here, is an excellent grower, and the Gardenias, stove plants, Ferns, Azaleas, and other hard-wooded plants, of which there are many good specimens, afford good evidence of his ability, and prove that the skill he manifested when he lived in the neighbourhood of Preston has not left him. With fair opportunities, he is still prepared to present at our exhibitions or private establishments, many of the grand objects of flower and foliage, with which he surpassed and charmed many of us in years gone by.—*Visitor*.

POINSETTIAS.

THE usual method adopted in the cultivation of these showy plants has been so often dilated upon in the horticultural press that it is, perhaps, impossible to say anything new respecting them as far as pot-work for general decorative purposes is concerned. In a cut state, however, their beautiful bracts are much appreciated, especially when obtained somewhat out of season and the glut is over. It is quite possible, we know, to have them from November to March inclusive, when sufficient space is at command to grow them in batches for succession, propagating early or late as the case may be. But in how many gardening establishments can this method be adopted? How a supply for cutting can be obtained, where room is limited, during the entire period mentioned, is the object we have in view, and which we will endeavour to explain.

At the present season very many old plants which have bloomed in pots during the closing months of the year will necessarily be thrown away, previously selecting a few from which cuttings are to be obtained later on. If a few of these old plants are spared, and planted out near the back wall of any structure where an intermediate temperature can be maintained during the winter months, and grown well during the ensuing summer, no difficulty will be experienced in obtaining from them a goodly quantity of useful bracts during five months of the year. It is true successive cuttings

will not be of quite so substantial a character as the first crop, but they will, nevertheless, be found extremely useful for associating at this season with such things as *Richardias*, *Eucharis*, &c.

If attended to as follows, even one fairly strong plant may be kept in bloom during the whole of the time stated. When the first inflorescence is cut, say in November, water should be gradually withheld, not, however, to the extent of ignoring the remaining bracts or causing the foliage to fall, but so arrange matters, that by the time the last bract is cut the soil shall be quite dry. By this time small secondary bracts will be making their appearance along the wood from which the forward ones were cut; now syringe the plant heavily, only giving sufficient water at the root to retain the foliage, which we find absolutely essential to the production of a future crop of flowers; for if too severe a check is applied, massive bracts are not developed to anything like the extent they would be by retaining the foliage. During the growth of the inflorescence a weak solution of guano is appreciated, and visibly affects both the size and colour of the same.

A temperature of 50° by night and 65° by day should, if possible, be maintained, and the wood from which the bracts are expected be kept well up to the light. By repeating this treatment, that is, watering at the root and syringing the foliage during the growth of the flowers and withholding when the great majority are cut, a succession may be obtained until the proper time arrives for the plant to be hand-pruned, previous to the commencement of the growth from which bracts are expected the following seasons.

I enclose you a bract or two of the third cutting to which a plant has been subjected, the first flowers from which were cut on Nov. 15th, and which has never been entirely without bloom since. It covers a roof span in a small Cucumber house of 5 ft. by 4 ft., and up to the present we have cut from it sixty-eight bracts, some of the first crop measuring 18 ins. in diameter. I mention this fact lest the treatment recommended should be deemed injurious. The plant was treated on exactly similar lines last year, and the result has been as here described, while it is now carrying fifteen bracts similar to those enclosed.—*J. H. H.* [The inflorescences sent were very good indeed, considering the advanced period of the year. Some of the individual bracts measured 4 ins. to 6½ ins. in length, which when fresh would have given heads of no mean breadth and appearance.—*Ed.*]

LARGE-FLOWERED OR SHOW PELARGONIUMS.

THIS is one of the best seasons of the year in which to obtain small plants from a nursery, because they are just coming into bloom. If in 48-sized pots it will be found that they are competent to carry the plants through the blooming season, provided they are looked after in the matter of watering, that they have such supplies of air as they need, and are kept free from green-fly. Anyone requiring a good selection will find them in the following:—*Amethyst* (Brehaut), rich purple with deep maroon top petals; *Brilliant* (Foster), rich scarlet, extra fine; *Claribel* (Hoyle), pure white; *Despot* (Foster), deep crimson, extra fine; *Fortitude* (Foster), orange, black spot on top petals, extra fine; *Illuminator* (Foster), bright vermilion-scarlet, rich and glossy; *Maid of Honour* (Foster), pink, with dark maroon top petals; *Pericles* (Hoyle), French white, dark top petals; *Ritualist* (Foster), rosy pink lower petals, very fine; *Statesman* (Foster), pale rose; *Virgin Queen* (Smith), pure white with purplish carmine spots on the top petals; and *Vivid*, deep orange-scarlet, dwarf and very free.

Plants of *Pelargoniums* grow quickly at this season of the year. In order to prevent their drawing, they should have plenty of room and a free circulation of air. In the case of large plants—half or full specimens—the side branches should be tied out to large stakes, in order that the centre of the plants may be left as open as possible to admit of space for the development of the rising shoots. Green-fly becomes very troublesome to *Pelargoniums*, and must be closely watched for. Some shading is also necessary, for if hot sunshine fall upon the plants through the glass, the flowers are soon scorched, while a little shading prolongs their beauty. Watering must be well attended to, because *Pelargoniums* are free rooters, and

soon fill the pots with them; but if the soil is allowed to become dry, the foliage is soon disfigured.

Large-flowering *Pelargoniums* are well adapted for cool greenhouse and conservatory decoration, and yet the wonder is they are so little grown. Some persons say, "We object to *Pelargoniums* and *Calceolarias* both, because they soon become foul with insects"; but a little judicious fumigation will speedily keep them under. The *Pelargonium* is one of the most useful and effective of summer-flowering greenhouse plants.—*R. D.*

SPREKELIA FORMOSISSIMA.

THOSE who delight in fancy names may be pleased to know that this is called the *Jacobæa Lily*. As a matter of course it is anything but a *Lily*, as it belongs to the *Amaryllis* family, and was originally named *Amaryllis*, although that genus is now confined to *A. Belladonna*, a native of the Cape. The *Jacobæa Lily*, on the other hand, is a native of South America, and being deciduous, is nearly hardy in this country. Like the *Belladonna Lily*, however, it should be planted in warm situations, and, if possible, in front of an early vinery or stove, where the heat will act very beneficially in starting it into growth early, so as to give it time to make good growth and complete it. Our illustration shows a plant on a very much reduced scale. The flower scapes are produced late in spring or early summer, and bear one large bloom of an intense crimson colour. It is needless to say the flowers are very conspicuous, owing to their magnificent and striking colour, but the irregularity and



SPREKELIA FORMOSISSIMA.

peculiar construction of the flowers are alike remarkable. The lower segments are much bent down, and clasp the stamens in a bundle, as the latter are also singularly declinate. The bulbs are well worth growing in pots by all possessed of a greenhouse or similar structure.

THE LINDLEY LIBRARY.

OWING to the death of Mr. Thomas Moore, the number of trustees of the Lindley Library (which it will be remembered was purchased out of the proceeds of the Great International Horticultural Exhibition of 1866), other than the official ones connected with the Royal Horticultural Society, had become reduced to two, viz., Dr. Hogg and Dr. Masters, the only survivors of the original seven. Under these circumstances it became, in the words of the trust deed, "a moral obligation" to fill up the vacancies. This has accordingly been done by the election of three new trustees, in the persons of William Carruthers, Esq., President of the Linnean Society, Keeper of the Botanical Department, British Museum; George Maw, Esq., F.L.S., of Kenley, Surrey; and Harry J. Veitch, Esq., F.L.S., of Chelsea. The official trustees are the treasurer and secretary of the Royal Horticultural Society for the time being.

Though connected in a measure with the fortunes of the Royal Horticultural Society, inasmuch that it cannot be removed from South Kensington while the Society stops there, the Library is essentially an independent institution, and is open to the general public as well as to Fellows of the Society, under proper regulations, and under certain conditions books are allowed to be borrowed. The funds at the disposal of

the trustees are, unfortunately, too small to allow of much more than the purchase of periodicals, while the room in which it is lodged is so inconvenient of access that the utility of the Library is seriously impeded; indeed this is not all, for the room in question being used by the council and the scientific committee on the regular meeting days of the Society, the Library cannot be used by horticulturists on the very days when it would be most convenient to them to do so. In any change of site or other circumstance connected with the Royal Horticultural Society, the question of adequate accommodation for the Library and its proper maintenance must have earnest consideration. In the meantime donations of books or of funds will be thankfully welcomed by the trustees.

NEW PLANTS CERTIFICATED

By The Royal Botanic Society, Regent's Park.

April 20th, 1887.

PTERIS TREMULA FLACCIDA.

This variety is a fine bold form of the type, with the pinnules broad and crisped, which gives the plant a much more massive appearance than the ordinary form. The apex of the pinnæ is also greatly elongated; in some cases 2 ins. to 3 ins., which gives them a tailed appearance. The typical *P. tremula* is altogether more slender, with paler green fronds. Exhibited by Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton. Botanical Certificate.

PTERIS MAYI.

In this useful decorative Fern the old *P. cretica albo-lineata* is greatly improved. The plant is of dwarf compact habit, with the apex of the frond and the pinnæ beautifully crested or tasselled. The whole breadth of the pinnæ is of a pale silvery grey, with a narrow green margin; it is extremely handsome and suitable for indoor decorative purposes. Exhibited by Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton. Botanical Certificate.

PRIMULA OBTUSIFOLIA GAMMIEANA.

The leaves of this are oblong, blunt and toothed. The flowers are borne on a scape about 3 ins. to 6 ins. high, and are of a deep purple—some say port wine colour, difficult to describe. They are salver-shaped, with a flat limb, toothed segments, and a narrow yellow eye. The scape and calyx are deep purple. This form occurs on the Sikkim Himalayas at an elevation of 15,000 ft. in sunny positions, and may, therefore, be expected to be hardy. Exhibited by Mr. J. Douglas, Great Gearies, Ilford. Botanical Certificate.

NARCISSUS CYCLAMINEUS.

For description see p. 518. Exhibited by Messrs. Barr & Son. Botanical Certificate.

CYCLAMEN PERSICUM MAJESTICUM.

The robust appearance and great size of the flowers are the chief features of this variety. The leaves are almost orbicular, and of a leathery consistency, while the flowers are carried well up on long scapes. The segments of the corolla are bluish, with a deep purple blotch at the base of each. Exhibited by Mr. J. Odell, Gould's Green, Hillingdon. Floricultural Certificate.

CINERARIAS.

JUBILEE.—The rays of this variety are beautifully imbricated one over the other in an oblique direction; and are white with a rosy purple margin and tip. This colour gives the variety a novel appearance; and the habit is compact, dwarf, and all that could be desired.

ROYALTY.—The heads of this fine variety are large, deep blue, and self-coloured; while the plant is dwarf.

ECLIPSE.—The deep magenta recurved and imbricated rays of this form constitute it a desirable one for cultivation; the flower heads themselves are very broad, and the plant dwarf.

ARIEL.—This has no less a striking colour than the last, but decidedly of a lighter shade, with large flower heads, recurved rays of a clear pinkish lilac tint, and a white base; the plant is dwarf-habited.

All were exhibited by Mr. J. James, Woodside, Farnham Royal, Slough. Floricultural Certificates.

AMARYLLIS.

HILDA.—Four flowers of fine substance were borne on a tall scape; and these were large, of a deep crimson-scarlet, with a white midrib near the base of each segment, and slightly flamed there. Exhibited by Mr. J. Douglas, Great Gearies, Ilford. Floricultural Certificate.

R. D. BLACKMORE.—When exhibited, both foliage and scape were short, the latter bearing the very common number of four flowers. These were large, and heavily flamed with crimson on a white ground, having a pale green midrib at the base of each segment. Exhibited by Messrs. Paul & Son, The Old Nurseries, Cheshunt. Floricultural Certificate.

EDITH M. WYNNE.—For the description of this showy variety, see p. 518. Exhibited by Messrs. J. Veitch & Sons, Chelsea. Floricultural Certificate.

H. P. ROSE, THE PURITAN.

For the description of this fine Rose, see pp. 518 and 522. Exhibited by Messrs. Wm. Paul & Son, Waltham Cross. Floricultural Certificate.

AURICULAS.

TIRESIAS.—This is a deep velvety-maroon self, with a well-defined and copious white paste and a yellow tube; the flowers are large, bold, and present a fine appearance; the foliage is ample and mealy.

REV. CHARLES KINGSLEY.—The flowers of this variety are large, deep violet-purple and self-coloured, with a white paste and a pale creamy yellow tube. The particular tint of the flower is rather difficult to describe, as it appears blue or purple, according to the incidence of the sun's rays and the position of the beholder.

MONTEOSE.—The flowers of this form show it as belonging to the grey-edged section, with a white paste and a dark violet feathery band, external to the green ground colour. All exhibited by Mr. J. Douglas, Great Gearies, Ilford. Floricultural Certificates.

THE GARDENERS' ORPHAN FUND.

THE following is a copy of the circular which has been posted to gardeners throughout the country during the past week, with a view to eliciting a definite expression of opinion as to the amount of support the scheme is likely to receive:—"A general desire having been expressed by gardeners in Great Britain and Ireland to join, as a body, in marking in an appropriate manner a great historical event—the fiftieth anniversary of the reign of the Sovereign of these realms, it has been found, after much discussion, that the form which best embodies their sentiments is the establishment of a fund for the succour of gardeners' children who have lost one or both parents, and have thus been left helpless.

"The suggestions made on this subject by Mr. Penny, of Sandringham, Mr. Clayton, of Grimston Hall, Tadcaster, and Mr. Udale, Elford Hall, Tamworth, were discussed at a representative meeting of horticulturists, held at South Kensington on March 22nd, and it was unanimously agreed that in the opinion of those present it was desirable to establish a fund for the relief and assistance of the orphan children of gardeners, to be called 'The Gardeners' Orphan Fund,' and a provisional committee was appointed to prepare a scheme for carrying the same into effect, the gentlemen nominated to serve on such committee being:—Dr. Masters, *Gardeners' Chronicle*; Mr. Shirley Hibberd, *Gardeners' Magazine*; Mr. G. Deal (Messrs. John Weeks & Co.); Mr. James Douglas, Great Gearies, Ilford; Mr. J. Fraser, Lea Bridge; Mr. C. Penny, Sandringham; Mr. C. H. Sharman (Messrs. James Carter & Co.); Mr. H. J. Veitch, Chelsea; Mr. J. Roberts, Gunnersbury Park; Mr. J. Woodbridge, Syon House; Mr. A. F. Barron, Chiswick; Mr. R. Dean, Ealing; Mr. J. Matthews, Weston-super-Mare; Mr. J. Wright, *Journal of Horticulture*; Mr. B. S. Williams, Upper Holloway; Mr. W. Richards, *Gardeners' Chronicle*; Mr. B. Wynne, *Gardening World*.

"The committee, having well considered the manner in which the aims of the promoters of the fund can be best carried into effect, have drafted the outlines of a scheme, the main features of which may be briefly stated as follows:—

1. *Title*.—The Gardeners' Orphan Fund.

2. *Its Objects*.—To make grants or allowances of money towards the maintenance of the orphans of gardeners.

A. *By Allowances*.—To consist of any sum not exceeding 5s. per week to children between the ages of 3 and 14 years, that may be placed with relatives, or other responsible persons acting as guardians, within the knowledge of the committee.

B. *By Boarding-out*.—This to consist of free board,

clothing and education for children between the ages of 5 and 14 years.

C. By the purchase of admission to some existing institution.

3. *Qualification of Candidates*.—All candidates must be (1) orphans of persons who have been gardeners, and (2) be nominated by two subscribers or donors to the fund. No child to be considered eligible for the fund until 3 years old, or receive support after attaining the age of 14 years.

4. *Mode of Election to the Fund*.—By the votes of subscribers and donors only.

5. *Voting Power of Subscribers*.—Subscribers of 5s. per annum shall be entitled to one vote at each election; subscribers of 10s. to two votes; of £1, to four votes; of £2, to eight votes, and so on in like proportion. Life donations of £5 shall entitle the donors to one vote at every election; of £10, to two votes; of £20, to four votes, and so on in proportion. Annual subscriptions shall be due on the 1st of January.

"The scheme does not make provision for establishing any building or school, the committee considering it neither desirable nor practicable at present to entertain such a project; but should the fund at any future time assume such proportions as to render it desirable to erect or purchase a building, special arrangements can be made for the purpose.

"The committee propose at an early date to call a public meeting in London (of which due notice will be given), to discuss the scheme they have prepared, and, if approved of, to appoint officers in London and the provinces for carrying the same into effect. In the meantime the committee believe the orphan fund will be well supported by the affluent, if gardeners themselves will show by the amount of support they accord to the scheme, that they appreciate the benefits which an adequate fund, capably administered, will confer.

"As it will depend entirely upon the response that is made to this appeal, whether the committee will feel justified in attempting to carry out the project, we ask you to give the matter your earnest consideration, and to inform us whether you approve of the objects of the movement, and will support the fund, by a donation or annual subscription, and by using your influence with your employers and friends so as to obtain their assistance."

PEACHES.

HAS our climate become more unfavourable to the successful cultivation of the Peach than it was from thirty to forty years ago? Well remembering that complaints were then current that owing to a change in the seasons they could not be so well grown as they were in bygone years, we sometimes ask ourselves if the change is not more imaginary than real; for though we often have two or three wet cold seasons in succession, which prove very detrimental to this fruit, they are usually followed by a series of warmer and drier ones in which crops are gathered from walls comparing favourably with the best indoor productions.

There are often causes in operation other than climatic, which militate against the production of a satisfactory crop of this highly esteemed fruit, amongst which unsuitable soils and badly drained borders may be mentioned; but as the season has passed in which steps can be taken to remedy these defects, we will not dwell upon them, but offer a few remarks that may be of service to some during the ensuing season. Two very common mistakes are often made during the period of growth, namely, overcrowding by the laying-in of too much wood, and neglecting to attack and destroy insect pests and mildew until the young growth is seriously checked if not totally destroyed. The trees in their struggle for life start into fresh growth often after midsummer, and this wood formed so late in the season cannot be properly matured before winter, which finds trees thus circumstanced with few and badly-developed buds ill-fitted to withstand the vicissitudes of spring.

Peach trees during the growing season, from a variety of circumstances, do not get in many places that amount of attention which they require, and, I think, deserve. Flour of sulphur is the best antidote for the mildew, and Tobacco-water for the destruction of aphids. The frequent use of the syringe or garden engine will do much towards keeping both the fly and red-spider at bay. The other too common fault is the laying-in of too much young growth, which many will plead is necessary for selection at the winter pruning. Now a Peach tree

well managed should require very little pruning at that season. Disbudding ought to be taken in hand at the earliest possible moment, and no more shoots be allowed on the trees than are required to furnish the wall, each shoot being sufficiently distant from its neighbour to ensure a perfect exposure for fruit and leaf. Every ray of sunlight should be utilised for the benefit of the growths destined to bear the ensuing year's crop, as well as maturing that of the current season. On well-established trees one growth at the bottom of each shoot, and the leading one, will generally be enough to cover the wall. More than this is worse than useless, and any gross growths should either be removed or stopped. It will rarely happen, where these simple ideas are well carried out, but that winter will find trees thus treated furnished with well-ripened wood studded with flower buds, which, being plump and fully developed, are in a much better condition to cope with unfavourable weather during the spring, than those which from neglect have been a prey to insects, and smothered with too much growth. I think the more extended planting of the earlier kinds would be advantageous, for they naturally ripen their wood earlier in the season than the older and later ripening varieties.—W. B. G.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

WE have received from Mr. Cutler a copy of a circular letter dated the 20th inst., and signed by Mr. John Lee, chairman of the committee, and Mr. Harry J. Veitch, treasurer, the nature of which may be gleaned from the following extracts:—

"Whilst the members of nearly every society in the United Kingdom are evincing their loyalty to the Queen upon the occasion of the completion of the fiftieth year of her reign, it would not be becoming that the horticulturists of England should be behind in showing the respect they owe to their Sovereign.

"In anticipation of this eventful year the pension list was, in January last, increased to 122 recipients, and in order to further mark this interesting occasion the committee consider that, as Her Majesty is the patroness of the Institution, the best plan for celebrating the event will be to make a grant of £5 to each of the Pensioners, and to each unsuccessful candidate at the late election, in all 133 persons, and thus allow these poorer brethren of the horticultural world an opportunity of participating in the general rejoicing."

To defray the extra expenses thus entailed, and to carry out the above scheme, the committee are sending out collecting cards, and express their earnest hope that those who receive them will do their utmost to assist them in their endeavours to promote the happiness and comfort of so many poor and deserving horticulturists, and secure the sum of £1,000, which is the amount required. The committee also suggest that the card should be submitted to employers, experience having shown them that employers are, as a rule, not aware of the existence of the Institution, and would willingly subscribe to it were it brought to their notice.

POLYANTHA ROSES.

WHO can look upon the pretty small-flowered Roses of the Polyantha section, and not admire them greatly? Take the two that were shown at the last meeting of the Royal Horticultural Society; and of these two, one especially, named Golden Fairy, with its blossoms tinted with golden apricot in the centre, and having a paler exterior. This promises to make one of the most charming button-hole Roses that can be imagined, and it will also be very useful in bouquets. Then there was a tiny white one, of very dwarf growth, and very free indeed; but the flowers lacked a certain fullness and symmetry, which might have resulted from the plant not being in good condition.

We may take it for granted that the Polyantha Roses come from *R. multiflora*, and they make very pretty pot plants. Some of the best are Anna Maria de Montravel, pure white, the flowers produced in large clusters of from thirty to sixty, and they remain a long time in perfection, besides continuing to be produced all the summer through. Madame Cécile Brunner, light pink or blush, is a plant of dwarf habit, and the blossoms are highly fragrant. Mignonette is one of the prettiest; the soft rose flowers change almost to white, and it is one of the most charming of the group. Pacquette has small and double pure white flowers.

freely produced. *Perle d'Or* has nankcen-coloured blossoms, with an orange centre; it is novel and distinct in character. The foregoing may be regarded as the flowers of the flock, and they are worthy the attention of all lovers of Roses. — *R. D.*

GARDEN PLANTS ILLUSTRATED.

ÆRANTHUS SESQUIPEDALIS.

Most cultivators will probably recognise in this the remarkable Orchid of Madagascar known as *Angræcum sesquipedale*. Sir Joseph Hooker recently decided that the name *Æranthus* should be retained for the large-flowering group of *Angræcum*, and the above name was first given by Lindley, of Orchid fame. The huge flowers are now pretty well known, and are ivory-white with a wax-like consistency ultimately fading to yellow. The greenish yellow greatly elongated spur will always be an object of interest. There is a larger form of this species that flowers later. — *Reichenbachia*, t. 14.

CATTELEYA DOWIANA AUREA.

The variety here noticed is of freer growth than the type, and has longer paler pseudo-bulbs. For this reason it will probably prevail more in collections, as it responds better to the care of cultivators. The sepals and petals are sulphur-coloured, while the lip has a ground colour of deep yellow, closely pencilled with crimson lines that are particularly handsome and attractive. The sepals and petals of *C. Dowiana* are described as orange. The native homes of the two forms are 1,000 miles apart; they are amongst the most gorgeous of *Cattleyas*. — *Reichenbachia*, t. 5.

CATTELEYA LAWRENCIANA.

This beautiful *Cattleya* has an interesting history attached to it, both from the time it was first detected by Schomburgk, and the difficulty experienced by the collector, Mr. Seidl, in re-discovering and introducing it from the vicinity of the Roraima and Hookenaam Mountains. The pseudo-bulb bears one leaf, and is often more or less deeply suffused with purple. As many as eight flowers have already been produced on a spike on home-grown pseudo-bulbs, and more may be expected. The sepals and broad wavy petals are lilac-purple, with the lamina of the labellum deep maroon-crimson; but the colour varies in individuals from pale lilac to nearly pure white. — *Reichenbachia*, t. 12.

CÆLOGYNE CRISTATA MAXIMA.

The type is the best of all the species, and that on which Lindley founded the genus. The variety under notice is considered by the highest authorities to be the best of the forms in cultivation, and differs from the type in being larger in all its parts, and producing eight or nine flowers on a spike. The sepals and petals are broad and of great substance, and the lateral lobes of the labellum are proportionately smaller than in the ordinary *C. cristata*, showing off the fringed lamellæ to advantage. — *Reichenbachia*, t. 6.

DENDROBIUM WARDIANUM.

While it is one of the most beautiful *Dendrobes*, this is also one of the freest flowering and most useful species coming under the care of the cultivator. Flowers are produced in clusters of two to three all along the naked somewhat knotted stems of the year previous, and are both large and extremely handsome. The sepals are oblong and ivory-white, tipped with purple, while the petals are broader but similar in colour. The whole character of the flower, however, is centred in the handsome labellum. The upper part of the latter organ is white tipped with purple, while all the lower part is orange, with a deep brown, almost black, blotch on each side of the column. — *Reichenbachia*, t. 9.

LELIA AUTUMNALIS XANTHOTROPIS.

The general impression produced at first seeing this species is that it claims affinity with the one-flowered *L. furfuracea*. Two or three leaves are produced on short stout pseudo-bulbs, and the shortness of the drooping flower-scape is by no means suggestive of *L. autumnalis* as we usually see it in cultivation. The sepals and petals are rosy pink, with deep purple tips; the anterior lobe of the labellum is deep purple, and the median disk of two yellow lamellæ; the flowers are delightfully fragrant. This form inhabits the mountains of Colima, in Mexico, at an elevation of 6-7,000 ft. — *Reichenbachia*, t. 10.

LELIA EUSPATHA.

At first sight, this species very much resembles *L. purpurata*, and evidently has great affinities with it, but differs in the absence of the fine deep purple pencilled radiating lines in the throat of the labellum so characteristic of *L. purpurata*. The sepals and petals are of a pale or diluted rose colour, and bear some resemblance to those of *L. elegans*; but the petals are not sharply and longitudinally folded as in the latter. The upper part of the labellum is deep purple, but paler at the margin and tip; while the throat is white or very pale yellow. — *Reichenbachia*, t. 8.

MASDEVALLIA SHUTTLEWORTHII.

While it must be classed amongst the second rank of *Masdevallias* in point of size, it has, indeed, a beauty of its own, and a free-flowering habit that will always render it popular. The lateral sepals in the best varieties are rich rosy red beautifully freckled with a darker tint. The dorsal sepal is yellow marked with vinous purple veins. The long slender tails are greenish yellow deepening to orange-yellow at the tips. The flowers of *Masdevallia Shuttleworthii* xanthocorys accompanying this are pale, almost straw-coloured, and the plant smaller, but the flowers are said to be more fragrant than the type. — *Reichenbachia*, t. 13.

PHALÆNOPSIS GRANDIFLORA AUREA.

For garden purposes, it may be convenient, or even advisable, to retain the specific name *P. grandiflora*; but we must not overlook the fact that the oldest, and, therefore, the proper name, by right of priority, is *P. amabilis*. The species may easily be recognised by the uniform pale green colour of its leaves, and the narrow elongated middle lobe of the labellum. The variety under notice differs from the type by the labellum being almost wholly deep yellow, with the usual complement of red spots. It comes from an island in the Malacca Straits. — *Reichenbachia*, t. 11.

GARDENING NOTES FROM SCOTLAND.

Celery has stood well this season, and a good supply till May seems certain; Major Clarke's Red and Dwarf Incomparable (Turner's) have done the best. Sowings and plantings should be made at least three times in succession, and the seedlings should never be checked from the beginning. We notice no difference between several kinds of Leeks as to their hardiness; Ayton's Giant has stood well, and is still abundant and sound, having been removed under the shade of bushes.

Parsley, we believe, always stands the winter best when grown stunted during the previous season. On ground where young roots were transplanted and made firm in the poor soil they have done much better than those grown luxuriantly in borders richly prepared. This would appear to hold good with most crops which have to stand exposed during severe weather. Some object to trenching or deep tilth of any form; but such is right in its proper place, and gardens which have been trenched and manured well for many years may be allowed to become consolidated, especially for the production of winter crops.

Wallflowers.—It may be worth while to notice that most useful supplies of flowers during autumn and early winter may be had from plants raised from seed sown during April. They need not be planted in rich soil, and we observe where the ground was made firm for the young plants they have done best. Very late last season we had these sweet-smelling flowers in great abundance, and on the same plants the quantity is now (April 1st) abundant. There are many varieties which can be had in brilliant colours, and certainly are of great value for cutting, as well as for their appearance, during the period referred to. The double kinds, of which we had a quantity, have all been killed. Stocks protected under glass are now a mass of flowers; they have been shifted into large pots and well repay the trouble. The usual supply of August-sown plants make a good succession to the plants in flower now. — *Caledonian*.

THE AMATEURS' GARDEN.

FLOWER SEEDS.—The frosty nights we have been experiencing lately do not give much encouragement to put out anything of a tender kind; but there are many seeds that may be sown now with perfect safety, whether annual or perennial. Seeds of the latter may be sown now out of doors if they are large and easily germinated without much risk of loss; but if the seeds are choice or rare, it is always more advisable to sow in pots or pans, and place them under the protection of a cool frame, or, preferably, on a hot-bed or in a regularly-heated pit, greenhouse, or other structure that may be at command. If a little heat can be given them, the seeds come away more quickly, and lessen the danger of loss through damping, slugs and other vermin to which they are liable when lingering about in a weakly or slow-growing condition.

ANNUALS, however, as a rule, call for the attention of the amateur at this season more than anything else, because they are readily obtainable, cheap, convenient, and supply a great want, or, in other words, fill up a vacancy in cottage gardens to great advantage. Their place could be ill supplied by anything else at the amateur's disposal, calculated to make a display of some continuity with the least expenditure. Seeds of all hardy annuals, or those having any claim to such, may now be sown with perfect safety, as the weather may reasonably be expected to be mild enough by the time the seeds germinate, and favourable to their growth.

Candytuft in various colours may now be sown, varieties chiefly of *Iberis umbellata* and *I. amara*. *Collinsia bicolor*, *C. verna*, *Chrysanthemum carinatum*, *C. coronarium* and *C. setatum* are popular annuals that are almost sure to find a place in gardens. The first two named *Chrysanthemums* exist in numerous very pretty varieties, both single and double. *Calliopsis bicolor*, *C. Drummondii*, *C. tinctoria*, and *Malcolmia maritima*, the Virginian Stock, and the Larkspurs, both single and double, afford great variety both as to colour and general appearance. Various bright-coloured flowers are afforded by *Nemophila insignis*, *N. i. alba*, *N. maculata*, *N. atomaria*, *N. a. discoidalis*, *Phacelia campanulata*, *P. Parryi*, *Eutoca viscida*, *Calendula officinalis*, *Clarkias*, *Godetia*, and others.

Many annuals, whether hardy or half-hardy, repay the trouble of germinating and bringing forward in heat, afterwards hardening off and planting out. Amongst half-hardy ones may be mentioned *Tagetes signata*, *T. patula*, French and *T. erecta*, African Marigold, Asters, Stocks, *Helichrysum*, *Ammobium alatum*, *Helipeterum*, *Waitzias*, and others. Many that are perfectly hardy come much earlier and better if forwarded in heat, pricked out in boxes or frames, and planted out in duly prepared ground when the weather becomes favourable. *Phlox Drummondii* in great variety, *Centaurea cyanus*, *Saponaria calabrica*, *Dianthus chinensis*, and *D. c. Heddewigi* belong to this category, and are all exceedingly useful and ornamental plants in gardens. *Pyrethrum parthenium aureum* or Golden Feather must not be omitted here, and, together with all those mentioned in this latter list, ought by this time to be in a forward state.

SEA KALE, &c.—Where it is necessary to make new plantations, and this is frequently the case where any quantity is required for forcing, it may be conveniently done. The thick fleshy roots may be cut into lengths of 3 ins. or 4 ins. and inserted in deeply-trenched or otherwise well-prepared ground. These sets or cuttings should be taken from thongs or roots that have not been forced, as they are invariably the best. It is usual to lay aside these in heaps when the old plants have been lifted for forcing; plant them about 2 ft. apart, in rows 2 ft. to 2½ ft. asunder, according to the extent of ground at command, and place the cuttings about 2 ins. below the surface; afterwards mulch the ground to induce straggling growth in the plants. Plantations of Horse Radish and Rhubarb may still be made, although the season is advanced for both; but the Rhubarb will come on rapidly, however, if the ground has been deeply trenched and well manured. No watering is necessary in the case of either subjects mentioned when newly planted, but after growth recommences, and especially if the weather be dry, all will be greatly benefited and make much stronger growth if the ground is mulched and occasional heavy waterings given. — *F.*

GRAPES: GROS COLMAR v. LADY DOWNES.

It appears somewhat strange to me that after the correspondence on this subject has gone so far, Mr. Udale should now turn round and wish me to understand I have entirely missed the point of his article on p. 379. He gave me four plain questions, to which I have given plain answers; but he suddenly tells me

have been crediting him with things which he had not thought of. He also says I have avoided his fourth query as though it would bite me. I think my reason for not answering it is plainly stated on p. 456. But I must add further, if for Mr. Udale's benefit alone, that if I lived a hundred miles nearer the vinery in question, I might have given him an answer, but under the circumstances I rather fancy it would bite.

If your correspondent will turn to his first communication on the subject he will not find any mention made of the treatment of the vinery. I emphatically deny that the presence of either of these Grapes ought to have been abundant proof that it was a late vinery, for I know where Lady Downes is to be found in the early vinery, and Gros Colmar in anything but a late one. My experience differs considerably from that of my opponent in respect to the finishing of the Grapes in question; I find Muscats are improved by being ripened in an ordinary Muscat temperature, and those I have tried grown in a temperature suitable for Lady Downes or Hamburghs, have been deficient in flavour as well as colour. Both varieties certainly require a long period to finish; but Lady Downes will attain a grand flavour in a much lower temperature. At least, this has been my experience.

After reading my reply to the second question carefully again, I fail to see where Mr. Udale gets the idea into his head that I am afraid of allowing the Muscats fresh air. I should be sorry to assert anything so erroneous. I would respectfully admit that the Muscats and Gros Colmars are improved by a greater amount of sunheat and light than is required by Lady Downes. I again state I have never tasted Gros Colmar equal in flavour to well grown Lady Downes, the latter being, in my opinion, the best late Grape we have. I do not wish to infer for a moment that the sample of Gros Colmars that were tasted by Mr. Udale were not superior to Lady Downes grown in the same house; far from it. But I feel certain if an opinion could be had from all our leading Grape growers as to which variety is superior to the other in flavour, Lady Downes would win by a large majority.—James B. Riding.

AMATEUR GRAPE GROWING.

At the usual monthly meeting of the North of Scotland Horticultural Society, held in the Upper Hall, Christian Institute, Aberdeen, on Friday evening the 15th inst., the vice-president, Mr. Grigor, Fairfield, in the chair, Mr. James Scott, Deemount, Aberdeen, read a paper on "Amateur Grape Growing," in the course of which he described his own experience as a Grape grower. He commenced to grow Vines in 1882 by planting several varieties together. When the berries came on, he thinned them carefully and sparingly; but mildew shortly afterwards set in. Acting on the advice of a friend, he tried sulphur as a cure, which speedily put an end to the mildew and the Vines as well. He tried a second time in the following year with most satisfactory results. His vinery was heated in the usual way with pipes, and was particularly well lighted with large panes of glass. He placed the wire about 12-ins. from the glass; but he thought that was too near, and recommended that the distance between the wire and the glass should be 15 ins. or 18 ins.

He prepared the soil with seasoned manure and a coating of pure loam, and took the precaution of washing the roots of the plants before planting them. He pruned the Vines about the end of December, and at the end of January rubbed off the loose bark. When the buds began to swell, he gave the borders a good soaking, using cold water. As the result of his system, he had grown annually a crop of Grapes averaging 180 bunches, and weighing 200 lbs. He concluded by remarking that he had found Vine cultivation a pleasant and interesting amusement, as well as a profitable work, since he had always been able to secure a profit in the sales of the fruit after paying

expenses, besides having as many Grapes as he wanted for his own table.

Mr. Henderson, Wellwood, in the course of the interesting discussion which followed the reading of the paper, alluded to Mr. Scott's experience with the sulphur, which, he said, was a case of the sulphur being wrongly applied. If properly used sulphur could not be surpassed as a destroyer of mildew. The proper way to apply it was to mix it up with water, and paint the hot-water pipes with it, afterwards taking care not to put on too much fire. It was advisable to use the sulphur after the berries had stoned, otherwise it might have an injurious effect. Mr. Henderson also held that the water used for watering the Vines ought to be at least as warm as the soil in which the roots were placed. Fresh manure applied to young plants was also, in his opinion, objectionable, as tending to produce an undue growth of wood and leaves to the detriment of the fruit. After the Grapes were cut, a little fire-heat should be given to thoroughly mature the wood, and then the plants should be pruned as hard as possible. The chairman said that he differed from Mr. Henderson with regard to the method of using the sulphur. In his opinion the water in the pipes could not be heated too much. He also thought that manure should be used in forming the border. If he got good strong wood the roots would look after themselves.

Mr. Grigor, Sunnyside, agreed with Mr. Henderson in thinking it undesirable to apply manure to young Vines. They did not require to be fed much the first season or two. After many of those present had taken part in the discussion, it was found that the majority held that sulphur could be safely used even when a very great heat was applied. All the speakers complimented Mr. Scott on his success in Vine-growing, and a hearty vote of thanks was accorded to him for his excellent paper. Mr. John Smith, Devanha House, was admitted a member of the society. A vote of thanks to the vice-president for presiding terminated a most enjoyable and instructive evening.

A FERN NURSERY.

VARIOUS widely distinct subjects are cultivated to great perfection and in great quantities in the Dyson's Lane Nursery at Upper Edmonton. Comparatively few species, however, are grown considering the extent of glass, and the thousands of pot plants that fill the numerous low span-roofed houses that cover the grounds of the nursery like a village of glass. The plants, however, are all of a select nature, owing to their being grown solely, or almost so, for market purposes, which exercises a selecting influence upon them, so that no weeds or fancy plants, botanical or otherwise, obtain a footing here.

Anyone with a knowledge of, or fancy for Ferns, cannot fail to be delighted with a visit of inspection, for notwithstanding the collections of other things, Ferns are the chief feature of the place. House after house is filled with thousands of plants in all stages, from the tiny green prothallus, the first evidence of germination, up to handsome, healthy and shapely plants of considerable size.

Five span-roofed houses running parallel with one another are entirely filled with the popular *Adiantum cuneatum*, which (owing to the absence of the intervening partitions between the houses) look like a field of a beautiful green colour. Several very useful varieties of this species are grown, such as *A. c. elegans*, a form with graceful fronds and small pinnules; also the compact-habited *A. c. Pacotti*, and the tasselled *A. c. grandiceps*. The Maidenhair Ferns are amongst the most popular at present, and accordingly we find other well-known and beautiful forms, such as *A. Farleyense*, *A. scutum*, *A. rubellum*, *A. rhodophyllum* and others of that class whose young fronds are red, pink or purple, and very effective by contrast with the matured state. *A. curvatum*, *A. Sanctæ Catherinæ*, *A. Veitchi* and *Williamsi*, are also distinct and beautiful, while *A. pubescens*, and the tawny-fronded *A. fulvum*, with the graceful arching fronds of *A. fragrantissimum*, add great variety of character to the general appearance.

Another feature of importance is exhibited by several exceedingly useful forms of *Pteris*, characterised at once by their beauty, their long-lasting qualities and utility for general decorative purposes. *Pteris cretica* Mayi is a dwarf compactly-habited crested form, whose pinnules, with the exception of a narrow margin, are of a silvery

white colour. This variety is grown in surprising quantity, and the same may be said of *P. serrulata cristata compacta*, another crested and densely bushy plant. The general decorative effect, and the healthy vigorous appearance of these two can hardly be too greatly eulogised. *P. cretica albo-lineata cristata* is also produced in smaller quantity, together with the green and robust-growing *P. umbrosa*, with conspicuous reddish brown sori. The bronzy—sometimes almost red—young fronds of *P. aspericaulis* were very conspicuous, together with the red, green and white *P. tricolor*, the green and white *P. argyræa*, the parti-coloured *P. nemoralis variegata*, *P. tremula*, and its certificated variety *P. t. flaccida*. The pleasing way in which many of these are associated together in ordinary or ornamental pots or baskets reflects great credit on the taste of Mr. Henry B. May, the proprietor. Tall-fronded forms have some of the dwarfer bushy ones inserted with them, so that a fine effect is produced by the combination, and one calculated to take the popular fancy. *Doryopteris palmata* and *Pteris nemoralis variegata* are thus associated, while *Adiantums* are united with others.

Several *Gymnogrammas* are grown, including a dwarf white-powdered heavily-crested form of *G. Wettenthaliana*. Great variety of character was exhibited by different species of *Nephrolepis*, such as *N. tuberosa*, *N. acuta*, *N. Duffi*, and *N. davallioides furcans*. These were grown in various ways—as basket or pot plants, or planted out. Great variety and effectiveness was created by a considerable number of the most popular and beautiful *Davallias*, mostly grown in baskets and hung up near the glass. *D. canariensis*, in two forms, was grown in pots; and the large red-stalked pale-fronded *D. Moorcana* looked handsome grown in 48-sized pots. The colour, scaliness, and length of the rhizomes offer endless variety of character independent of the fronds, and serve as a means of distinguishing the species, especially when hung up in baskets. The choice nature of the species grown may be judged by the mere mention of *D. Mariesi*, *D. bullata*, *D. elegans*, *D. dissecta*, *D. Griffithiana*, the graceful *D. Fijiensis plumosa*, and the leathery-fronded *D. Tyermanni*, with long rhizomes densely covered with white scales.

It would be impossible, in the space at our disposal, to do justice to a tithe of the useful decorative subjects grown; but we cannot forbear noticing a houseful of *Calceolarias* in 48-sized pots, in excellent health, exhibiting many beautiful spotted and self-coloured flowers, and almost fit for market. Amongst *Carnations*, we noticed the fine yellow *Pride of Penshurst*, the paler *Andalusia*, pink *Miss Joliffe*, the old *Clove* and its white variety. Great quantities of the *Tea Rose Niphetos*, and the hybrid perpetual *General Jacqueminot*, are grown. Mr. May has recently been extending his area of glass—notably, *Azalea* and *Camellia* houses—and he is to be commended upon the healthy flourishing condition of his plants in general, which come under the immediate supervision or care of his attentive and energetic foreman, Mr. A. Hemsley.

THE OLD HORSE CHESTNUT AT PINKIE HOUSE.

SCOTLAND can boast of having produced some grand specimens of Beech, Larch, Scotch Fir, Oak and other trees; but amongst the most noteworthy must be classed the Horse Chestnut at Pinkie House, Midlothian, the residential estate of Sir John D. Hope, Bart.

The specimen referred to, and which is illustrated on the next page, stands at the top of the flower garden, immediately in front of the dining and drawing-room windows. It is a noble object at any season for the eye to rest upon, with its massive limbs spreading horizontally and then bending downwards to the earth, forming a natural canopy or arbour nearly 300 ft. in circumference. This ancient monarch was planted about 300 years ago, and was originally one of seven; but two others only now remain to keep the giant company.

I regret to say a sad calamity befel this fine tree during one of the many heavy gales with which Scotland has been visited lately. The largest limb of the tree succumbed to the stress of the blast. Up till the time of the disaster the tree was in full vigour and looked as if it would continue so for years to come. It is almost unnecessary to add that this unexpected catastrophe is much regretted by all the members of the Hope family.—D. P. L.

ROSE CULTURE UNDER GLASS.

(Concluded from p. 519.)

POTTING.—Before carrying out this operation, the condition of the roots for moisture should be ascertained, as they must not be too wet or too dry. Potting is much easier done with plants in this condition, the ball being less liable to be broken. The pots should be clean and well drained, and a handful of the roughest portion of the compost should be placed over the crocks to keep the water passage clear. The compost should be made firm by means of a potting stick, and the soil used should be as rough as the size of the shift will allow.

As soon as the cuttings are struck they will require a shift into 3½-in. pots, and grown on in heat till midsummer, when they may be transferred to their

WATERING.—Newly-potted plants require watering very carefully until the roots commence activity, or have taken to the new compost—the fixed rule being to keep all growing plants just on the moist side. Discretion must be used, for the weather and the position of plants have to be considered. Plants that have filled their flowering pots with roots should be supplied with liquid manure, that from the cowshed being preferred; but it must be diluted with three times its volume of water, or, failing this, patent manures can be sprinkled on the surface of the soil at intervals of three weeks or a month. A small teaspoonful to a 9-in. pot is ample. Liquid manure may be applied every alternate watering. Clay's or Standen's Fertiliser are both good. Others may be equally good, and each individual cultivator would do

chance of them becoming thoroughly ripened, which is of the utmost importance in the production of abundance of blooms. Instead of the trellis I advise Tea varieties to be planted, 3½ ft. apart, and trained to wires run lengthway along the bed. The young growths should be trained upright. By this method the plants will be exposed to the full benefit of the sun, and thus have every opportunity of thoroughly maturing their wood. The lower buds are preserved, and when the shoots are trained horizontally during the season of rest, the majority of them when started will break into growth and flower. Another advantage over the V-shaped trellis is that the plants can be got at on all sides with the syringe, which considerably reduces the danger of the plants being infested with insects.



HORSE-CHESTNUT TREE AT PINKIE HOUSE.

flowering pots. A suitable place for growing them is the lightest end of a vinery or Peach house, as near the glass as possible. The heat and moisture maintained in such structures is just what young growing Roses need, and under ordinary circumstances they will require potting at intervals of about six or seven weeks, that is into 5-in. pots about the second week in April, and their final shift about the beginning of June. During the following month plants that have been forced should be examined, and potting attended to if they need it. With these, remove as much of the old compost as can be done without injuring the fibrous roots, and return them to the same or a larger size as the case may be. Plants that are well rooted, and in 7-in. or 8-in. pots may have a slight shift; those in pots, 9 ins. or 10 ins. in diameter, should have the ball reduced by one third, and then be replaced in the same size pot.

well to test several of these manures, using the one that acts most beneficially, for some are better than others on certain soils.

DRAINING.—Plants growing bush-shape in pots need scarcely any attention, except where a shoot gets top-heavy or several growths are made. These should be staked apart to admit of light and air. The plants in pots trained to wires under the rafters should be confined to the space allotted them, or they will exclude valuable light from those below. As much young growth as possible, without crowding, should be encouraged, and one or two allowed to run to the top of the house.

For the centre bed of the Rose house the general method of training practised is that over an inverted V-shaped trellis, but this system has many objections. Unless the growths are kept neatly tied in they become unsightly, and where tied in to look neat there is less

PRUNING.—It must not be assumed that I should neglect the hybrid perpetuals, and grow nothing else but Tea varieties. They are well worthy of a place, but will not bear too early forcing. When brought into bloom about the beginning of March they are very welcome. The colour is much more decided and stronger than the majority of Teas, which gives tone to an arrangement of plants in bloom, or for associating with the more delicate Teas in a cut state. In pruning hybrid perpetuals differ from Tea Roses, as they should be cut back when at rest to four or six eyes. All weak and useless wood should be entirely removed to prevent overcrowding.

Tea varieties should be pruned after flowering, cutting back all weak growths, whilst strong and robust ones should only have the unripened ends removed. Those grown in pots are almost wholly dependent on the strong shoots thrown out from the base. These growths,

from such kinds as Gloire de Dijon and others, are always strong, and generally flower from every eye along the stem. Teas planted out should also be pruned directly they have flowered, and a free use of the knife will cause them to throw strong growths from the base. From strong ripe wood a flower from two-thirds of the buds—if tied down horizontally, as recommended, during their resting season—may be expected.

HARDENING OFF.—This applies to plants that have been treated to artificial heat, and are required to be placed in a lower temperature to ripen their growth, and give them that rest which is so essential to plant life. To accomplish this, Roses in pots are placed outside after being gradually inured to a temperature almost equal to the external one. There should be a place looked out for them about the end of May or during the following month, where they will enjoy full sun. The pots should be plunged, covering the surface of the soil and rims of the pots with 1 in. of ashes or some other moisture-holding material. If in a damp condition when plunged they will require little, if any, attention in the way of watering, as evaporation will be arrested to a very large extent.

Should the weather be unusually dry, a few plants can be examined, and if they are likely to suffer a good watering should be given. They should never be allowed to become dust-dry at the roots. By the end of October these plants will need protection, and can either be placed thickly together in cool frames, or in houses where there is not heat enough to excite growth.

FORCING.—Much of what is termed inside cultivation could have been brought under this heading, as, properly speaking, Roses flowered under glass out of season are all forced. The season commences in October, or as soon as those outside are over, and from then until Christmas a supply of bloom can be cut from young plants rooted the autumn previous. In November the Rose house proper should be started, keeping it closed for a week or so, afterwards warming the pipes to maintain a temperature of 50° by night, with but little alteration till Christmas, when a rise of 5° may be given every fourteen days until the end of January. The temperature at that time should range from 58° to 60° by night, with a rise of 10° by day, or more, from sun heat.

To follow these a batch of pot plants should be placed in the earliest vinery or forcing house, and, if practicable, the pots should be plunged in gentle bottom heat. Any house will answer for forcing, provided the requisite heat can be maintained, combined with light and moisture. At intervals of about three weeks a fresh batch of pot plants should be introduced into the forcing house. In many gardening establishments early pot Roses are much valued for conservatory decoration, and may be used with equal advantage for the ornamentation of rooms.

During the forcing season great care should be exercised in ventilating, syringing and watering. If batches be introduced as advised, a supply of bloom can be kept up with ease until May. Gloire de Dijon by this date will be ready outside, provided they are trained against a wall in a warm and sheltered position, and others will follow maintaining the supply until October. On all fine days a little ventilation will do good, if only for an hour. Cold draughts, however, must be strictly avoided. On the morning of fine days the plants should be dewed over with the syringe, or, in anticipation of a fine day, the paths should be well damped down, and the plants given a more liberal syringing. The house should be closed again by two o'clock, the paths again damped, and the plants dewed over. Damp the house according to the weather. On dull days but little water should be used. This refers to early forcing, say to the second week in February. About this time the plants begin to look green, and the sun increases in power, when the syringe should be used twice a day to keep down aphides and encourage healthy growth. As the season advances syringing and ventilation will need attending to earlier in the day, and left on until later in the afternoon. Should there be a too great influx of bloom the house can be kept cooler without injury, which will improve the blooms both in colour and substance.

By the end of May the Rose house will have finished its work in the way of bloom, and also made much growth for another year's supply. The side sashes may be left 1 in. open by night, and abundance of air allowed during the day. By the end of June a

thorough system of ripening and hardening the growth should be induced. The plants will continue growing for seven or eight weeks, and all the ventilation possible should be given, leaving the house open day and night until necessary to start it again, frost only being excluded. The syringe should be kept in use until the leaves begin to fall rapidly. Whilst the plants are at rest the house should be thoroughly cleaned, and, when convenient, painted, which will add much to the welfare of the plants.

VARIETIES.—A few of the most useful hybrid perpetuals are A. K. Williams, Maréchal Vaillant, Beauty of Waltham, Captain Christy, Duc de Rohan, Edouard Morren, General Jacqueminot, Hippolyte Jamain, John Hopper, Jules Margottin, La France, Madame Lacharme, Merveille de Lyon, Mrs. Jowitt, Louis van Houtte, and Marie Baumann. Tea-scented:—Alba rosea, Anna Olivier, La Boule d'Or, Catherine Mermet, Comtesse de Nadillac, Maréchal Niel, L'Etoile d'Or, Isabella Sprunt, Madame Willermoz, Reine Marie Henriette, Souvenir d'un Ami, Safrano, Innocente Pirola, Gloire de Dijon, Devoniensis, Souvenir d'Elise, Niphetos, and Madame Falcot.

A most useful bloomer is a white cluster Rose, called "The Pet," which blooms well during the dull season, and yields as many as fifty to sixty blooms on a growth, which, although small, are useful.

A good number of Maréchal Niel and Gloire de Dijon should be grown in pots, these being two most useful varieties. They should be encouraged to grow quickly by being kept in brisk heat until they receive their final potting in July, and from the moment they are struck the growing point must be kept straight—in other words, they should be treated like young Vines, and never allowed to run to side growth. Directions as to syringing, watering and potting recommended for Roses in general apply equally to these. As soon as the roots begin to make headway into the new compost after their final shift into 9-in. pots, they should be gradually hardened off, and subsequently placed against a south wall (outside) to ripen their growths, which will be from 13 ft. to 18 ft. long.

They should be housed about the end of October, before there is danger of severe frost; and before doing so it is well to determine how they are to be trained, whether under the roof of a house or round four or five stakes placed near the edge of each pot. The latter plan is preferable, as they can be conveniently handled for any decorative purpose.

Before being staked, however, all the pruning these plants need should be done. This consists of cutting 2 ft. or 3 ft. of green unripened wood from the end of each. Bending them round stakes causes almost every bud to break, and from two to four dozen blooms may reasonably be expected from a plant well grown. Most Rose growers are aware of the difficulty in getting Maréchal Niel to survive many years on account of canker; certainly, its blooming qualities are good, and for beauty it cannot be surpassed.

INSECTS.—No sooner does the bud burst into growth than there is a small green maggot or caterpillar ready to devour it. This insect seals the leaves together by a glutinous web, in the midst of which it lies concealed, and feeds on the young foliage and flower-buds in their early stages of development. A pinch with the finger and thumb is the best method of destroying this troublesome pest. For green fly or thrip fumigation is a good remedy, or syringing the foliage two or three successive evenings with a solution of $\frac{1}{2}$ oz. of soft soap and 1 oz. of Gishurst Compound to a gallon of water. With a handful of sulphur added, this mixture will destroy mildew or red spider; but the best of all insecticides is to keep the plants growing and healthy by a free use of the syringe.

Although I have detailed the culture of Roses principally in a house expressly devoted to them, it must not be assumed that they cannot be grown in other structures. Any house will suit where light and air can be freely admitted to them, and the amateur or cottager possessing a small greenhouse of the rudest construction may manage successfully a plant or plants of the ever welcome queen of flowers.

ZEA MAYS.

ZEA Mays is generally believed now to be a native of some part of tropical America, probably New Granada; but, like other things of pre-historic cultivation, a haze of doubt hangs around its origin, and no botanist has been able to detect it with certainty in a wild state.

This bespeaks a more or less ancient cultivation; and the fact of its aboriginal home being unknown, also speaks of the protection it receives at the hand of man, and its present extensive distribution. Notwithstanding the fact that it was unknown in Europe before the discovery of America, many errors of nomenclature have arisen owing to its primitive source being unknown to early writers. The English names Turkish Wheat and Indian Corn as applied to Maize are as misleading as to its origin as the so-called Jerusalem Artichoke, which is a native of, or originated in North America. Since its introduction to the Old World many other erroneous names have been given to it in as many different countries. Maize was introduced to Seville in Spain as early as 1500, and at a very early date into China; but nothing proves that it was cultivated or known there previous to the discovery of America. Nor has it been found in the tombs of Egypt, which such an important article of food would have been if it had been an Old World plant. On the other hand, it was a staple product of agriculture from the La Plata valley to the United States when that continent was first discovered, and the tombs of Peru and Mexico contained ears or grains of that grass as the tombs of Egypt contained the Old World cereals. It was also closely identified with the religious rites of the aboriginal natives. Another proof of its antiquity in America is the number of cultivated varieties into which it has sported. Maize is monotypic genus and unique plant in its family, and was, probably, on the eve of becoming extinct before cultivation took it in hand. Archæology is supposed to be the only means of unravelling the early history of ZEA Mays now, as botanists scarcely hope to find it in a wild state.

GARDENING MISCELLANY.

Stephanotis floribunda.—I was much interested in "W. G.'s" remarks on this plant in your issue of March 26th, p. 473, and I think his cultural directions excellent, but I must beg to differ from him when he writes that "people who assert that Stephanotis can be grown in a cool house are entirely misleading the public," as I have grown and flowered mine for several years in a house, the temperature of which is certainly cool, in fact, under 45° on many a cold night (I do not know if I might not say under 40° sometimes). My plant is in a large pot just beneath the stage, through which it is brought and trained to some wires near the glass. Had your correspondent seen the plant last July and August, I do not think he would have written what I have quoted above. The plant was a mass of bloom, and some few sprays on the young wood were even in bloom in the beginning of October. Of course I do not mean for one moment to assert that the plant grows better in a cool than in a warm house, but that it can be grown and flowered well in a cool house is certain.—D. H.

The New Double Victoria Violet.—This fine double purple Violet, which was shown at the last meeting of the Royal Horticultural Society, by Mr. Chambers, Westlake Nursery, Isleworth, proves to be a chance seedling, and serves as another illustration of chance providing something good once more. This Violet, among other seedlings, came up near beds in which the single Tzar and the double Neapolitan were growing; the seedlings were taken care of, but only one proved to be double—that named above, and that a flower of the highest quality. On examination it appears to possess a good deal of the character of the Neapolitan, and has its fine-flowering propensities also, but in a much larger measure; the flowers are large, handsome, of a bright purple colour, and it is in all respects an excellent variety for pot culture. I think it will take the place of other double dark Violets.—R. D.

Lamb's Lettuce.—How seldom it occurs to the minds of gardeners to utilise our native plants for the purpose of food! The whole Brassica tribe may be claimed as British, seeing that they have originated from the wild Cabbage; but it must be remembered that Brassica oleracea is a maritime plant, ill calculated to withstand the severity of our inland winters, and its constitution has also been altered in the garden forms, such as Cauliflowers, Broccoli and Brussels Sprouts. Lamb's Lettuce, *Valerianella olitoria*, has been utilised as a salad for many years, but at the present day seems

scarcely known to gardeners in this country, although it is more extensively used on the Continent. It naturally makes its growth in winter, and consequently is more calculated to withstand our winters. It occurs frequently on the banks of the Thames near London, and flowers in spring. By making successional sowings from August to October, a supply may be obtained all through the winter and spring. This is to be used as a substitute for Spinach, and for this purpose it is much esteemed at Devonhurst, Chiswick. Other species, however, are cultivated for the same purpose, and as they resemble each other closely previous to the flowering and fruiting stages, it would be difficult at present to say to what species that grown at Devonhurst belongs.

Carnations, Picotees and Pinks.—Sparrows are very troublesome at this period of the year, as they appear to delight in picking out the points of the shoots of the plants; whether they do it with a view of obtaining food or from mere wantonness, I cannot say, but they do it. Plants in the open ground have had a bad time of it of late, owing to the drought and cold winds combined; and a warm rain is sadly needed. When this falls I shall follow it with a good top-dressing of yellow loam, pressing the surface firmly about the roots. What few plants I grow in pots are doing well; they are in the open air, but they move vigorously, if slowly, and they are full of promise. They take water freely, and look as healthy as one can desire. As the shoots lengthen stakes are placed against them to keep them from being blown about by the wind. The plants are now entirely in the open air, and flourishing as well as one can desire.—*R. D.*

Paraffin Oil.—I thank Mr. R. Bell very much indeed for the courteous manner in which he dealt with my note on paraffin oil (p. 522), although I regret we cannot see his way clear to agree with me on every point. It is always interesting and most instructive to exchange opinions and ideas, from which many useful lessons may be learned. I am very fond of cats, but I cannot depend upon them entirely to keep the rats, mice, and birds off the seeds and young seedlings. I am afraid that while pussy is out visiting, or quietly taking his noonday nap in the sun, the robbers will appear, with the usual results, if no other protection is afforded. It would also be a matter for consideration as to how many cats are required to the acre, and how we should induce them to remain at the posts allotted to them. I have always found the mixture, in the proportion I recommended (p. 487) quite strong enough, both for the seeds and young seedlings, and have laid Peas treated in this manner in places infested by rats, who have never touched them; but in the north the cats are evidently more voracious, and the rats less fastidious in their tastes than ours are. I do not even find it necessary to steep the seeds for any length of time, the motive being to give them a slight taste of paraffin oil, which is very much disliked by animals and insects of every kind. I must confess that I have never tried pure paraffin oil, having once seen a large quantity of stove plants injured by a strong application of paraffin and water, which has always made me very careful; but I should not suppose that Peas and Beans would be hurt much, as the germs are protected by strong and thick coats, and I think it unnecessary to use a stronger application than I have recommended. I do not wish to condemn nets, guards, red lead, or any other protections or remedies, my only object being to point out the great value of paraffin oil to the gardener. In the case of valuable crops, we use both nets and paraffin oil in order to make sure, as the birds have often sharper eyes than our own, and will find out the young seedlings first. It is, of course, necessary in most cases to syringe the seed-beds several times; but it will not take up much time, as four gallons will go a long way. It is not always convenient to use nets, and oftentimes we have not a sufficient quantity at our disposal, especially in the fruit season, when they are required elsewhere; and in the case of large breadths of Turnips netting cannot always be done. I find that by using soft-soap, paraffin will mix readily with water [Milk answers the same purpose.—*Ed.*]; but in using it on pot plants, a heavy syringing with clear water must afterwards be given to wash them clean. We use paraffin oil very liberally in our stoves, fruit and plant houses, on seeds and seedlings, but cannot find anything to equal it as an insecticide.—*Alfred Gaut, The Gardens, Copped Hall, Totteridge.*

Glou Morceau Pear.—Although usually considered in season from December to January, it is no less gratifying to find it in good serviceable condition up till April. Owing to the exceptionally cool condition of Mr. Beaton's fruit room at Style Hall, Gunnersbury, several varieties of both Apples and Pears have kept extremely well considering that it is now the third week in April. The Pear under notice is obovoid, suddenly narrowed from the widest part to an obtuse point. The skin is now a pale yellow more or less studded with russet dots; and the buttery, rich and abundant sugary juice has not yet lost its flavour, but continue to constitute the Pear what it always is when mature and in season, an excellent dessert variety. Mr. Beaton's fruit room is underground, but is open at all times, so that an interchange of temperatures and air is always possible. It opens with a north aspect, however, and, it is needless to say, the atmosphere of the room feels very cold, and from its being free from all drying influences, the long-keeping properties of the fruit is to be attributed.

Azalea Criterion.—The extreme variation with regard to colour occurring amongst Indian Azaleas is well known to most people having any connection with gardening, but one can always make a selection of the more ornamental and useful. That under notice is a very old and most useful single variety, that seldom or never fails under good treatment to flower with great profusion every spring. The flowers are of medium or large size, of a rich salmon pink, with a white margin, and somewhat spotted. Mr. Ford, of Parkside, Ravenscourt Park, takes especial pride in a large specimen of this variety, which blooms regularly about Eastertide, and is serviceable for church decoration, having been used for that purpose for the last twelve or fifteen years.

Cissus discolor.—It is rather surprising this handsome climber is not more frequently utilised for decorative purposes considering the beauty of the leaves, especially in a young and healthy condition. A plant in one of the warmer houses at The Chestnuts, Gunnersbury, is now in fine condition, although it is the object of no special attention, as many things claim Mr. Webb's (the gardener) attention at this busy season. The metallic hue of the deep green leaves is enlivened or marbled with grey, purple and bronze markings.

Round Flanders Spinach.—Out of seven sorts that were sown in autumn to weather it in the open ground in the Royal Horticultural Society's Gardens, that under notice must be considered the hardest; and judging from the quantity sown, it is evidently reckoned amongst the best. It is no small matter to know what may be reckoned upon, with some degree of certainty, to produce a crop for use as a green vegetable about this time after such a trying winter as the past has been, and succeeded by a spring which has been both dry, cold, stormy, and altogether unpropitious to growth. Some of the kinds sown have scarcely advanced beyond the germinating period, while others have either been killed outright, or have failed to germinate. Prickly Flanders is another sort that has made equal progress, but to all appearance is a trifle more delicate, judging from the blanks occurring amongst them. Viroflay, Monstrous Round, is also fit for use, but is sadly thinned out. Does it never occur to gardeners to try some of our native *Chenopodiums* as a substitute for Spinach?

Tracheolospermum (Rhynchospermum) jasminoides.—Whether grown in a pot or planted out, this useful greenhouse climber amply repays the little trouble it requires, and may be made to produce great quantities of bloom at different seasons, according to the treatment it receives. When grown in a pot or tub it may be trained in various fashions so as to be moveable; but a greater quantity of its deliciously scented bloom is, doubtless, obtained when planted out as at Mr. Starling's place, The Chestnuts, Gunnersbury, where it is now a mass of bloom trained on the end of a warm or intermediate house. The odour emanating from the flowers pervades the whole house.

Calathea zebrina.—While essentially a foliage plant, and universally grown as such, the dense cone-like heads of flowers are curious and interesting, if not decidedly attractive. The condensed nature of the bracts distinguish this genus from those that are to be considered Marantas, where the flowers are more scattered. It is an old inhabitant of our stoves, and

some large plants have been flowering for some time at The Chestnuts, Gunnersbury, where the velvety green and purple striped character of the leaves is well exhibited.

Primula rosea.—Amongst all the introductions of Himalayan Primulas, the species under notice is one of the most distinct and useful, succeeding under a great variety of treatment, and hardier than most species from that part of the world, now enjoying the attention of British cultivators. The soft rose colour of the ordinary form is very telling amongst a collection of hardy plants, but it opens with better grace, and lasts longer in good condition when enjoying the protection of a cool greenhouse or other structure as at Parkside, Ravenscourt Park, where it is now flowering.

Davallia elegans.—Under whatever form this may be grown, it is certainly an extremely useful and ornamental Fern. The method of culture or the training of the rhizomes over pots, tree Fern stems or other structures give facility for a great variety of appearance resulting from such devices independently of the beauty of the finely-cut fronds themselves. The latter are somewhat coriaceous in texture, but notwithstanding are more or less strictly deciduous according to the temperature in which the plant is grown. For this reason the young fronds have a fine effect in spring when fully developed. A large specimen is now in fine condition at Parkside, Ravenscourt Park, where Mr. Aitken pays special attention to some of the more popular decorative Ferns.

Golden Noble Apple.—It is unusual for this handsome Apple to retain its plump and sound character so late in the season, but we were delighted the other week to see it maintain so fine an appearance in Mr. Hudson's fruit room at Gunnersbury House, Acton. The clear golden yellow colour of the skin contrasted well with the red-skinned Winter Queening alongside of it. The usual duration of this Apple in season is generally reckoned from September or October to February, and it is highly satisfactory to find it in excellent condition for another month or even later. It is a valuable Apple for cooking purposes, and when baked becomes melting and pleasantly acid with a fine clear amber colour.

Two-spated Richardia æthiopica.—Some very curious freaks of nature are to be seen in the conservatory at Style Hall, Gunnersbury. Two of the most perfect spathes occurring on one peduncle or flower stalk, are pure white with the exception of the outer one, which is somewhat larger and partly green on the back. Both are furnished with short but distinct sheaths similar to those of the true leaves; but the fact is evident, and forcibly demonstrates that the ordinary spathe is merely a modified leaf, not many stages removed from the green unmodified foliage leaves, and serves the double purpose of protecting the young flowers, and attracting insects. Another plant shows two spathes, one of which is exactly intermediate between a true leaf and the ordinary white spathe. This is stalked like an ordinary leaf, green beneath and white above; several female flowers are curiously seated on the peduncle a little way below the upper spathe, and quite unprotected by it. Mr. Beaton grows a considerable quantity of this Richardia, some of which are conspicuous for the huge size of their spathes.

Narcissus obvallaris.—The Tenby Daffodil never fails in the open ground to make its appearance amongst the earliest of the forms of *N. Pseudo-Narcissus*; but like all other kinds of vegetation, it is many weeks behind its usual time this season. Last week in the Royal Horticultural Society's Gardens, Chiswick, *N. pallidus præcox*, and one or two other forms were all that had dared expose their blooms to the cold ungenial winds so prevalent and long-continued during winter and spring. The broad short segments of the flower, and its short wide-mouthed corona render this Daffodil very distinct, and its earliness and hardness add to its value.

Saxifraga retusa bryoides.—Of the many distinct forms of Saxifrage, natives of the Pyrenæes, the present claims the attention of all lovers of Alpine plants from the neatness of its trailing moss-like stems, and its attractive purple flowers. The latter are produced in clusters of four terminating stems about 1 in. or so in height. March and April are the usual flowering months of this Alpine, so that few competitors detract from its well merited notice. Spec-

mens have been flowering for some time in the gardens of the Royal Horticultural Society, Chiswick.

Anemone ranunculoides.—The yellow flowers of this species are very distinct in their way, and forcibly suggest those of a *Ranunculus* or Buttercup, as the specific name implies; but the ternately and deeply cut foliage, and the absence of a corolla, determine it an *Anemone*. It is furthermore a rare British plant, furnishing an extremely uncommon colour in the genus. Year after year it may be seen unfolding its golden blooms in a cold pit, with a northern aspect, in the gardens of the Royal Horticultural Society, Chiswick.

Hacquetia epipactis.—The value of this plant lies in its hardiness, early flowering and singularity. The umbels are simple, with small, golden yellow, shortly-stalked flowers, surrounded by five or six large greenish yellow bracts, which give to the whole inflorescence the appearance of a composite, with rayed flower heads. It is a native of the Alps of Europe, and forms a neat Alpine, not much exceeding 2 ins. or 3 ins. in height, suitable for rockwork in this country, which may now be seen on the rockery in the Royal Horticultural Society's gardens, Chiswick.

ORCHID NOTES AND GLEANINGS.

Mr. Shuttleworth's Odontoglossums.—Notwithstanding a recent sale, there are many fine things in the way of cool Odontoglossums to be seen in the above collection, either in flower or fast approaching that condition. The healthy vigour of the pseudo-bulbs, leaves, and flower-spikes attest the treatment they receive, and the cool moist atmosphere they enjoy close to the glass of the low span-roofed houses. Numerous fine forms of *O. crispum* are scattered through a house containing a valuable lot of established plants; but the so-called natural hybrids at present in bloom far outnumber those of *O. crispum*. Many of these are in the way of *O. Andersonianum*, while the spotting and marking are both beautiful and varied. The excellent condition of the beautiful *O. niveum majus*, and the number of flowers produced on an arching spike, add greatly to the value of a good variety. No one visiting the collection can fail to be delighted with the endless and beautiful variety of colours in *O. Rossi majus*. The pale purple flowers of *O. R. m. rubescens* afford a charming contrast to *O. R. Humeum*, a supposed hybrid between *O. Rossii* and *O. cordatum*. The ordinary spotting of the former occupies a yellow ground-colour that pervades sepals, petals, and labellum alike. A striking amount of colour variation also exists in *O. Cervantesii*, numerous plants of which are hung up close to the glass. Several plants have a purple band along the back of the sepals; but the finest of all is a variety named *O. C. decorum*, with unusually large flowers, the labellum of which is blotched with purple. The usual transverse bars on the sepals, but especially the petals, are broken up into spots or small blotches, giving the flowers a very distinct appearance. There are also some finely and deeply-marked forms of *O. triumphans*, which some consider as the best of all the yellow-ground coloured Odontoglossums. The curious deep violet-coloured *O. Edwardi*, with its paniced inflorescence bearing numerous flowers, also obtains a place, and should be in every collection. A white-lipped *O. Halli*, with numerous deep chocolate blotches on the labellum, is also noteworthy as amongst the finest of its section. The quaint sweet-scented *O. pulchellum majus*, with white flowers, and a reversed labellum bearing a large yellow blotch, must not be forgotten; nor the useful *O. Pescatorei*, which keeps company with *O. Lindleyanum* and *O. triumphans* in its native wilds. Numerous others made up the collection, and altogether we were delighted with the visit of inspection.

Odontoglossum crispum with Three Spikes.—Seeing in the notice of the Devonhurst collection, on p. 504, a reference to *O. crispum* carrying three spikes in the axils of the leaves of a bulb, I should like to know how many bulbs and leads the plant has, and how long it has been in England, as one of my plants, bought at auction on March 15, 1886, has now three spikes in the axils of the leaves of the first growth made here. The plant has six bulbs. The spikes have eight, seven and five flowers respectively, the eight and five being on one side of the bulb. I have also an

O. Rossii (plant of five bulbs bought in 1885) that produced a fourteen-bloomed spike, and now carries eleven in full bloom (three having damped off), having three, two and three on branches.—*De B. Crawshaw*.

Odontoglossum Cervantesii.—This beautiful Odontoglossum is well done in Mr. Peacock's grand collection at Sudbury House, Hammersmith, where a great quantity of it has flowered from time to time for many weeks. Its cultivation is not particularly difficult when the pots or pans in which it is grown are hung up near the glass so as to receive a maximum amount of light. Cold treatment, such as that accorded to Odontoglossums generally meets its requirements admirably. The flowers are white, and singularly, though beautifully, marked with transverse chocolate-red bands at the base of the sepals and petals. The labellum is also curiously jagged at the margin, another characteristic of this pretty species.

Odontoglossum phalaenopsis.—The more advanced botanists have now agreed to consider this fine Orchid as a species of *Miltontia*—namely, *M. phalaenopsis*; but owing to the conservatism in garden nomenclature, it will probably retain the name of *Odontoglossum* for many years to come amongst gardeners. It is now flowering finely at Devonhurst, Chiswick, where Mr. Wright nurses little bits into vigorous health and beauty. The slender, arching, grassy leaves set off the graceful spikes of white, purple-blotched flowers to the best advantage.

Brassia brachiata.—A very distinct form of this handsome Orchid is in flower with Mr. F. W. Moore, the Curator at the Royal Botanic Gardens, Glasnevin, Dublin. It forms a very striking object with its sprays of curious flowers, which in the extension of their narrow sepals give a measurement of 12 ins. each. The flowers are yellowish blotched with brown, the broadly expanded lip having slightly raised olive-green blotches in the upper half. The petals are only half the length of the sepals, and have smaller spots on them. It came out of Messrs. Shuttleworth, Carder & Co.'s importation.

Brassia Keiliana var. tristis is also in flower at Glasnevin. In form, and in the shape of the long navicular bracts, it is as in the type, but whereas the ordinary *B. Keiliana* has yellow sepals with reddish brown markings, the variety *tristis* has sepals and petals almost wholly dark chocolate, the tail-like points, the margins, and the bases of the petals only showing the yellow colour. The lip is white changing to yellow, and has a few brown dots at the base. This variety is very fragrant.

Cattleya Lawrenceana alba.—We have received, along with a bloom of the ordinary form, a white variety from Mr. W. Swan, gardener to E. G. Wrigley, Esq., Howick House, Preston. The sepals and petals are pure white, and with the exception of a pale purple blotch on the labellum, that is also white. We congratulate Mr. Wrigley on the possession of so distinct a variety occurring in a variable species, in which we expect in a few years to see numerous distinct, beautiful and well-defined forms.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CHRYSANTHEMUMS.—Attention must now be paid to shifting on of the stock of Chrysanthemums. After starting in the genial heat in which they were placed after the first potting, they were removed to cold pits and placed on ashes, and the points of all were pinched out to induce numerous breaks for the formation of the necessary stool; they are now breaking freely, and will be potted in a sound compost consisting principally of loam, and transferred from 60's to 6-in pots. As soon as they have fairly taken to the new compost, which will be apparent by the fresh growth made, they will be removed from the frame, and placed on an ash border out-of-doors, where the growth made will be more sturdy than if kept under glass.

PLANTS THAT HAVE BEEN FORCED.—With the present frosty weather great care must be exercised in the placing out-of-doors any plant whatever, which may have been kept growing, or permanent injury will be done. We have been compelled through want of room to move a quantity of Persian Lilacs and other things from the Fig house, which, of course, is now being kept too warm for them, and also to give

more space to Camellias and Azaleas to make their growth; but we have placed them in a sheltered position, and under some Yew trees which afford ample protection. I ought to add also, that watering of all outdoor plants must be done in the morning, so that they may become quite dry overhead before night.

BEDDING PLANTS.—We had pricked out some hundreds of Golden Feverfew on a warm south border, but they are anything but satisfactory, the cold easterly winds and frosty nights rendering it impossible for transplanted stuff to establish itself, unless under cover. Still, endeavour to find room for the pricking out of such things as Beet (for flower-garden work), *Dianthus Heddewigii*, Scabious, *Phlox Drummondii*, and many others of this class, so necessary to furnish a supply of cut flowers during August and September, when variety is not, as a rule, too abundant. Especially would I direct attention to the different varieties of annual Chrysanthemums, which are at all times most welcome in the flower-baskets, and can be used so effectively. So soon as the weather is favourable ours will be pricked out into permanent quarters, and in this way they do much better than if transplanted later on. A few Spruce boughs thrust amongst them after being pricked out will be found of much benefit in preventing undue flagging.

CALCEOLARIAS.—We have planted out on a firm ash border our stock of bedding Calceolarias, and the frame will be used for pricking out some of the more tender annuals. Neapolitan Violets being now over in the pits, will be at once divided and planted out in a specially-prepared border, where they will make good plants for next season's work; neglect with them now will surely result in failure as the flowering season comes round: the frame occupied by these can also be utilised in a similar manner.

THE FRUIT HOUSES.

VINERIES.—We have kept the Lady Downes' vinery quite cold up to the present; but the sun is now of sufficient power to start them into action. Consequently, we have closed the house, and it is now treated as a "started" vinery. The rods are syringed morning and afternoon, closing with a good amount of sun-heat, and so doing away with night firing as much as possible. As the Vines advance, they will succeed far better if given a higher temperature and more generous treatment than most other varieties; in fact, we find the lines generally laid down with Muscats suit them admirably until the stoning period is reached, when an abundance of air must be admitted, particularly early in the day, or scalding will certainly more or less prevail, which is a great drawback to this the best of all late-keeping Grapes. We have not yet used all our last season's crop, and most valuable we find them for the dessert table, used with us after Easter for the first time in conjunction with Easter Beurré Pears.

MELONS.—We have planted out the second sowing of Melons, using a slight shading towards mid-day until the plants take hold of the new soil, when they will be freely ventilated, and encouraged to make as sturdy a growth as possible. A soft sappy growth is not conducive to fruitfulness, and should be avoided. The disbudding of the late Peach-house is almost completed. There was a slight appearance of green fly, one fumigation being sufficient to destroy it; but to make sure it will be repeated within a few days.

CUCUMBERS.—Pay due attention to the stopping and training of the Cucumber plants, or they will speedily become entangled. For general purposes, Cook's Ne Plus Ultra stands unrivalled, and by far surpasses anything we have previously grown.

THE KITCHEN GARDEN.

GRASS WALKS.—We have now almost completed the edging of all walks; our kitchen-garden walks being all of Grass, gives us an extra amount of work in this respect. Unless this work is done annually it is next to impossible to obtain a clear edge during the summer; and where long lengths prevail this is of the utmost moment when putting all in trim.

PEAS.—We have dressed and dug the square for successional sowings of Peas; but sowing is quite out of the question until rain falls, as the ground bakes terribly. The severe frost (9°) of the 14th inst. has done us a lot of harm, having destroyed the greater part of the early sowing of seeds of Brussels Sprouts,

Savoys, Cauliflowers and Broccoli ; singular to say, Couve Tronchuda, one of the most useful of all the Cabbage tribe, and generally considered tender, sown amongst the others, stood the best. I strongly advise all who have not hitherto grown this vegetable to give it a trial.

ASPARAGUS.—So far it is only here and there that a head of Asparagus appears in the beds during the day, only to be nipped up at night for its temerity ; luckily we put in a late batch of roots for forcing, and have an abundant supply. Our early Peas having been stuck in good time, look remarkably well ; American Wonder, grown in pots, will in a few days give us a good picking. —*Walter Child, Croome Court.*

FLORICULTURE.

CINERARIAS AT FARNHAM ROYAL.—But recently, when mentioning the Primulas Mr. James was then growing so well, now big heads of seed-pods, we also referred to the promise of a fine display of Cinerarias later. That promise has for the past few weeks been grandly fulfilled, for a finer display of this favoured greenhouse flower could hardly be found anywhere than the 2,500 plants at Woodside affords. If any are dubious as to the general quality of the strain, they should see for themselves what is the real nature of the seed stock, and doubts will soon be removed. Mr. James is not located at such a comparatively remote place as Farnham Royal because he objects to visitors ; on the contrary, he is always pleased to see them, and to welcome them. Other circumstances controlled the settlement at that place, and specially are situation, air and soil found favourable. On the other hand, Woodside closely adjoins such famous sights as the ever beautiful Burnham Beeches and Dropmore, and is not far from Cliveden, so that there is ample inducement for visitors to betake themselves to Farnham Royal, as well as to see what is just now one of the finest shows of Cinerarias in the kingdom.

Whilst raising an immense number of seedlings yearly, Mr. James does not neglect his named or selected kinds. Many of these have been certificated from time to time, but have not been put into commerce, for the sufficient reason that growing for seed it is found preferable and more fair to retain all the best of the older ones from year to year to assist in promoting quality in them. It has been tempting to put these certificated named kinds into commerce, but has also been consistently resisted. In past years the strain has been marked for its abundance of rich self hues. These have been combined with superb form, substance, and exceeding richness of colouring. Even the ringed or edged flowers have shown a heavy proportion of colour, so that complaint as to want of life and lightness was not altogether undeserved. That defect, however, has recently been remedied, for there has been introduced into the strain, with capital results, some of the large light-flowered forms which the Continent has given to us ; and without in any way detracting from the habit or general merits of the strain, has added innumerable light flowers of great size and capital form. Generally, size in the flowers is a marked feature, ranging from 2 ins. to 3½ ins., and produced in big heads, even, and of medium height.

A great peculiarity in many of the best is the tendency of the flowers to come perfectly rayed. It was once said of the flowers which Mr. James has exhibited from time to time that they had been carefully dressed or rayed for the purpose. Nothing could be more incorrect. On hundreds of plants flowers came with the petals thus perfectly rayed, and it should be evident that such dressing, if attempted, could not be performed without grave risk to the flowers, as the petals are tender and fragile. Raying, if the term may be fitly used in this case, where the petals lie round upon each other in the most perfect form, is a natural characteristic of the Woodside strain, and is in no sense an artificial one. It is very pleasant to observe that the new blood has given many fine blue-edged flowers. The demands of the decorative furnisher and market grower have so much favoured bright reds and similar hues, which are effective under artificial light, that blues and purples—most beautiful in Nature's light—have been somewhat sat upon. That they are being revived is a matter for satisfaction, as in greenhouses and conservatories they are specially beautiful. Self-blues and purples, too, are very full and striking.

Then there are found numerous variations in the red and crimson-edged flowers ; some with broad edgings, some medium, some narrow, and in one or two cases very noticeable and striking were pure white flowers having a narrow Picotee edge, which promises to produce in time a distinct strain. The most striking novelty, however, is found in a flaked or striped selection of several plants, the best flowers of which, having white grounds, have clearly defined broad edgings or stripes of bright red colour on the petals. These, indeed, exactly resemble the markings found on striped Asters, and there is good reason to hope that in a few years we shall have a well-defined and true striped strain of flowers. Some of the blues show the same feature, though, yet, in a less clearly marked degree. For the convenience of saving seed, the great body of the plants have been flocked into distinct colours—white, light blue, dark blue, carmine, rosy lake, red, crimson, purple ; selfs and blues ; and red-edged flowers in their respective colours also. In this way opportunities for comparison are specially offered ; whilst the annual improvements effected in the strains are chiefly found through careful selection from a few of the best flowers. Pollen setting has to be done by hand in dull weather ; but on sunny days the houses are full of bees, all active in collecting from the ample stock of pollen at hand, and at the same time fertilising the flowers.

It has never yet been determined how far, in collecting pollen from flowers, bees may, on the one hand, promote fertilisation, or check it by robbing the seed-organs of their needful fertilising property ; but it would seem here as if there was ample food for the insects, and plenty left to perform nature's requirements in the matter of fertilisation. Mr. James is a great believer in the usefulness of bees to that end, and he may be right ; still, we have seen so many traditions exploded, and humbugs unmasked from time to time, that it may be some day our industrious little friend will be shown to be a robber and a plunderer of nature's products only, and not, florally speaking, a natural benefactor. However, if bees are all that is said of them, then ought Mr. James to secure presently from his Cinerarias a fine crop of well-fertilised seed, for houses, atmosphere, and culture all tend to the same end.—*A. D.*

HORTICULTURAL SOCIETIES.

Royal Botanic.—*April 20th.*—The second of the spring exhibitions was held on the above date in the conservatory and corridor, when a very interesting and creditable lot of stuff was brought together. Narcissi, Azaleas, Rhododendrons, Roses, hardy herbaceous and Alpine and spring-flowering stove or greenhouse plants were the main features of the exhibition. Numerous new plants received Botanical or Floricultural Certificates, which are described in another column.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, were awarded the first prize for a collection of Alpines in flower, consisting of Primulas, Aueomones, Saxifragas, Epigæa repens and numerous other Alpine flowers, while Mr. T. S. Ware, the Hale Farm Nurseries, Tottenham, came in second for a similar group. Messrs. Lane & Son, The Nurseries, Berkhamstead, received the prize for a well-flowered group of Rhododendrons in baskets and pots, and the same for Azalea mollis.

The first prize for Roses in pots in the nurserymen's class went to Messrs. Paul & Son, Cheshunt, and the second to Mr. William Rumsey, Joyning's Nurseries, Waltham Cross ; while Mr. P. Perry, gardener to W. G. Rowlett, Esq., The Woodlands, Cheshunt, was the only competitor in the amateurs' class. Messrs. Paul & Son were the only competitors in the group for herbaceous plants. Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, received the first award in the amateurs' class for greenhouse Azaleas ; and Mr. G. Wheeler, gardener to Lady Goldsmid, St. John's Lodge, Regent's Park, was second. Mr. C. Turner, The Royal Nurseries, Slough, was first in the nurserymen's class with a well-flowered group ; while Mr. Henry James, Castle Nursery, Norwood, was second. The first prize for Amaryllis was again carried off by Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, while his opponents, Messrs. Paul & Son, Cheshunt, were a pretty close second.

Mr. J. James, Woodside, Slough, was easily first for Cinerarias, with mostly dark-coloured selfs and dwarf plants ; but Mr. J. Douglas's group well deserved the second, with an attractive display, having few selfs, however. Mr. D. Phillips, Langley Broom, Slough, was the only competitor with Pelargoniums, well-flowered medium-sized plants. Mr. J. Douglas deservedly won the first prize for Auriculas with a fine

lot, many of which were seedlings ; while Mr. C. Turner, Slough, was second. In the competition with Alpines these conditions were reversed ; and Mr. J. Douglas was the only competitor in the class for Polyanthus.

Amongst the entries for miscellaneous exhibits, Mr. T. S. Ware received a large Bronze Medal for an extensive group of cut Narcissi, mixed with several other spring-flowering plants, including Ornithogalum arabicum. Messrs. Barr & Son, 12 & 13, King Street, Covent Garden, received a similar award for cut Narcissi, including the pretty N. cyclamineus grown in the open ground, and which was certificated. Messrs. Collus Bros. & Gabriel, 39, Waterloo Road, London, was awarded a Bronze Medal for a group of Narcissi. A similar award was made to Messrs. H. Lane & Son for a collection of Rhododendrons and Azaleas. A fine group of Tea and hybrid perpetual Roses in pots, grown as standards, exhibited by Messrs. Paul & Son, Cheshunt, was awarded a Silver Medal ; and a group of bushes and standards, exhibited by Mr. W. Rumsey, was awarded a small Silver Medal. The same award was made to Mr. Anthony Waterer, Knapp Hill, Woking, Surrey, for an attractive collection of hardy Primulas. A large Bronze Medal was awarded Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, for a very attractive group of Ferns, consisting of Adiantums, Davallias, Pteris and other decorative sorts.

Messrs. J. Laing & Co., Forest Hill, London, exhibited a fine group (not for competition) containing Cattleyas, Dendrobiums, Odontoglossums, Ferns, Palms, Aralias, and many others. Messrs. Hugh Low & Co., Clapton Nursery, London, also had a group containing Odontoglossum Roezli varieties, O. crispum, Dendrobium Wardianum, D. Lowi, and others, not for competition ; Mr. B. S. Williams, Victoria and Paradise Nurseries, similarly exhibited a fine group of Orchids, Palms, Ferns, Crotons, Dracenas, Ochna multiflora, Ericas, Boronias, and others. Narcissi and Amaryllis were exhibited by Messrs. James Veitch & Sons, Chelsea, but not for competition. Certificates were recommended to Mr. J. Chambers, Westlake Nursery, Isleworth, for a group of the double blue sweet-scented Violet, Victoria, and to Mr. Eason, for a group of Azalea mollis. A group of Tree Carnations was exhibited by Mr. C. Turner, Slough ; Rose, American Beauty, with large firm sweet-scented deep rose-coloured flowers, and The Puritan, a white variety, by Messrs. Paul & Son, Waltham Cross. A singular exhibit was made by H. Grove Smith, Esq., The Priory, St. Helens, Isle of Wight, in the shape of a flowering specimen of Amorphophallus virosus, with a pale green and purple-spotted spathe, and a huge blunt reddish brown spadix.

Obituary.

WE regret to record the death, on Wednesday, April 13th, of Mr. RICHARD CARR, gardener to the Duke of Portland, at Welbeck Abbey, Worksop, Notts. Mr. Carr had been in London all day, and was returning by the train due at Retford at twelve minutes past eight ; here he had to change for Worksop, and stepping from the train while it was in motion, unfortunately fell backwards and was dragged a distance of some forty-five yards. When the train stopped an effort was made to extricate him from his painful position, but, before this could be done, the footboard of the carriage had to be removed. He was at once taken to the Queen's Hotel, where they found he was beyond human aid. He was conscious while he lived, and requested a telegram to be despatched to his wife, who arrived with a son about eleven o'clock, too late to see him alive, he having succumbed to his injuries, which were chiefly of an internal character. An inquest was held on the following Friday, when a verdict of "Accidental Death" was returned.

Mr. Carr, who had had charge of the extensive grounds at Welbeck for the last eight years, was a good all-round gardener, and carried out many and great improvements in the establishment under his charge, in the way of making new roads and walks, shrubbery and herbaceous borders, and planting avenues, &c. These operations were extended over some hundreds of acres, and the manner in which he carried them out so well pleased the present Duke of Portland that about three years ago he gave his gardener a valuable gold watch, in recognition of his faithful service. The demand for fruit, flowers, and vegetables enormously increased when the present owner of Welbeck came to the estate ; and during the last six years the ground under cultivation has been extended till it now amounts to thirty-six acres, and every department has been brought into a high state of efficiency. The deceased was buried on the 16th inst., in the churchyard of Cuckney, near Welbeck, in the presence of many personal friends, including Mr. R. Tait, Manchester ; Mr. Owen Thomas, Chatsworth ;

Mr. Gleeson, Clumber; Mr. Henderson, Thoresby; Mr. Elphinstone, Shipley Hall; Mr. Sutton, Worksop Manor; and the *employés* on the Welbeck Estate. Mr. Carr has left a widow, seven sons, and one daughter to mourn his loss.

We have also with great regret to announce the loss of another widely-known and much respected gardener in the person of Mr. THOMAS BAILEY, of Shardeloes, who passed away on Sunday last, in his eighty-first year. Some years ago his achievements as a grower and exhibitor of Pelargoniums and fruit, notably Melons, made the name of "Bailey, of Shardeloes," a household word in the profession, and even so late as last autumn he was a bad one to beat in a Melon class. Mr. Bailey was born at Croydon in 1806, and as a young man was employed in the gardens at Addington Park, and subsequently at Althorp Park under his uncle. His first head place was at Delapré Abbey, where he stayed for eleven years, and then went to Shardeloes, where he was gardener for forty-nine years. Mr. Bailey was one of the ablest of the old school of gardeners, a sound practitioner in every department, most active and energetic to the last, and his demise will be greatly regretted by all who had the pleasure of his acquaintance.

QUESTIONS & ANSWERS.

CLIMBERS, HARDY & CONSERVATORY.—*J. McDonald*: Amongst hardy climbers that would thrive in your locality might be mentioned Ivies, both green and variegated, *Ampelopsis hederacea*, *A. Veitchii*, *Clematis Jackmani* and other large-flowered sorts in great variety; *Cotoneaster Simondsii* and *C. microphylla* for berries; *Roses*, such as *Gloire de Dijon* and *Climbing Devonianensis*, *Rosa Brunoni*, *R. multiflora*, *Lonicera periclymenum*, *L. sempervirens*, *Aristolochia siphon*, *Crataegus pyracantha* for berries, *Jasminum officinale* and *revolutum*. Herbaceous climbers might be represented by *Lathyrus latifolius*, *Tropaeolum speciosum* and *T. canariense* (annual). Conservatory climbers might include *Kennedyia Marryattae*, *Plumbago capensis*, *Rhynchospermum jasmynoides*, *Fuchsias* of sorts, *Passiflora caerulea*, *Tea* and other *Roses*, *Clematis* of sorts, *Cestrum* or *Habrothamnus elegans* and its variety *H. e. Newelli*, *Lapageria rosea* and *L. alba*.

SEEDLING CINERARIAS.—*J. Downie*: The box of blooms sent us contained some flowers of great merit, and with the vigorous weeding out of those presenting a loose or ragged appearance an excellent strain would be the result. The crimson and bluish purple selfs have broad, somewhat recurved rays of great substance and rich colour. The same might be said of the blue selfs; but the deep velvety crimson, the intense red as well as those of a clearer tint would probably be most admired. The white with clear blue tip is also a novel and rather attractive form. Some of the flower heads have great size to recommend them.

CATTLEYA TRIANE DEFORMED.—*Levenshulme*: The flowers may have been injured in a very young condition in the bud state. Some plants continue to produce deformed flowers year after year, but usually they come all right at next season's flowering. Give the plant another trial, and it will probably do better next year.

PEARS.—*F. C.*: You will find an answer to your question at page 505, with an illustration of a Pear wall. The same Pears will not do equally well at every place, but the most of those mentioned as good may be relied upon to give satisfaction trained as oblique cordons on a south aspect wall. The trees must be grafted on the Quince to repress their natural vigour, and make them fruitful when trained to single stems—that is, as cordons. We have, however, seen Pear trees trained as upright cordons, not exceeding 5 ft. in height; but we cannot recommend strong-growing varieties for that purpose, and expect them to fruit freely.

NAMES OF PLANTS.—*George Neil*: 1, a very fine form of *Odontoglossum Wilckeanum*; 2, *Odontoglossum Ruckerianum*, not very good; 3, *Odontoglossum triumphans*. *J. Marchant*: 1, *Valerianella olitoria* (sometimes used as a salad plant); 2, *Fumaria officinalis*; 3, *Equisetum arvense*. *Levenshulme*: 1, *Cattleya intermedia*; 2, this appears to be *Dendrobium anosmum*, please send a fresh flower with a leaf and part of a pseudo-bulb; 3, *Odontoglossum maculatum* *Donnianum*; 4, *Odontoglossum crispum* (good white variety). *Reginald Young*: 1, the *Dendrobium* you purchased as *D. nobile nobilissimum* does not appear to be much above the average, and not so good as No. 2, which you brought from the Maharajah's garden at Durbhanga. 3, is a very fine form of *Odontoglossum Roezlii* as you suggest, and *Masdevallia Estradae* is much brighter than usual. The others are *M. Wagneri* (the yellow), and *M. psittacina* the other.

COMMUNICATIONS RECEIVED.—*G. D.*—*M. T.*—*R. P. G.*—*C.*—*G. C.*—*W. P.*—*A. R. S.*—*Scotica.*—*A. Jameson.*—*T. B.*—*R. J.*—*W. G. S.*—*E. U.*—*Visitor.*

LONDON SEED TRADE.

April 19th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a slow trade owing to the want of rain. No change in values of Clover or Grass seeds. Canary seed is cheaper. Maw seed has advanced in value. Other Bird seeds unchanged.

COVENT GARDEN MARKET.

April 21st.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	20	50	Pine-apples, St.		
New Grapes, per lb.	80	100	Michaels, each	16	60
Grapes, per lb.	30	80	Pine-apples, Eng., lb.	10	16
Kent Cobbs, 100 lbs.	60	0	Strawberries, per lb.	40	80

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	20	30	Horse Radish, bundle	30	50
Beans, French, per lb.	20	26	Lettuces, per dozen	16	
Bect, per dozen	20	30	Mushrooms, p. basket	10	20
Brussel Sprouts, per lb.	03		Onions, per bushel	40	50
Cabbages, per doz.	20	26	Parsley, per bunch	06	
Carrots, per bunch	06		Radishes, per dozen	16	
Cauliflowers, English, per dozen	30	50	Sea Kale, per basket	16	26
Celery, per bundle	20	26	Small salading, punnet	04	
Cucumbers, each	06	10	Spinach, per strike	20	
Endive, French, doz.	26	36	Tomatoes, per lb.	20	36
Herbs, per bunch	02	04	Turnips, per bun.	06	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones, 12 buns.	30	60	Marguerites, 12 bun.	30	60
Arum Lilies, 12 blms.	30	50	Mignonette, 12 bun.	40	60
Azalea, 12 sprays	06	10	Parma Violets (French), per bunch	20	36
Bouvardias, per bun.	06	10	Pelargoniums, scarlet, 12 sprays	04	09
Camellias, 12 blooms	20	40	Primroses, 12 bunches	06	10
Carnations, 12 blooms	10	30	Primula, double, bun.	09	16
Cut Tulips, 12 blooms	09	13	— single, 12 bun.	40	60
Czar Violets (French), per bunch	09		Roses (coloured), 12 bun.	30	60
Daffodils, 12 bun.	20	40	Roses, Tea per dozen	10	20
— single, 12 bunches	16	40	Roses, red (French), per doz.	16	20
Epiphyllum, 12 blms.	06	10	— Saffron (French), per doz.	10	20
Eucharis, per dozen	30	60	Spirea, 12 bunches	60	90
Gardenias, 12 blooms	16	30	Tropaeolums, 10	20	
Heliotropes, 12 sprays	06	10	Tuberose, per dozen	10	
Hyacinths, in boxes, from Holland, box	16	40	Violets, 12 bunches	04	09
Lapageria, red, 12 blms.			Wallflowers, 12 bun.	20	60
Lapageria, white, 12,, 12 sprays	06	10	White Jasmine, bun.	06	09
Lilies of the Valley, 12 blooms	40	60	Xmas. Roses, 12 blooms		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	60	180	Fuchsia, per dozen	90	120
Arum Lilies, per doz.	90	120	Genesta, per dozen	80	120
Azalea, per dozen	240	420	Hydrangea, per doz.	90	120
Cineraria, per dozen	60	90	Lily of the Valley, 12 pots	120	180
Cyclamen, per dozen	100	180	Lilium longiflorum, per doz.	240	360
Cyperus, per dozen	40	120	Marguerites, per doz.	60	90
Daffodils, 12 pots	80	100	Mignonette, per doz.	60	90
Dracena term., doz.	30	60	Palms in variety, each	26	210
— viridis, per dozen	10	240	Pelargoniums, doz.	120	180
Epiphyllum, per doz.	180	300	Pelargoniums, scarlet, per dozen	40	80
Erica, various, doz.	180	420	Rhodanthe, per doz.	60	90
Evergreens, in var., per dozen	60	240	Roses (various), doz.	180	300
Fairy Roses, per doz.	100	120	Solanums, per doz.	90	120
Ferns, in var., do	40	180	Spireas, per dozen	120	180
Ficus elastica, each	16	76	Tulips, per doz. pots	60	80
Foliage Plants, various, each	20	106			

POTATO MARKET.

KING'S CROSS.—The ruling prices in the station yard during the week ending Saturday, 16th inst., were as follows:—

	Beds.	Black Land.	Linclns.	Kents	Yorks	Scotch Gy. Sl.	Scotch Red Sl.
Mags. gd. spls.	70/75	62/65	60/70	75/80	90/100	75/90	120/130
Regents	..	..	65/70	80/90	70/75	70/75	110/110
By. Hebron, ..	..	..	100/110	..	..	65/70	75/-
Champions, ..	..	..	60/65	65/70	..	65/70	75/-

During last week 380 trucks arrived, and 454 trucks were emptied. The stock in the station yard is rapidly decreasing, and consequently for good stuff there is a brisk demand. Magnums of first-rate quality are realising 100/- and 130/-, the latter quotation is for Red Soil.—*F. W. Foord.*

CHOICE & GENUINE FLOWER SEEDS.

18 SEPARATE PACKETS of all the popular kinds, including Finest Imported German Stocks, Asters, Zinnia, Phlox, &c., &c. ONE SHILLING, POST FREE.

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ROSES of best new, scarce, and old sorts.

Also HARDY ORNAMENTAL Foliaged and Flowering TREES, SHRUBS, and CLIMBERS, in and out of pots.

JUST IMPORTED.

Milla biflora, 3s. per dozen.
Calochortus flavus, 2s. 6d. per dozen.
Lilium auratum, extremely large and heavy bulbs, 5s. and 7s. per dozen.
Lilium speciosum Krætzleri, the most pure white, immense bulbs, 5s. per dozen.
Lilium speciosum coccineum, ditto, 5s. per dozen.

FOR CASH.

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Fuchsias! Fuchsias!!

MRS. SHORT (new, immense double white blooms), Mrs. Cannell, Warrior, Marvellous, Blushing Bride, Harriet Lye, Fireworks, British Queen, Victor Cornielson, Glory of the Day, Electric Light, Daniel Lambert, Abdul Kadir, Grand Duchess Marie. Will send 12 strong plants, free, 2s. 6d.; 24 varieties, 4s. 6d.—*G. WIGLEY*, Gluman Gate, Chesterfield.

ROSES

IN POTS; all the best New and Old English and Foreign sorts, from 18s. to 36s. per doz.

Descriptive List free on application.

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Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoa thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.

Cocoatina possesses remarkable sustaining properties, and is specially adapted for early Breakfast.

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NEW VIOLET.—Rawson's White.

THIS is now lovely with us—all should come and see. It is a long way the best single white in cultivation—in fact, the only one worth growing, and will give a new feature in every garden. 2s. 6d. each; 25s. per dozen.

CARNATION,

PRIDE OF PENSURST, is, without doubt, the grandest of pure yellow Carnations that ever existed, and is now to be seen wonderfully fine in full flower in our nursery. Its lovely large flowers, numerous buds, and fine foliage renders it a sight ever to be remembered. Grand plants, in 6-inch pots, full of flower, 20s. per dozen; in 5-in, 15s.; 4 inch, 8s.; in 60s, 5s. per dozen. Ditto **ALEGATIERE**, the finest scarlet.

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BEDFORD ROAD NURSERIES, NORTHAMPTON.

F. LAW'S LIST OF DAHLIAS—Show, Fancy, Pompon, Single, and Cactus or Decorative varieties—also Double Pyrethrums, Primula Sieboldi, &c. F. Law can offer grand Collections of above in the very best varieties true to name. List post free.—**FRANK LAW**, The Carnation Gardens, Rochdale.

BEGONIAS.—Having a few dozen of splendid named Double Begonias left from the recent auction, I am instructed to sell at a sacrifice to make a speedy clearance. This affords a grand opportunity for those who wish to secure a few good exhibition varieties. List of names and particulars on application to **EDWARD T. PARKER**, Auctioneer, John Street, Bristol.

New Zonal Pelargonium.

QUEEN OF WHITES IMPROVED.—It is without doubt the best White Zonal ever offered. It has been in flower all the winter at our Nurseries, and will be ready to send out May 1. £1 per dozen, strong plants. Certificate Royal Botanic Society, May 19, 1886.

PHILIP LADDS, The Nurseries, Bexley Heath, and Swanley.

JUST PUBLISHED, 9d., free, "AMATEUR GARDENERS' NOTE BOOK," containing more practical information than any book ever yet published at the price; its novelty is its 16 pages of elections of the best Trees and Plants to grow to have always a gay garden and a plentiful kitchen. New and certain method of destroying snails; invaluable.—**F. TOPHAM**, 11, Fox Street, Preston.

1887 DAHLIAS 1887

Present season's Catalogue is now ready, and may be had, gratuitously, upon application. It is made up as follows:—

CACTUS OR DECORATIVE DAHLIAS.

To this section I pay a very considerable amount of attention, and I am in the present season's Catalogue offering some two dozen really first-class and showy varieties, perfectly distinct from the Shows and Fancies, and all more or less following the style of the well-known old Cactus variety, Juarezi. The new varieties of the present season are specially deserving notice.

POMPONES OR BOUQUET DAHLIAS.

My collection of these is one of the most complete in the trade, consisting of about three dozen varieties of really first-class distinct sorts; all invaluable for bedding and for cutting.

SHOW AND FANCY DAHLIAS.

My collection of these includes all the well-known old varieties, as well as the best of the new ones.

SINGLE DAHLIAS.

The collection is this year considerably improved by the addition of a dozen exceptionally choice new sorts, which are offered in this year's Catalogue for the first time. In addition to these, my Catalogue comprises all the choicest of the varieties of the previous year's introductions.

THOS. S. WARE,

HALE FARM NURSERIES,

TOTTENHAM, LONDON.

Cut Specimen Flowers

OF

BARR'S

BEAUTIFUL

DAFFODILS

BY POST.

In Spring we have numerous applications for these, but hitherto have been unable to attend to such; now, however, since the naming and arranging of our extensive Collection of Daffodils has been completed, we are prepared to send, on application, during May, Cut Specimens, correctly named, and carefully packed, at a charge of 3s. 6d. per dozen flowers (not less than one dozen). We estimate that this charge will cover all expenses of postage, boxes, and labour, as we desire no profit in sending these flowers to the public, but are only desirous that these floral beauties should be more widely known. The flowers cannot be sent in bud, as this would prevent us proving our "Stocks," which is done annually; but they will be fresh, and packed so as to ensure their arriving in good condition.

DESCRIPTIVE CATALOGUE of BARR'S DAFFODILS free on application.

BARR & SON,
12 & 13, King St., Covent Garden, W.C.

Second National Co-Operative Flower Show,
SOUTH KENSINGTON, August 23rd, 1887.

£60 in **PRIZES** for Flowers, Fruit, and Vegetables. Silver and Bronze Medals. Certificates of Merit. Numerous Special Prizes. Schedules of Prizes on application to **WILLIAM BROOMHALL**,
1, NORFOLK STREET, STRAND, W.C. Secretary.

Next Week's Engagements.

TUESDAY, May 3rd.—Sale of Orchids at Downside, Leatherhead, by Protheroe & Morris (2 days). Clearance Sale of Plants, &c., at Forest House, Leytonstone, by Protheroe and Morris.

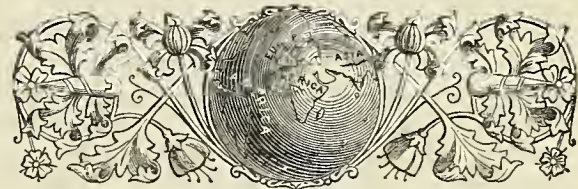
WEDNESDAY, May 4th.—Scottish Auricula and Primula Society's Show. Sale of Cape Bulbs, Greenhouse and Herbaceous Plants at Protheroe & Morris's Rooms.

THURSDAY, May 5th.—Sale of New and Rare Orchids at Stevens' Rooms.

FRIDAY, May 6th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—**BACON.**

The Gardening World.

SATURDAY, APRIL 30, 1887.

THE MARKETS ROYAL COMMISSION.—The great markets question has just entered upon another phase. Hitherto it has been one of complaint—now it is one of inquiry. Royal Commissions, unhappily, do not always lead to legislation. In many cases they seem to be appointed for the very purpose of staving it off, whilst in some others their well-advised recommendations are contemptuously ignored. The same fortune may befall the report of the Markets Commission whenever made, for vested interests have to be attacked, and those offensive interests are certain to secure strong representation on the Commission. Vested interests also die hard, and however favourable to market reformers may be the Commission report, or however valuable its recommendations in the interests of the public, it is certain that legislation in the direction of greater freedom and expansiveness will be sternly opposed. Naturally it seems inexplicable that here, in an enlightened country, with certain public wants so obvious, it should be so difficult to get those wants satisfied. Legislation in the desired direction, however, seems to be rather of a combative than a constructive kind, for its chief work seems to be the liberation of useful objects from the trammels and fetters of various interests rather than of promoting them free from all constraint. Markets stand peculiarly in that position. We have scarcely any in the kingdom which are free, whilst the majority seem to have existence more for purposes of income than for public usefulness. Even municipal markets are not free from this taxing element; and on every hand producers of food—and especially of fruits and vegetables—find heavy burthens confronting them when they seek in markets to dispose of their hard-earned products.

One of the most important questions with which the Commission will have to deal is that relating to certain local market privileges, by the existence of which it is found possible to prevent needful market extension. It is intolerable that any one person, or body of persons, should hold a monopoly of market rights in any one locality, thus preventing other essential markets being opened. This is a direction in which remedial legislation is specially needed. We know of no rights—personal, municipal, or otherwise—which can prevent anyone from opening an ordinary shop for the disposal of garden produce wherever he may please. It seems, therefore, peculiarly monstrous that any one or more persons should have power to interpose with their antiquated and monopolising privileges or charters, and prevent others from doing in markets what they may, at least, do in shops. The metropolis is in much worse plight than other towns in regard to public markets; for such as they are—and relatively they are very few—they are the greatest of monopolies. There is hardly a populous part of London—each section a huge town in itself—in which a large open market is not a matter of necessity; yet the number of markets—and all heavily taxed ones—remain the same as fifty years ago. The Smithfield Market for garden produce has had a chequered career since its opening a few years ago; but that replaced the old Farringdon Market. Covent Garden, Borough and Spitalfields are as old as the hills; but since their establishment not only has the population increased incalculably, but railways have brought to them immense quantities of produce, so that the normal condition of things is quiet.

It by no means follows, were new public markets established, that either dealers or purchasers would at the first be largely attracted to them. Traditions cling around markets closely, and are hard to shake off. Still, the crowding of enormous masses of the coarser produce into one or two already overcrowded centres seems very absurd as well as costly; indeed, this plan leads to the charging on the public of prices twice or thrice more than has been given to the unfortunate growers. The Chancellor of the Exchequer said the other day, in his Budget speech, that amidst all the depression in trade the middle men had not suffered. That is so, the heaviest burthen having fallen upon the grower or raiser of food products. Now, if markets are to have any tangible value, they must enable the grower and the retail purchaser to come into immediate contact, so that one can sell profitably and the other purchase fairly and reasonably. To that end not only should numerous open markets be established in London, but in all large towns, and every encouragement be given to growers of garden produce to use these markets for their own and the public benefit. In London that great monopoly, Covent Garden, needs relieving from its coarser elements, retaining it as a centre for the disposal of flowers and the more costly of garden products. If the heavier fruits and vegetables were relegated to the new district markets, the vast consuming population would then be enabled to obtain their garden food far more cheaply than now, and in a fresh and healthful condition.

GARDENERS' ORPHAN FUND.—At the meeting of the committee, held on Tuesday last, it was reported by the secretaries that they had received promises of support in donations and annual subscriptions to the amount of £430, which was considered a favourable result, seeing that the circulars calling attention to the scheme had only been issued a few days previously. It cannot be too strongly urged upon gardeners that the success or failure of the scheme really rests with them,

for it is upon the result of the appeal made directly to them at this juncture that the committee will decide whether it will be advisable to carry the matter further or allow it to drop.

If gardeners, as a class, show that they appreciate the scheme, and are prepared to help it to the best of their ability, the committee have no doubt but that a large amount of outside aid will be forthcoming; but this cannot be asked for if any indifference or lukewarmness is displayed by those for the benefit of whose orphans the fund is intended. What is wanted from gardeners is not so much large donations or subscriptions as a large number of annual subscriptions—say, 5s. each; and, to secure this result if possible, the committee have decided to extend the date fixed for sending in the circulars to May 21st. We published in our last issue a portion of the circular letter which has been sent out, and shall be happy to send copies of the original to any reader who may not have received one, or who may be desirous of ventilating the subject among their neighbours.

WE understand that Mr. J. HORTON, who was foreman at Welbeck for twelve years, has been appointed by the Duke of Portland to succeed the late Mr. Carr.

Mr. THOMAS, who as a young man served under the late Mr. Bailey at Shardeloes, some thirty years ago, has been engaged to succeed him.

WE regret to hear that through the recent death of Mrs. Pemberton Heywood, of Norris Green, Liverpool, Mr. WILLIAM BARDNEY is obliged to seek another engagement. A man of such great ability as a gardener should not be long in finding a suitable engagement.

Mr. ROBERT McHANDY, for the last ten years with Mrs. Croall, of Southfield, Liberton, has been appointed gardener at Moredun, Midlothian.

WE understand that Mr. B. S. WILLIAMS, of the Victoria and Paradise Nurseries, Upper Holloway, London, N., has been awarded a large Gold Medal for a collection of Orchids, Himantophyllums, Amaryllis and Cyclamen, exhibited by him at the Horticultural Show held in Amsterdam, from the 2nd to the 7th of this month.

Mr. WILLIAM WADDS, who was for over twenty-five years gardener at Queenby Hall, Leicestershire, died on the 26th inst., aged 77 years. He was elected a pensioner of the Gardeners' Royal Benevolent Institution in January last, and has left a widow aged 76 years, who, in accordance with the rules, will be placed on the pension list without the trouble of an election.

At the meeting of the Scientific Committee, held on Tuesday, Mr. McLachlan drew attention to the curious fact that flowers of *CLERODENDRON* were sometimes inhabited by a species of plant bug allied to the *Tingis pyri*, which is so injurious in France, where it is called "le tigre." He found remains of pupa at the base of the corolla, and occasionally a perfect insect. The effect of the irritation set up by the insect was to cause hypertrophy to take place, so that the tube becomes much thickened, likewise the filaments and style; while the flower assumes a regular or "pelorian" form instead of being "zygomorphic" as usual. The specimens were received from Baron von Müller, from Australia.

MESSRS. NIEMAN & CORNISH, 29, Orchard Street, Portman Square, sent to our office, the other day, a magnificent *CONE OF ENCEPHALARTOS LEHMANNI*. It measured 18 ins. in length, 5 ins. to 6 ins. in diameter, and therefore 15 ins. to 18 ins. in circumference. The massive scales were of a fine yellow colour, and bore two seeds each on their under-side. As the cone approaches maturity, the scales become separated a little way, so that the large, handsome, angled scarlet seeds show themselves conspicuously. The beauty and striking appearance of such a collective fruit needs to be seen to be fully comprehended. Unfortunately, male and female flowers are borne on separate plants, so that although the seed attains a great size and appears perfect, it rarely, if ever, happens in this country that it contains an embryo. All the other contents necessary for the growth and well-being of a germinating seedling is present in the seed.

THE ROYAL HORTICULTURAL SOCIETY.

It is not often that I venture to ask for space in any of the horticultural journals as a correspondent, but I cannot refrain from expressing my appreciation of your remarks in last week's issue on this subject. The thanks of the entire Chrysanthemum world are due to you for so plainly directing the attention of the council of the Royal Horticultural Society to the—to use a mild expression—unfortunate fixture they have made for the proposed show and conference, viz., Nov. 8th and 9th, 1887. There need be no surprise at the fortunes of the Royal Horticultural Society having fallen to so low an ebb, as I understand they are at the present time, if the schemes promulgated by the council, during the past few weeks, relating to this proposed conference and exhibition, may be considered as an example of their business tact and competence for the position they occupy.

The original suggestion, it will be remembered, was to hold a Grape and Chrysanthemum Conference, simultaneously, early in October. Fancy the executive of the leading horticultural society of Great Britain, proposing such a date as suitable for obtaining a representative collection of Chrysanthemums, such as the occasion of a conference would require! This proposal having been found to be untenable, the next move is to hold a Chrysanthemum Conference only on the 8th and 9th of November, and so clash with the exhibitions of two of the largest and most meritorious Chrysanthemum Societies in the metropolitan district; the first being at Kingston on the 8th and 9th of November; and then the National on the 9th and 10th of November, each of whose fixtures have been for months past published.

I do not believe it is either necessary or desirable that the R. H. S. should trouble itself in any way with the Chrysanthemum, its interests being already looked after—aye, and well maintained by a large number of efficient and successful societies throughout the kingdom, there being scarcely a town now of any pretensions but that can boast either of its Chrysanthemum society or its autumn exhibition, at which the "Mum" is a prominent feature; and besides this, I think it may, at least, be claimed for the National that it has already accomplished a sufficiently successful series of work as not only to merit, but to receive, such a share of support from the public generally as any special florists' society has rarely before attained.

Surely, the functions of a society such as the Royal Horticultural should be—would that I could say, is—to take up specially such branches of horticulture as require particular development, and not, as in this instance, to adopt a course absolutely antagonistic to kindred societies, and calculated to discourage and dishearten those organisations, which have not only undertaken work, but have accomplished it with a large measure of success, and happily, unlike "the Royal," are still in a flourishing condition.

With you, sir, I do not believe for a moment this proposed show and conference will be such a success as the flower deserves; although it is possible that by wielding the remnants of influence "the Royal" may still have left, it may be able to command a tolerable display, but only at the expense, of course, of those societies who have borne the "heat and burden of the day," for many years past, in popularising the Chrysanthemum. I have endeavoured in vain to satisfy myself as to what objects the council can possibly have in view in proposing to adopt this antagonistic line of action, unless it be to demonstrate to those Fellows who, like Mr. Little, are not in ecstasies with the year's arrangements as recently published that something is being attempted.

The only answer I have seen advanced to Mr. Little's complaint as to the paucity of attractions for the current year, is that the unfortunate condition of the funds would not permit of it, &c. This being so, the Chrysanthemum is about the worst subject, from a pecuniary point of view, that the Council could have decided to fête, for the simple reason, if they are desirous of attracting a representative display, they must offer prizes equal in value, if not in excess of those already offered by other societies for the current year, and many of whose prizes now are so liberal, that one-third the total required would serve to attract a first-class competition with many other subjects.

I do hope the council will in time see "the error of their ways," and at least modify their programme, if

they do not entirely abandon their scheme for a Chrysanthemum show and conference. The latter course, to my mind, would be much the best.—*William Holmes, Honorary Secretary of the National Chrysanthemum Society, Frampton Park Nurseries, Hackney.*

NEW PLANTS CERTIFICATED

By the Floral Committee of the R. H. S.

April 26th, 1887.

ODONTOGLOSSUM VEXILLARIUM LEUCOGLOSSUM.

The labellum of Orchids generally is the last to part with acquired colours, and in numerous instances is very highly coloured. We have a striking example to the contrary, however, in the present instance, where the sepals and petals are pale rose, and the labellum white with the exception of a small pale yellow blotch, and three short purple lines at the base. The flowering specimen shown was in a fine healthy condition. Exhibited by F. G. Tautz, Esq., Studley House, Hammersmith.

ODONTOGLOSSUM CAMBRIDGEANUM.

The sepals and petals of this form are a deep shining chocolate colour, with a few transverse yellow bars and a yellow tip; the labellum is much broader and obovate, fimbriated at the margin with a striking much-fingered crest; its upper half is pale yellow, becoming white, while the lower part is brown. The whole flower measures about 4 ins. in diameter and has a fine bold appearance. Foliage, pseudo-bulbs and flowers show it to belong to the *O. luteo-purpureum* type. Exhibited by R. J. Measures, Esq., Cambridge Lodge, Camberwell.

AMARYLLIS AMBIENT.

The flowers of this fine form are of a vivid scarlet with almost pure white mid-ribs to the segments in the tube of the perianth. They measure about 7 ins. in diameter and show a regular outline, and with the exception of the stamens, style, and the lower one of the three inner segments, approach pretty closely the florist's idea of a perfect flower. The scape bears the usual number of flowers—namely, four—common to hybrid *Amaryllis* of the *A. Leopoldi* section. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

TRILLIUM SESSILE CALIFORNICUM.

The typical form of this species has dark purple flowers, while in the form under notice the three inner segments generally looked upon as petals are white, with the exception of a small purple blotch at the base. The outer segments are green, and the whole flower rests on a back ground of three dark green leaves, variously blotched with purple like the common *Arum maculatum*. It is a fleshy or tuberous-rooted plant for the shady part of the garden. Exhibited by the New Plant & Bulb Co., Colchester.

NARCISSUS JOHNSTONI.

While belonging to the Ajax section of the Daffodils, this new form forcibly reminds one of *N. Macleayi* or *N. muticus*, but is self-coloured, or almost so, and of a fine yellow. It is at the same time a much larger flower, with a cylindrical corona somewhat plaited longitudinally and crenated at the margin, scarcely lobed; this part, moreover, about equals the perianth segments in length, and does not expand at the mouth. This is its first season of flowering in this country. Exhibited by Messrs. Barr & Son, King Street, Covent Garden.

CYCLAMEN PERSICUM, PRINCESS OF WALES.

Although this is not the first time that a crested petalled form has been seen (having been exhibited two years ago by the same grower), it certainly must be considered as a striking novelty. The corolla is pure white, with a strong lacerated crest running down the centre of each segment, and this year it has appeared in much stronger form than ever, and is reproduced in seedlings. There is an evident correlation between the petals and the true leaves, as many of the latter exhibit a decided crest likewise. Exhibited by Mr. R. Clarke, Twickenham.

PRIMROSE, MRS. WILSON.

The intense violet-purple flowers of this variety certainly constitutes it very meritorious amongst hardy Primroses. It is undoubtedly a form of *Primula vulgaris*, but of that strain popularly known as *P. altaica*, of Lindley and of gardens, though not the true species of that name, which is altogether a different

plant. It has a small yellow eye, with a crimson spot at the base of each segment, and is altogether one of the best hardy Primroses we possess. Exhibited by G. F. Wilson, Esq., Heatherbank, Weybridge.

PRIMULA OBTUSIFOLIA GAMMIEANA.

For the description of this, see p. 533. Exhibited by Mr. J. Douglas, Great Gearies, Ilford.

CISSUS DISCOLOR.

THE name here given will, doubtless, long be retained in gardens, although the genus as well as the *Ampelopsis* is now merged in *Vitis*. Another plant, provisionally named *C. porphyrophylla*, and which has not yet flowered in this country, will, probably, prove to be a species of *Piper*. The species under notice, however, is more universally grown, and by far



CISSUS DISCOLOR.

the finer plant for general decorative purposes. When fairly well furnished with young leaves, it presents a handsome appearance, whether grown in the manner indicated in our illustration, or trained to the pillars or rafters of a conservatory, or as a screen for covering bare walls or other undesirable objects, or as a basket plant. The oblong heart-shaped leaves in the younger stages of their growth are of a beautiful velvety-green, variously marked or marbled with silvery grey, red, purple and bronze. These colours become less brilliant in old leaves, although they never entirely fade, while the under surface seems to retain its reddish purple colour almost to the last.

At present the plant is in excellent condition at Gunnersbury Park, Acton, where Mr. Roberts trains it over wires against a glass partition, separating the stove from the East Indian Orchid house. When planted out, as in this case, it may be calculated upon to cover a considerable space very profitably; and acts not only as a screen, but has a brilliant and rich effect. In the absence of other accommodation, anyone may grow it in a pot and train it to a few neat stakes or to some sort of framework. Being naturally a climber,

by means of tendrils, in the same manner as the Vine, it readily clings to any support, such as cord, wire or chain, and mounts upward or along the roof with surprising rapidity, when the temperature is sufficiently high and moisture abundant.

Those who have never grown it as a basket plant would be surprised at its aptitude and beauty for such a purpose. Not only will the long slender shoots mount up the supporting wires of the basket, but, what is more remarkable, they grow with almost equal vigour downward; so that in a few weeks the basket is furnished with a magnificent spray-like mass of long pendent shoots, well furnished with handsomely-coloured leaves, frequently showing the colouration on both surfaces.

EARLY RHUBARB.

NOTWITHSTANDING the lateness of the season, this useful garden product is both plentiful and good. It is neither considered a vegetable in the popular and accepted term of the word, nor is it a fruit, although in universal use for the purpose of making tarts, pies, and for preserving as a substitute for fruit. In whichever of these ways it is cooked or preserved, the result is a very wholesome article of human food, and one that might be used far more extensively with great advantage. For the latter purpose, the use of kinds with highly coloured petioles results in a richly coloured preserve, although by the process employed in cooking, and the amount of sugar used, any kind, almost, can be made to acquire a more or less decided tint of colour.

The early kinds have naturally more highly-coloured petioles than the later usually stronger-growing varieties, which belong to a different species. We recently had the pleasure of examining a large number of sorts in the gardens of the Royal Horticultural Society, Chiswick, and which had been collected together a few years ago for the purpose of trial and comparison. It would be unnecessary and profitless to describe all that are grown there, seeing that several of the varieties grown under different names may be synonymous, or so much alike that their possession by the general cultivator would be not only undesirable, but without an object. It is our intention to deal only with the earliest varieties at present, and of these some of the best, so that intending planters may be guided in their selection. There is no attempt to place the following in order of merit, as the experience of different cultivators might vary according to the nature of the soil in their locality, the exposure, and their appreciation of different qualities and tints of colour of the petioles themselves, either externally or internally. All kinds, moreover, are amenable to forcing, but some respond more readily to the influence of heat than others, and would be prized accordingly for that purpose.

Hawke's Champagne is a very early kind with a small distinct-looking leaf, with the principal nerves pale green or white. This is the more remarkable, seeing that the slender rather erect petioles are of a deep crimson externally, and deeply tinted with red to the centre; not only so, but it preserves this colour when cooked, so that its earliness and richness of colour recommend it strongly. Judging from the state of the plants, Dancers' Early Red is somewhat more backward in growth, but still sufficiently advanced to be reckoned amongst the early varieties; it is so abundantly distinct in appearance from all the other kinds as to be readily recognisable at a glance. The petioles are moderately stout and deep crimson; but outwardly the pale green colour of the leaves, which are covered with short white hairs and have distinctly red veins, all afford characters by which this valuable sort may be distinguished; the petioles are, furthermore, red to the centre, and preserve this colour when cooked, like the previously-mentioned variety. The whole plant is, likewise, more robust, and has been recommended as a good early for market-garden purposes. Beck's Early Red is synonymous with the last, or at least indistinguishable from it in the present state of growth.

Johnstone's St. Martin has been recognised for many years as a valuable, highly-coloured, and very early variety, not much, if at all, inferior to Hawke's Champagne for cooking purposes. According to our experience it is also a somewhat stronger-growing variety, although the matter of soil and position may be accountable for this in some respects. It retains a fine red colour, either when forced or blanched, with Sea-kale pots or boxes. A very early sort named Linnaeus is probably Myatt's Linnaeus, and has moderately stout

crimson petioles, somewhat suffused with green on the upper surface. The quality as well as earliness adds greatly to its value. The tips of the young exposed leaves were somewhat hurt with the recent severe frost, which would indicate that it is more tender than most kinds, although Prince Albert gave evidence of having suffered in a similar manner. At present there does not seem to be any difference between the latter and Mitchell's Royal Albert, although later on they may not prove to be identical. The petiole or leaf-stalk is moderately strong, and crimson suffused with green on the back, while the whole upper side is green. Another, named Albert, is probably identical with Mitchell's Royal Albert. The leaf-stalks of Crimson Perfection are moderately stout, and of a fine intense crimson over nearly the whole external surface, and thus have colour to recommend them, while they are moderately early. A distinct-looking sort named Scotch Mammoth had pale green, very soft and smooth leaves, while the petioles were bright crimson, evidently becoming greener as they get old.

To this list it is unnecessary to add more than the well-known sort named Myatt's Victoria, and grown extensively all over the country. It is a fortnight or so later than most of those mentioned above, but it makes up for this in the much greater abundance of produce, while both colour, quality and forcing properties are by no means to be despised. The stout fine red squarish leaf-stalks often attain a size equal to those of the green *Rheum Rhaponticum*; while for preserving purposes it is far preferable to the latter. Myatt's Victoria, Johnstone's St. Martin, Hawke's Champagne, Dancer's Early Red, Scotch Mammoth and Crimson Perfection, are six of the most distinct, although we do not pretend to say which is best, since any of the above-mentioned would probably give great satisfaction.

SELAGINELLAS.

THESE form one of the most attractive, as well as one of the most beautiful class of plants, and well-grown specimens always lend a charm amongst a collection of Ferns. No collection of Ferns should be without a few of the best sorts of Selaginella. Many of the kinds may be grown easily in a warm greenhouse or fernery, and few require the proper stove treatment; but the few that do must be kept to the growing-stove temperature, or they will only linger and die, instead of making nice plants. Some of the sorts look remarkably well growing on rockwork, but where planted so, let the patches be large enough to give effect, and thus show the true character of the plant. Again, some of the varieties, like *S. Kraussiana* (denticulata), come in well for covering walls in damp ferneries, or edgings along a path in a greenhouse, and many other purposes, such as lining the outside of hanging baskets, which, if kept damp enough when first put into the basket, will soon commence to grow, and hide the unsightly wire and soil, that are often more conspicuous than they need be. I find the latter variety is very much in demand for forming a green groundwork round fountains in churches; and when so used, with flowers arranged on it, gives a pretty effect. Therefore, where convenient, good patches of this should always be kept about.

It is to a few rather better species that I wish to draw the attention of readers of THE GARDENING WORLD—sorts that are adapted for staging upon the exhibition table, and which should be more used than at present. I find that the majority of growers are not prone to give up old favourites and try a few of the newer introductions, which, if grown well along with some of the best of the older varieties, would enhance the value of their collections considerably. Selaginellas

do not like a heavy soil, but one composed of loam, peat and leaf-soil in equal parts, to which may be added some good broken sandstone and a sprinkling of sharp silver sand. The drainage of the pot or pan must be perfect, and the plants should at no time be potted too deep in the soil, for the rhizomes like to run near the surface. A little sphagnum moss laid on the surface of the pans has a great tendency to encourage the growth of the rhizomes more rapidly than when left bare. They like an abundance of water as soon as they get well established in the new soil, and will soon show signs of poverty if kept too dry.

The present season is the best to make up new pans of these plants, and in the case of the dense-growing varieties, they should be broken up rather small and

placed in little patches all over the pan. This, if kept rather moist overhead and warm, will soon cover the surface of the soil completely. The taller-growing sorts may have a few small plants placed in one pan if it is desirable to cover the latter up quickly; but for making the best-fronded varieties, one good plant placed in the centre and allowed to grow freely, will make a far more handsome specimen. They require to be shaded heavily, with an abundance of moisture about the stages on which they are placed, all through the growing period. I do not profess to know every kind of Selaginella grown, but the following I can confidently recommend as a few of the best that have come into my hands at various times. The stove sorts may be summed up in the following, and to the names by which they are generally known I will add the synonyms, where any exist. Very often this synonym causes great confusion amongst gardeners. One man often grows a variety under one name, and another grows his under one of the synonyms attached to the same variety. I have known this state of things sometimes lead to very serious argument, each grower asserting he is perfectly right as to the name under which he grows his plant. Both are generally right, but they will not give themselves the trouble to look up the synonyms.

S. amœna is an introduction from Mexico, and is destined to become one of our best exhibition sorts. It grows about 1 ft. high, perfectly erect, having the stem furnished at the top with ovate-acuminate pinnules of a bright cheerful green colour, constituting it a very elegant variety.

S. Africana (*S. Vogelii*, *S. fulcrata*) is a very fine species belonging to the plumose section, having large triangular fronds of a deep green colour, produced on tall stems about 9 ins. to 12 ins. high.

S. caulescens is a species producing long, erect arching fronds, proceeding from a conspicuous creeping rhizome, and is both distinct and elegant.

S. cognata has a sub-climbing habit, the erect stems being furnished with ovate branches of very dark green colour.

S. cuspidata (*S. circinatis*, *S. pallascens*) produces a profusion of circinate fronds of a very elegant character and of a beautiful shade of green.

S. erythropus (*S. umbrosa*) is a fine species, producing long caudate fronds, the pinnæ closely overlapping each other. This makes a very handsome specimen.

S. grandis. The fronds of this distinct species have broad close-set leaves, and are of erect habit. The colour of the fronds is a bright grass-green.

S. Victoriae is a very elegant kind, of sub-climbing habit, the stems being very erect, and producing fronds on each side of an ovate-acuminate outline, and a very dark green colour.

S. Wallichii is a species of sub-climbing habit, producing, on erect stems, fronds of a bronzy green colour, broad and bold in outline. It is a very robust grower, but requires a great amount of heat to bring it to perfection. When at its best, undoubtedly it will take first rank amongst any yet brought out.

The following sorts may all be grown in an ordinary warm Fernery, and as they are generally known, need not be particularly described:—

<i>S. Brownii</i>	<i>S. japonica</i>
<i>S. cæsia</i> (<i>S. uncinata</i>)	<i>S. Lyallii</i>
<i>S. cæsia arborea</i>	<i>S. Martensii</i> (<i>S. Hagelii</i> ,
<i>S. densa</i> (<i>S. apus</i> , <i>S. Bra-</i>	<i>S. Danielsii</i>)
<i>ziliensis</i>)	<i>S. Martensii variegata</i>
<i>S. Galeottii</i> (<i>S. Schottii</i>)	<i>S. perelegans</i> (<i>S. belula</i>)
<i>S. involvens</i>	<i>S. Wildenovii</i> (<i>S. pubescens</i>)

S. cæsia and its variety *S. c. arborea* are the two forms that are highly tinged with blue on the surface of the fronds; and at no time should the sun be allowed to shine upon them, or they will soon lose their characteristic beauty and elegance.—*W. G.*

ORIGIN OF CULTIVATED PLANTS.

At a moderate computation there are 100,000 species of flowering plants known to botanists throughout the world. The number might be easily augmented, or, on the other hand, curtailed according to the opinion of different authors. In dealing with cultivated plants, I shall confine myself to a few of the most important and strictly economic subjects, leaving entirely out of account all those grown for purely ornamental purposes. Of the 100,000 species it is remarkable how few,

comparatively, are of direct, and, consequently, of important service to the wants of man. De Candolle has enumerated and studied only about 247 of these, of which 199 are indigenous to or grew spontaneously in the old world, while about forty-five are considered as of American origin, and the original home of three others has never been determined.

Before cultivation, and the consequent distribution of plants by man, very few economic species were common to both worlds, and those were very unequally distributed over the inhabitable surface of the globe. There were no useful plants indigenous to the arctic or antarctic regions, nor to Patagonia or the Cape of Good Hope. One tree indigenous to the continent of Australia and New Zealand has been cultivated within modern times, namely, the Blue Gum, *Eucalyptus globulus*; and *Tetragona expansa*, a very indifferent vegetable, is all that contributes to the support of man amongst native plants, although the country has been peopled by European settlers for about a hundred years.

We know nothing of the history or primitive condition of things that lead to cultivation; but at the same time there can be little doubt that as a district or country began to be populated, fishing, hunting and wild products were insufficient to supply the necessary food, and led to useful plants being taken more or less into man's care. How effectually this has been done can be inferred from the fact that until lately very few long-cultivated plants were known in a wild state; and even now, after considerable research, calling in the aid of the botanist, the philologist, the paleontologist and archaeologist, some have been found very sparingly in a wild state, and 3—5 are believed to be extinct in their original or native homes. In many cases it is difficult to determine whether an apparently wild plant is merely a remnant of or an escape from cultivation. This is especially the case in cultivated fields and near human habitations.

About forty-four species have been subjects of the especial care of man, and have followed him in his migrations from an unknown period of the world's history, dating back for more than 4,000 years. To this category greater number may belong; but it is difficult to prove it in the absence of reliable evidence. Another remarkable fact, notwithstanding the intercommunication between all parts of the world and its inhabitants, is that no plant has been discovered within the last 2,000 years rivalling in utility Maize, cereals in general, Millets, Rice, the Potato, the sweet Potato, the Date and the Banana. Many of these, probably, date back 4-6,000 years. The most ancient seats or centres of cultivation, as far as can be ascertained, were Egypt, China, Mesopotamia, India and the Malay Archipelago. There is actual evidence of cultivation in Egypt dating back for 2,000 or more years B.C., and the evidence even then argued an advanced civilisation and its necessary accompaniment—agriculture. The latter appears equally ancient in China and the Valley of the Euphrates. In all dry countries agriculture originates, and is most successfully conducted, on the banks of or near rivers, owing to the necessity of irrigation.

The cultivation of any species is comparatively recent compared with its probable age, or, in other words, its advent on the earth's surface. We are tolerably safe in computing that no cultivation existed prior to the glacial epoch, and that the modern flora of our northern hemisphere during that period, which lasted some thousands of years, was distributed more near the Equator, and migrated northward as the limits of perpetual snow receded towards the North Pole. This argument favours the idea, or conclusively demonstrates, that our northern flora has all become naturalised during the present geological period, but in no way proves its origin, seeing that the same species, or part of them, were compelled to migrate southwards before the advancing glaciers and physical conditions against which they were unable to contend.

The three great regions, more or less isolated, in which primitive agriculture first began to assume any importance, are China, South-west Asia (including Egypt), and intertropical America. In reference to the last, it may be stated that the United States, with its vast resources, can only claim to be the home of the so-called Jerusalem Artichoke and the Gourds, as far as nutritious food-producing plants are concerned. The old world civilised, and agricultural communities established themselves along the banks of rivers, while those in the new world settled on the uplands of

Mexico and Peru, where, probably, their cultivated plants originally grew spontaneously. In the limits of a newspaper article, it is impossible to grasp even a tithe of cultivated plants. I shall accordingly confine myself to a few of the more important, in the discussion of which it will doubtless become evident that man alone wields a powerful influence on the nature and kind of the vegetation throughout the world.

Common Wheat, *Triticum vulgare*, is hardly, if at all, known in a wild state at the present day, although it was collected by Olivier in 1807 on the banks of the Euphrates. Notwithstanding the wide distribution of the species, extending across the old world from China to the Canaries, it exists only as a cultivated plant—a protégé of man; and all the evidence botanical, historical and philological that has been brought to bear upon it fails to convince those engaged in such researches that its origin at home extended much beyond the valley of the Euphrates. It is impossible to tell when its cultivation was first undertaken by man, as that extends from unknown and pre-historic times. That was well established in Egypt prior to the Egyptian monuments and the Hebrew scriptures, and there is nothing to prove that the abundant and productive Wheat in Canaan mentioned in the Bible was anything more than a cultivated plant. The antiquity of the cultivation of Wheat may also be inferred from the fact that it was well known, and, probably, widely spread in China 2700 B.C., many hundreds of miles from its original home. Summer and winter Wheat are but varieties of *Triticum vulgare*, recent experiments conducted by M. Henri Vilmorin on the various forms generally regarded as distinct species, have proved that they are all forms of the common Wheat selected and improved by man. Amongst these must be reckoned the Turgid and Egyptian Wheats, hard Wheat and Polish Wheat. Egyptian or Mummy Wheat of commerce is of comparatively recent origin, and the statements regarding the germination of Wheat taken from Egyptian Sarcophagi are altogether without foundation. Notwithstanding the specific unity of all these types of Wheat, it is remarkable how little improvement we have been able to effect with our scientific appliances and agricultural skill. Wheat found in an ancient British village dating back 2,000 years ago, and prior to the Roman invasion, is equal to an average sample of the present day.

Three species of Barley have been cultivated from very ancient times—namely, the two, four and six-rowed Barleys. It is impossible to determine which of these was meant by the Hebrew historian, Moses; and the same statement applies to many other writers who were not explicit enough in their descriptions to enable botanists to decide what species was indicated. The two-rowed Barley, *Hordeum distichon*, enjoys a distribution in modern times ranging from the Red Sea to the Caucasus and the Caspian Sea. The other two species or forms are not now known in a wild state, and are believed to have been derived from the first-mentioned and simpler form. The six-rowed Barley, however, was that most commonly cultivated in ancient times, and has been discovered in the oldest Egyptian monuments.

The cultivated or common Oats have not been found in a truly wild state, although their origin as a cultivated plant is not reckoned to date much earlier than 2-3,000 years ago. The Oriental Oats and *Avena strigosa* are supposed to be forms of the same original wild type—the common parent of all the cultivated Oats, and not now found growing spontaneously anywhere. *Avena fatua*, found pretty frequently in corn-fields in Great Britain, is, by some botanists, considered as the parent of the cultivated Oats. Furthermore, Oats sow themselves, and ripen readily on rubbish-heaps, by waysides and in cultivated fields, in various widely-separated parts of the world. History and philology would seem to indicate that the original home of the cultivated Oats, or their pre-historic ancestor, was in eastern temperate Europe.

Rice—*Oryza sativa*—is a plant of very ancient pre-historic cultivation; and considering the millions of human beings to whom it supplies the means of subsistence, must be considered as a grass of the greatest importance to man. There is every reason to believe it grew spontaneously, prior to cultivation, in the southern parts of China and in India. The Chinese Emperor Chin-nong instituted a ceremony, 2,800 B.C., in which Rice plays an important part, and was sown

by the Emperor himself. This demonstrates a well-established cultivation of Rice more than 4,000 years ago. The plant, although annual, is aquatic in habit, which argues much in favour of China as its aboriginal home, owing to the presence of numerous rivers and canals intersecting that country. Many marshy parts of India offer similarly favourable conditions to an aquatic subject which usually enjoys a wide distribution. Its cultivation was extended to the valley of the Euphrates more than 400 years B.C. A thousand years later it was transported to the hot and irrigated parts of Syria, and some centuries later to Egypt.—*F.*

GARDENING NOTES FROM SCOTLAND.

Roses.—It is often the practice to keep Roses as late as possible, and left unpruned to the end of April or the first week in May. The object is thus easily accomplished. There need be no fear of them suffering from such a practice, as we know large plantations which have been treated in this manner for many years, and are now excellent. The great evil we notice in many fine plantations of Roses is the leaving of wood above the buds at pruning time, thus producing a mass of unsightly dead snags.

Beds of Roses which have made very strong growth may have a number of shoots from each plant pegged down right and left to cover the ground, thus giving a mass of flower-bearing shoots, which produce the finest Roses.

Mulching is always beneficial to the growth of fine Roses; but we prefer forking it into the surface for two reasons—viz., order and economy, which are always desirable in any garden. Short well-rotted cow-manure, forked neatly into the surface of the Rose beds or borders, will show its work during summer and autumn. Young newly-planted Roses should be cut well down.

Fruit Trees are said to be (from general reports) somewhat late in flowering, and this is all the more in their favour, both as regards the developing of young healthy growth, and also the bearing of fruit. With ourselves, the prospect is as good as may be desired. Notwithstanding the hard cold winds which have been unusually severe, and the continuous frosts, the flowering condition of the earlier class of trees appears to be unimpaired. Where natural spurs are abundant, and placed closely to the walls, the prospect is all one could desire.

Trees which ceased growing early in autumn are in every respect in the best condition. There is a deal in the early ripening and long resting of fruit trees, and this is secured by careful manipulation at the roots, keeping them in a thoroughly well-drained and firm soil. Cherries and Plums which were stopped in due time in autumn, are now a mass of flower buds. Morello Cherries are clothed with short natural spurs a few inches long and promise admirably.

The disbudding of all trained trees will now require attention. With young trained trees which are not into bearing, we prefer picking out every bud as early as it can be removed, leaving those only which are to form the future tree. No check whatever is given by this method; and the work is done more easily. Where fruit buds have to be protected, a different practice (except for trees under glass) has to be adopted; Nature's covering is then desirable, and the work of removal of unnecessary wood has to be done carefully, and a little at a time. Stopping, too, must have attention where well-formed and equally developed trees are wanted. Gross shoots may have the points pinched out when a few inches long; such can also be pressed over till they are partially broken at the base, and in a short time they heal over, and the wood becomes firm. A number of Peach shoots under glass which were treated thus some weeks ago, are now firm and healthy, and the smaller growths on these trees have been invigorated.

In disbudding Apricots the outside growths may be removed first, but not to unduly expose the embryo fruit to the severity of the weather. We may expect frost, more or less, for some time to come. Plums may also be treated as the former, but it is well to let the fruit be set before much disbudding is done. The same applies to Peaches which are grown on very limited

space in northern gardens. Where walls in this district were once covered with finely grown and very productive Peach trees, they are now clothed with Plums, Pears, and even Apples. Change of season has undoubtedly been the cause, as we know old practitioners whose success was once complete, now entirely baffled to maintain healthy trees, to say nothing of worthless or an absence altogether of fruit. Where trees are heavily burdened with fruit blossoms, they may be helped by thinning the buds, and allowing them to develop freely, thus helping to secure a set.—*Caledonian.*

THE AMATEURS' GARDEN.

PLANTING ASPARAGUS.—There is no reason why this, one of the most favoured and delicate of all vegetables next to green Peas, may not be grown by every amateur possessed of a garden of moderate extent, and the desire to cultivate such a delicacy. If the soil is moderately rich or good, and the exposure sunny and somewhat sheltered, the conditions are suitable for growing Asparagus. Of course, there are many varieties of minor importance to be dealt with in detail, but anyone possessed of a love for gardening, moderate means, and intelligence, will readily surmount any small difficulties in the way of ameliorating soil, raising, planting, transplanting, or other cultural matters.

When one is desirous of making a plantation of Asparagus, he must either obtain young plants somewhere, or obtain and sow seeds. To save waste of ground, the seed should be sown in lines about 10 ins. or 12 ins. apart in a bed, and allowed to remain there one or two years till they gain some strength. The seedlings must not be allowed to crowd one another, but be thinned out, kept clear of weeds, and, if necessary, supplied with water so as to encourage growth as much as possible during the growing season. A light rich soil is necessary, or most desirable for raising the seedlings, failing which, it should be lightened as much as possible with a compost of that nature.

During the winter preceding the formation of a plantation in its permanent quarters, the ground intended for such should undergo a thorough preparation. The primary requisition is to see that the ground is thoroughly drained naturally, failing which, ample drainage should be secured to carry off all superfluous or stagnant moisture, otherwise (although Asparagus is a marsh plant, or grows naturally in places liable to be frequently flooded) owing to the coldness of undrained soil, growth will always be later in spring than is desirable. If the subsoil is very heavy, a good layer of rubble, brick-bats or similar material will be very beneficial, although the soil is seldom of such a nature as to necessitate this.

The ground should be trenched to the depth of 3 ft., or wholly removed if that is necessary or possible under the circumstances; while, if the natural soil is passable, do not bring the sub-soil to the surface, but keep that which is richest and lightest by previous cultivation uppermost, and further ameliorate it with light rich material. As much fairly well-rotted stable manure as can be afforded should be incorporated with the lower soil as trenching proceeds, while the upper should be improved with heavy dressings of old decomposed hot-bed manure, seaweed, if obtainable, sandy muddy soil previously collected from ditches, ponds, roadsides, or similar places where light rich material can be had.

The beds may be 5 ft. wide, with an alley 2 ft. wide between them, and planted with three rows. The two side rows should be 1 ft. from the edge of the bed, and the third in the centre. A more common practice, however, in private gardens is to make the beds 3 ft. wide, with 2 ft. alley between, and plant two rows in the bed, each 1 ft. from the edge, and at least 1 ft. from plant to plant. This is best done in May, after the plants are fairly well started into growth, and should, if possible, be done when the weather is warm and moist. While transplanting, never allow fleshy roots to suffer from becoming dry.

BEDDING PLANTS.—This department should be all activity now until planting-out time arrives towards the end of May or the beginning of June. As a matter of course, seed raising and the striking of cuttings has been proceeding for many weeks, and in numerous cases the grower will be greatly puzzled to find accommodation for the increasing bulk of bedding-out stuff.

The weather has now become favourable for the planting out of many things that required the protection of frames or hand-lights during winter. These may now be planted outside, in a great many instances in their permanent quarters. Cauliflowers that have been so protected, if well hardened off, can be removed, while the lights may be occupied with Pelargoniums, Fuchsias, Cupheas, Lobelias, Pyrethrum, Verbenas, Alyssum maritimum variegatum, and other popular bedding plants of that nature. The same applies to Stocks, Asters, Marigolds, Saponaria calabrica, Dianthus chinensis and its varieties, Zinnias, single Dahlias, Phlox Drummondii, and a host of things, including many fine everlastings that have been raised from seeds. All these will be greatly improved in health and robustness of habit if removed to cool quarters as soon as fairly established in pots, pans, or boxes, as the case may be. It will be desirable to keep the cold frames closer for a day or two if the plants placed in them have been taken from warm quarters, or if it is requisite to get them as large as possible before planting time arrives.—*F.*

HOLME ISLAND.

HOLME ISLAND, Grange-over-Sands, now in the possession of E. G. Wrigley, Esq., has been famed for its collections of plants under previous owners; but the specimens now to be seen there, and the thoroughly healthy condition which they are in, give every indication that in a short time a larger and more varied collection will be got together than has hitherto been the case. A capital Maréchal Niel Rose, planted seven years ago, still retains unusual vigour, and at the same time remarkable freedom from canker. The cause of this most troublesome ailment would still seem to be shrouded in doubt and uncertainty, since plants are affected whether grown on their own roots or worked on the brier. The one, however, at Holme Island is clean in the stem, without any cracking or protuberance of a suspicious character. The blooms this season have been of good size and quality, and come up to the average number of one or two previous seasons—viz., 800. This plant, which is on its own roots, is not trained on the roof, but on the back wall of the house, and covers a space 24 ft. by 10 ft. As the island is of a very rocky nature, it is possible that the long wiry roots of the plant—in some cases, perhaps, running as far as some of the shoots—may have got down to the limestone, and finds on this hard substance some food of a beneficial and strengthening character.

Passing away from this we noticed in other erections a capital house of Black Hamburgs now coming nicely on. A later vinery equally satisfactory, some good pots of Strawberries full of fruit. In another house is a stout Tomato, four years old, planted out and trained on the roof. This plant bears a capital crop of fruit, some of them partaking very much of the character of Vick's Criterion, others being more like Dickson's Large Red. On the roof of an intermediate house is a large Ipomæa Horsfalli growing well; and on the roof of the conservatory is a well-flowered plant of Cilanthus puniceus. A number of plants of Sparmannia africana were in bloom, and if the individual flowers were rather small, the quantity made up any deficiency that might otherwise have been imagined. We observed many nice Ferns in the Fernery; among other good things were some capitally grown Adiantum Farleyense.

Passing into a low pit, much like an old Cucumber house, we noticed a nice lot of Amaryllis in flower. In another division of the same range were some ten clumps of Eucharis amazonica planted out in the centre bed, a space measuring 16 ft. by 8 ft. This bed is full, since many of the masses measure 4 ft. to 5 ft. through. The method of culture adopted by Mr. Tulett would seem to be most satisfactory, as the plants bloom four times a year, and 300 blooms have been cut from them on each occasion, making a grand total of from 1,200 to 1,300 blooms in one year. During the summer season these plants are treated to a good share of heat and moisture with occasional waterings of liquid manure, and withal are kept in the shade, no direct sunlight being permitted to fall on the plants.

Several houses are devoted to Orchids. Some 700 Odontoglossums, the greater part Alexandræ, recently imported, are breaking and growing well; a low span-roof house, having little or no side light, would certainly seem the best structure in which to establish these

choice, yet sometimes disappointing favourites. A grand batch of O. Pescatorei have made stout bulbs, and starting again give promise of fine and plump pieces in a very short time. Masdevallias were also growing and flowering well. The Cattleya house contains a number of healthy specimens breaking and rooting freely; C. Mossiæ, Mendelii, Gaskelliana, &c., &c., will soon make an effective display. Dendrobiums have mostly flowered and are now well away in growth. Cyrtopodiums are good, C. Sedeni being represented by two large specimens that have produced spikes 3 ft. long, with several laterals. A very extensive hardy Fernery has been formed among the clefts of the rocks, in which almost every species and variety it is possible to get has been obtained and planted.—*W. Swan, Howick, Preston.*

CAMELLIAS.

It is said that the finest Camellia plant in England is that at the seat of the late Sir John Broughton, at Thames Bank, Kingston, Surrey. This, some forty years ago, was a splendid bush, and produced, it was computed, 1,000 blooms in a season; and considering its further growth since then, it must now produce many more. This variety is C. reticulata, the large blossoms of which have been known to reach nearly 1 ft. in dimensions. The Camellias at Chatsworth, it is well known, are very fine. It is said that an abundance of soot-water in the growing season is a great advantage to Camellias; and there is no doubt that in the midland districts and further north, it is best if kept constantly within doors. One fact connected with the cultivation of the Camellia must not be omitted, and it is this, it will not grow in soil from the limestone formation; like the Rhododendron and other American plants it seems to abhor lime. In tough fibrous loam from the sandstone formation, taking the fine soil out, and using it rough and making it as firm as possible in the pots, the Camellia will grow like a Willow. I remember the late Mr. W. P. Ayres once recommending the use of upland peat, poor as it is, such as can be had in Sherwood Forest, Notts. If this be laid up for a few months to rot, and then broken to pieces about the size of pigeons' eggs, the fine soil being taken away, it will be found as good a material as need be used for this plant.

Cleanliness—meaning thereby a regular washing of the foliage and a timely thinning of the blossom buds—has much to do with success in the culture of the Camellia. There is no doubt that the dropping of the buds frequently arises from so many being produced on the plant and the inability of the plants to carry them; but the act of dropping need not be taken as implying any inherent weakness in the plants. Therefore, the blossom-buds, when they are numerous, should always be boldly thinned, reducing them to not more than two upon each branchlet, and let those be of a size to give a succession of bloom for the longest time. If this were done more than it is, we should probably hear less of the dropping of Camellia buds.—*R. D.*

WATERCRESS CULTURE IN GARDENS.

ON a fairly moist border under a wall with a north aspect, I have found no difficulty in growing these. The last time I grew them the seeds were sown thinly in boxes in March, and placed in a Peach house with a temperature of 50° to 55°, where the moisture and shade seemed to assist the germination of the seed. At the end of May they were planted out on well-manured ground, in such an aspect as I have indicated, about 9 ins. apart, and before the end of the season they had well covered the ground in spite of frequent pickings. A few plants were left unpinched, and they flowered and seeded, and the following season the ground was covered with seedlings which grew large enough to pick from, but they failed to ripen seed; at any rate no plants came up the following season, and as plenty of cress could be got when required from a distant part of the estate, no further attempt to raise plants was made.

I have also succeeded in growing them in pans placed in a shady corner, where the watering-pots passed by two or three times daily; but on the approach of frost the pans should be taken into a greenhouse or pit, as the plants under this artificial culture, as well as in the border, soon succumb to it. Never have I seen or heard of such a systematic arrangement for their culture under glass as I saw at Roby Hall, near Liverpool, last November. In a lean-to pit there is a

tank 28 ft. long by 4 ft. wide, in three divisions, planted with Watercress, and by doing so at intervals a daily supply is secured for nine months in the year.

About 6 ins. of drainage is placed at the bottom, and on that curves with the green side down, to prevent the soil intermixing with the drainage. The compost consists of light loam, old mortar, rubble and chalk, to the depth of about 6 ins., firmly pressed and watered previous to inserting the cuttings. The healthiest and strongest pieces are used for the purpose, and they are usually secured by taking the tops of the plants in the last-planted division, and inserting them firmly, watering, and keeping them close and shaded in hot weather for three or four days. By the turn of a tap the whole are flooded. This is practised every other day or so; but if omitted they are syringed in the afternoon. Each division is provided with a plug-hole about mid-way, to let out the stagnant water; and Mr. Jones, the gardener, considers this change of water an important factor in the plant's welfare.

In case of a supply in the tanks falling short, there is an auxiliary arrangement, the produce of which would be sufficient for an ordinary establishment. A side stage runs the length of the pit, filled with pans 18 ins. in diameter and planted with Watercress. The pans, which need to be well drained, are filled with compost similar to that used for the beds, but broken smaller and piled up into a blunt cone; from twenty to twenty-five strong cuttings are inserted in each, and they are placed in a temperature of 60° to 65° for a week or so; and, at the time of my visit, numbers of them were in the Cucumber house, which seemed to suit them admirably. Mr. Jones informed me that after being moved into a cooler place or into the Watercress pit they grow most luxuriantly, and frequently extend 6 ins. or 8 ins. over the sides. When introduced into the Cress house the pans are placed in saucers filled with water, which is frequently changed. The plants from the pans flourish famously when planted in the beds. Such is the substance of the details of culture given to me by Mr. Jones.—*W. P. R.*

MUSHROOMS AND MUSHROOM-LIKE FUNGI.

By the courtesy of the publishers—Messrs. Blackwood & Sons, of Edinburgh—we are enabled to print six of the one hundred and two illustrations which have been drawn and engraved by Mr. W. G. Smith for the Rev. John Stevenson's two new and excellent volumes named *British Fungi*. These two volumes are so cheap and so good that everyone who is interested in or studies the larger fungi should purchase them, for the books fill a place that, till these were published, was vacant. Mr. Berkeley's volume, named *Outlines of Fungology*, is now quite out of date, although the coloured plates by Mr. Fitch are beautiful and very useful. The same may be said of Dr. Cooke's two volumes, named *British Fungi*, which have not only become somewhat out of date, but are out of print, and it is now almost impossible to secure copies. Those who bought Dr. Cooke's volumes would seem to have a constant use for them.

Mr. J. Stevenson has given much fuller characters of all the fungi described than have ever been given before in this country, and he also describes a very large number of British species for the first time in handbook form. Added to this, he has given, with Mr. Smith's aid, an illustration, with sectional details, from nature, of every genus and sub-genus described. None of the microscopic species of fungi are noticed in Mr. Stevenson's volumes, the work being devoted to the larger and chiefly to the Mushroom-like fungi. No such exhaustive and scholarly work has hitherto appeared in this country, and we have no doubt the volumes will have a large and well-deserved sale, both here and in the colonies.

The Rev. John Stevenson is well known as a practical observer of, and writer on, fungi, chiefly, perhaps, in connection with the Scottish Cryptogamic Society and the Woolhope Club at Hereford. The author has supplied a glossary of terms, and he has given a translation or explanation of all the generic, sub-generic, and specific names. The books are beautifully printed, and they reflect great credit on the persons concerned in their production. It will probably be a good many years before these volumes are superseded by anything better, more complete, or more exhaustive of the subject.

BEDDING PLANTS FOR SMALL GARDENS.

THE custom of filling the flower beds with suitable plants, so as to provide an appropriate display up to the time when autumn comes with its disturbing influences, is one that is not likely to die out among amateur gardeners. Still, there does not exist the rage for bedding out so noticeable fifteen or twenty years ago; but as villa gardens multiply, and grass lawns are laid down with flower beds on them, it is necessary they be furnished with something during the summer, if not in the spring also.

The good old useful things which can still be employed with the best effect in garnishing flower beds during the summer are Pelargoniums—or Geraniums, as they are more popularly termed—of varying colours, from purple-crimson to pure white; Calceolarias, yellow and dark; Verbenas of various colours, and dwarf blue Lobelias. With these alone good and effective displays can be made, and during the next month they can be bought very cheaply, as the advertising columns of THE GARDENING WORLD show; in fact, a judicious purchaser can obtain a goodly number at a comparatively small cost. Pelargoniums and Calceolarias must be increased by means of cuttings, and it is found that certain varieties are best adapted for bedding out, so that these are grown largely by those nurserymen who make a speciality of bedding plants.

I can name the following as good and reliable bedding Pelargoniums, viz., Henry Jacoby (crimson), Vesuvius (scarlet), Master Christine (pink) and Snowdrop (white). Supposing the amateur who grows these in his beds during the summer has a little greenhouse, he can begin to take cuttings at the end of July, and propagate a good many plants for his own use during the summer and autumn; that is, provided he has his greenhouse artificially heated, and so is able to keep the young plants through the winter. He who has no such convenience for wintering plants, must in the spring either buy or beg. Happily, the varieties I have named can be bought cheaply, and so a few dozen plants do not cost a great sum. The same may be said of

Lobelias and Verbenas, but he who has a little greenhouse can sow seeds in early spring and so supply himself with plants. An outlay of a shilling or two will procure enough seed of Lobelia and Verbena to raise an abundance of plants, and if sown in pans of light rich soil and placed on a warm shelf of the greenhouse, or stood in a cold frame near the glass, pieces of glass being laid over the pans and the latter kept shaded from the sun when it is bright and warm, there need be no difficulty in raising seedlings; but the amateur must be diligent and attentive to his seeds, keeping the surface moist so as to cause them to germinate freely.

Then there is Phlox Drummondii, a good useful annual that can be raised from seeds in the same manner. How much we owe to Mr. Ernest Benary for his fine and improved large-flowered varieties of this popular annual! A bed of well-grown Phlox Drummondii, and especially of that superb variety grandiflora splendens, is better than the best Verbena I am acquainted with. This Phlox comes quickly from seed, it is also a strong grower, and when the plants send forth their leading shoots, as they do vigorously when well established, they should be pegged down over the beds, so as to fill any vacant space. One thing is necessary in the case of Phlox Drummondii—

it is a plant that seeds freely, and in order to prolong the bloom, the decaying trusses of flower should be picked off to prevent seed pods being formed.

Stocks and Asters scarcely make good bedding plants when used by themselves, because they do not last in bloom all the summer; but the effectiveness of both may be prolonged by cutting away the flowers as they decay. Still every amateur should grow a few, because while they are in bloom they are so very useful for cutting from. Then there is a little dwarf Marigold that makes a good summer bed, viz., Tagetes signata pumila; it is yellow-flowered, and lasts a long time in bloom. It can be raised from seed, treated in the same way as Verbena or Phlox Drummondii.

Yellow is always a telling colour in a summer flower garden. Calceolarias best supply this colour; but the plants are never very cheap, and they are apt to die from some cause when planted out, ugly gaps being thus formed in the beds. There is a very useful dwarf-growing Nasturtium, with yellow flowers, that makes a good bed. It is known as Tropæolum compactum, New Golden, and is very free of bloom; but, like Phlox Drummondii, should not be allowed to go to

with its fine variety Heddewigii, and others that have sprung from this last; the annual Chrysanthemums, and more especially the white and golden forms of C. coronarium; the double Ranunculus Marigold, and its striped variety Meteor; the white and crimson Candytufts, and especially the giant white variety named Empress; the large crimson Malope grandiflora; the pretty blue Nemophila insignis; and Silene pendula compacta. Seeds of these sown thinly in the open ground, now that the rain has come, will soon grow and make a charming display during the summer. Sow thinly in good soil, and a floral treat will reward the labour of the sower.—R. D.

WELDED AND CAST-IRON BOILERS.

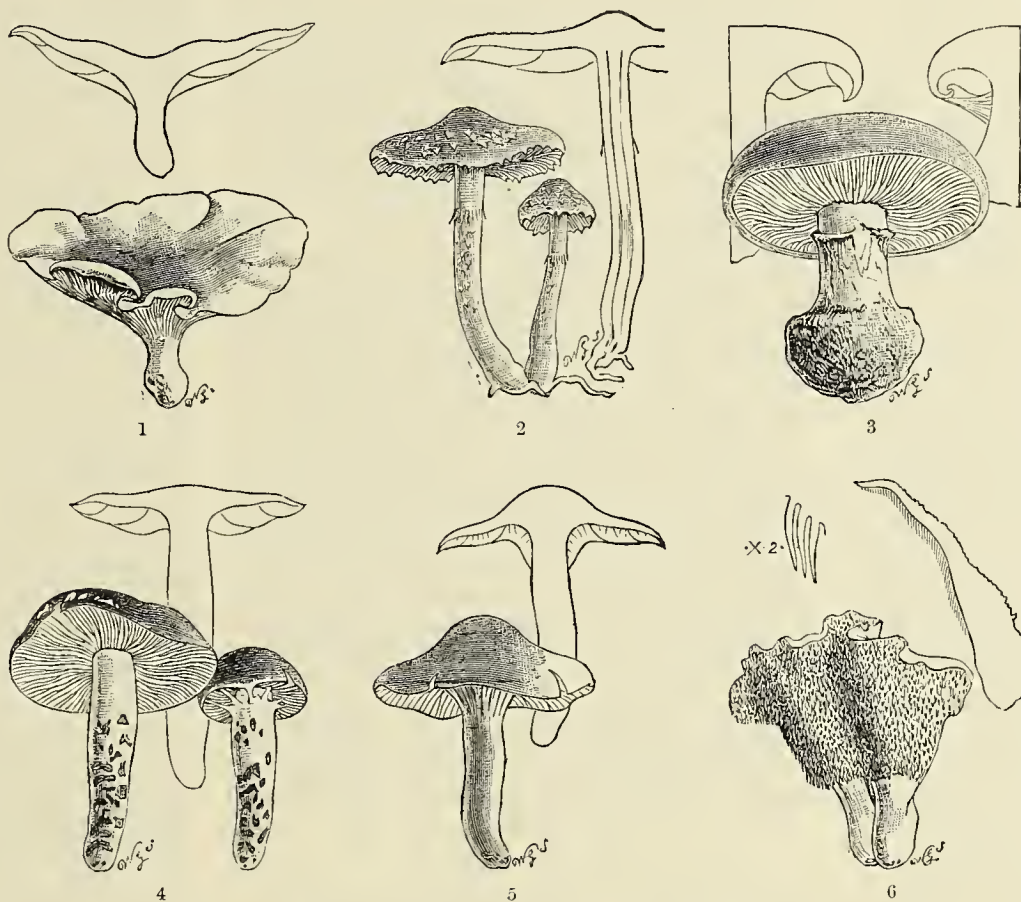
IN looking through your valuable paper of Saturday, the 16th inst., I notice an illustration with description of "The Gunnersbury Boiler," by Mr. J. Roberts. From the account which he gives, and the praises which he bestows upon it, one could almost be led to believe that there was not another boiler in the market to approach near to, much more equal it, for efficiency and durability.

The boiler your correspondent describes is one of the welded class, and I certainly am at a loss to know why he should claim for his boiler greater durability than is possessed by the Flue and Terminal-end Saddle, Gold Medal, Witley Court, or any other welded boiler. As to being able to get rid of the sediment more easily by adopting the waterway bottom, that is a small matter indeed when considering the extra cost of the boiler, seeing that the sediment can be got rid of in the ordinary saddle-form of boiler, by having a plug $1\frac{1}{4}$ in. to $1\frac{1}{2}$ in. diameter in each leg near the bottom.

As a rule, the cause of the welded boilers giving out so soon is in consequence of the neglect to take out the plugs occasionally, and drawing out the sediment, which can easily be done by inserting a stout piece of wire or $\frac{1}{2}$ -inch round iron, flattened at the end to form a small hoe. Seeing therefore that the accumulation of sediment in the one boiler is the cause generally of its early

failure, the same cause would apply in the case of the "Gunnersbury." I do not deny that the "Gunnersbury" is a powerful one, but not equal to the Improved Trentham Cornish with waterway bridge, when set with the upper and under flues, as is usual. But when there is a large quantity of piping to be heated—say, 1,500 ft. to 3,000 ft. of 4-in.—I do not think it wise to rely upon one powerful boiler, because it is generally at a critical time that the boiler gives out, and the whole of the crops consequently are at the mercy of, perhaps, 20° of frost. I would prefer two smaller boilers, set side by side, both working into the same main, with a screw-down valve on each flow and return from boiler, so that in the event of one of the boilers giving out at any time, the other one would be sufficient to keep up a moderate temperature throughout till the other boiler could be replaced, thus preventing serious loss, as well as relieving the gardener of much anxiety.

While, however, I am writing on this subject, I am reminded that the plan is being largely adopted by nurserymen and other growers throughout the country; but instead of welded boilers, the cast-iron saddle with waterway end is being used, and which, I understand, are being made and sold in large quantities by the Thames Bank Iron Company, of Upper Ground Street, S.E., from 20 ins. to 66 ins. long. From what I can



1. Agaricus (Clitopilus) prunulus, one-third natural size. 2. Agaricus (Stropharia) æruginosus, one-third natural size. 3. Cortinarius (Phlegmacium) fulgens, one-third natural size. 4. Cortinarius (Myxaciium) collinitus, one-fifth natural size. 5. Hygrophorus pratensis, one-third nat. size. 6. Tremellodon gelatinosum, one-third nat. size; detail of spines, twice nat. size.

seed. Dwarf Marigold, aurea floribunda, makes a good yellow bed also.

One of the most popular and best known of summer bedding plants is the Golden Feather Pyrethrum, with its bright yellow foliage, which can be so easily raised from seed that if a few were sprinkled on the open ground they would soon spring up and make plants. Though it produces white flowers, it is best not to allow it to bloom, as its yellow foliage is much more effective, and it can be used as an edging to taller-growing plants, or a bed can be carpeted with it, having taller plants growing up out of it. The best subjects for summer bedding are those raised from seeds sown in March or April, because they do not bloom until late in autumn. If some seed be sown in the summer—say, in August—plants can be produced that will stand out of doors all the winter, and be highly effective and gay in the spring.

Then there are double Zinnias, and Petunias, both single and double. Single Petunias especially make bright and showy bedding plants, and some hardy annuals are good enough to find a place in the flower garden. There is the fragrant Mignonette, which should be sown less thinly than is usually the case; Sweet Peas, because so free to flower and so useful for cutting from; the Indian Pink (Dianthus chinensis),

gather from those who are using them, and others who are likely to know, this cast-iron boiler is likely to supersede the welded one entirely, on account of its greater durability—lasting three times as long as a welded—and economy. No doubt many gardeners can bear me out in this statement.—*J. B. Sidney, Tunbridge.* [We may add, for the convenience of those who may be interested in this subject, that a sketch of this boiler may be seen on the back page.—*Ed.*]

OSMUNDA REGALIS AND ITS VARIETIES.

CONSIDERING the wide area of its distribution, and the consequent different climatal and other conditions bearing upon this noble British Fern, we do not find that amount of variation one would be led to expect. Take, for instance, the common Hart's Tongue (*Scolopendrium vulgare*), in which there is no end of variation as to the outline, cresting and branching of its fronds, and compare this with the Royal Fern, in which the distinct and leading variations may be counted on the fingers of one hand. The species is easily propagated from spores; but notwithstanding that, many seedlings have been and are annually raised in this way. Those on the look-out for new and distinct varieties have been but ill rewarded.

Old plants in a vigorous, healthy condition, and well supplied with moisture, produce fronds 4 ft. to 6 ft. long, independent of the footstalk or petiole. The noble appearance of a plant producing fronds of these dimensions may well be imagined, and to do this it must have a large well-established rootstock or caudex. The greater part of this latter consists of densely and firmly interlacing strong and wiry root-fibres of a brown colour, and these being developed above ground, and altogether exposed, give an old specimen a very characteristic appearance. A great amount of reserve material is stored in this caudex or stem, so that the plant is moveable at any age while the fronds are down. Large specimens so transplanted from their native wildings may be calculated to produce a fine appearance the first season after moving, and the more especially so if they have been well supplied with moisture while making their growth.

It may be stated that the usual method adopted with this Fern, when one wants to add it to his collection, is to obtain it from localities where it grows wild, when so procurable. This is more especially desirable if for planting in the hardy Fernery or other place out-of-doors, as size and appearance are thereby gained at once; and if the Fernery is a new one, large plants for all the more prominent positions are desirable, in order to give the place an established look when the season's growth has made some headway. Seedlings grow slowly, and are more adapted for cultivation in pots for decorative purposes, while large specimens are inconvenient and difficult to move, both on account of the size and great weight of the rootstock.

Provided there is a sufficiency of moisture, this Fern is amenable to cultivation either in sun or shade. Under the latter conditions the fronds are shorter and stiffer, but by no means to be despised, especially if there is a fair average number of fruiting fronds. Owing to the fructification being terminal, and entirely of a different character from the rest of the frond, this plant has earned for itself the popular name of the Flowering Fern. The resemblance is most strongly borne out by plants grown fully exposed to the sun in the open air. The young unfolding fronds, but more especially the fertile ones, assume a fine brownish orange or golden hue, that is particularly attractive in the early part of summer. Except in the case of late fronds, this golden or auburn tint is much toned down towards the latter end of summer, by the fructification maturing, and the frond falling or dying away, so that we have nothing left but the leafy part of the frond. The massive fronds in themselves have a fine effect, especially when contrasted with those of a more slender or plummy character.

The *Osmunda* should always, if possible, be planted near water, and if the latter is running so much the better. Intending planters should endeavour to secure a position on the banks of a stream, so that the roots may dip into the water and draw supplies. The soil, if stiff and clayey or gravelly or otherwise unsuitable, may be ameliorated or altogether removed, better being substituted. A good layer of rubbly stones of a softish nature, such as sandstone or brickbats, should

be laid in the bottom of the excavation, with a layer of turf or other screening material above this. Fill up the rest of the trench with chopped turf and peat (not necessarily so fine as that used for potting purposes) in equal parts, with a good admixture of river sand, and in this the royal *Osmunda* will grow to perfection, giving great satisfaction. The graceful Lady Fern in some of its numerous forms, *Lastrea Filix-mas cristata*, *L. F.-m. paleacea*, *L. oreopteris*, the Mountain Buckler Fern, or the *Struthiopteris germanica* may be used in conjunction with the *Osmunda* with fine effect, the whole proving an excellent combination, and forming a perfectly natural and associable group.

The undermentioned and beautiful varieties of *Osmunda regalis* are, with the exception of *O. r. corymbifera*, perhaps, perfectly amenable to the same treatment, but grow so much smaller, that, except special care is taken of the latter, they are liable to be overgrown and destroyed by their taller and more vigorously growing neighbours. They are, however, more refined in character, and much better adapted for cultivation in pots in the cool Fernery under glass amongst other choice hardy Ferns, or in positions in the Fern garden allotted to the more select and smaller-growing kinds.

O. r. palustris is a North American form of dwarfer habit, generally ranging between 1 ft. and 2 ft. in height, with slender red petioles and midrib. Indeed, when young, the whole frond, including the stalk and the pinnules, is of a beautiful red, almost crimson, colour, and the fruiting pinnules being very irregularly interrupted, a fine effect is produced at this stage, which is the more noticeable or conspicuous when grown indoors.

O. r. cristata is a dwarf state of the typical plant, as represented by the British form. The tips of the fronds and pinnæ are apparently foreshortened, dilated and somewhat crested. It is very distinct for outdoor purposes, but not so select or effective for indoor cultivation as *O. r. palustris* or *O. r. corymbifera*.

As the crested variety may be considered a form of *O. regalis*, so the variety *O. corymbifera* may be regarded as a variety or sub-variety of *O. r. palustris*, at the option of the grower. It possesses the same slender habit and red petioles as the latter, and as the cresting seems to have a dwarfing effect on the *O. r. cristata*, so in like manner it is carried to a much greater extent in *O. r. corymbifera*, in which the frond is excessively shortened and copiously tasselled, especially at the apex. As it is more frequently seen a few inches in height than taller, this, together with the tasselling and the red petioles, constitutes it an excellent and select Fern for cultivation in small pots or ornamental baskets.—*Felix.*

GARDENING MISCELLANY.

The Gardeners' Orphan Fund.—I think after the very satisfactory meeting of the committee yesterday, and the good progress the Orphan Fund has already made, and, I have no doubt, will make, despite the clumsy way it was put before the public, the least I can do is to return my sincere thanks to the representatives of the horticultural press, the members of the committee, and especially the worthy chairman, for the very able and willing help that they have already given to the scheme. I hope no gardener in the kingdom will let the next three weeks pass without responding heartily to the call of charity. We unfortunately, had a sad experience of the need of an Orphan Fund only a few days since, when our poor friend Carr met with such an untimely end. Whether his widow and children will need help I know not, but if they do, out of our small beginnings, I should suggest rendering them what assistance we can. In starting this scheme I could not possibly have thought of myself, or that it would ever be useful to me, and I am sure none who have already given me their support will draw back on account of any shortcomings of mine as to the manner adopted in placing it before the public, or, in other words, for making my ideas known in too narrow a groove, as has recently been suggested by the editor of the *Gardeners' Magazine*. My call was made in the interest of true charity, and I trust all will forget any mistakes I may have made when I first proposed it. I earnestly hope that those who have so

ably assisted me may live to see the Gardeners' Orphan Fund a growing and great Institution.—*Chas. Penny, Sandringham, April 27th.*

Feeding Azaleas.—It is usually regarded not only as useless, but even injurious to feed Azaleas or, indeed, any of the *Erica* family, but judging from a box of Azalea blooms sent us by a Lancashire friend, we are led to consider with the sender that the size of the flowers of Azalea indica, and its endless varieties, might be greatly improved in size, and that our present system of cultivation is more akin to starvation than liberal treatment. Our correspondent feeds his plants twice a year with weak guano water, that is during the growing period, and again for a month before the plants come into bloom. A magnificent slightly branched truss of Charles de Buck, from a plant grown on its own roots, had eleven flowers, many of which were 4 ins. in diameter, and some a little over that. The flowers are deep rosy red. W. Wilson Saunders was equally large, boldly and irregularly splashed with red on a white ground. The flowers of Paul de Stryver were about 3½ ins. in diameter, and of a beautiful rosy pink colour, blotched on the lower segment, and having an irregular white margin, reminding one of a regal Pelargonium. Another exceedingly chaste large-flowered form named La Deese had soft reddish pink flowers, richly spotted on the lower side, while John Gould Veitch produces superb flowers of a fine pink suffused with crimson on the lower side, with an attractive but irregular white margin, like a regal Pelargonium. Noble Belgian is somewhat similar, but less delicately fine, with numerous deep-coloured spots all over the lower side. The flowers of George Loddiges are of a fine bold red colour; and those of Argus, a double-flowered form, while on the whole darker than the last, have a deep crimson blotch on the lower side. A semi-double rosy pink form, a sport from Reine du Portugal, also produces very pleasingly attractive flowers. The size and general appearance of the flowers attests the propriety of the treatment they receive.

Protecting Peach Trees.—The method adopted by Mr. Wright, gardener at Devonhurst, for protecting Peach and other trees in bloom, if not quite new, is by no means generally adopted in gardens. No netting, shading, or tiffany is used, and in the absence of glass, Spruce branches or those of the Cherry Laurel are cut and tied to the wire on the walls, or to the branches of the trees themselves, in such a way that spring frosts are warded off, thereby preventing the latter from being damaged. Spruce branches are considered best seeing that the leaves are close, yet from their smallness allowing a freer play of light than the broad leaves of Laurels do. This is in some respects essential, as the trouble of removing the branches in the morning and replacing them at night is avoided, and the branches remain on the trees till all danger of frost is over. Laurel branches, however, seem quite effective, as from an examination of the trees after the recent severe frost, variously reported as ranging from 7° to 14° Fahr., the embryo fruits appeared quite fresh and unhurt.—*Visitor.*

Skimmia japonica.—It may interest those who grow this plant, to state that there are two very distinct forms of it in cultivation—one with perfect flowers produced generally in small not very conspicuous clusters, and a male plant that produces conspicuous terminal panicles of numerous small white flowers. This latter form, as a matter of course, is perfectly sterile, and the question is sometimes asked why it does not set fruit. The answer is simple, as it has no ovary containing ovules to set. The flowers, however, to a casual observer give rise to great expectations. Oranges, which belong to the same family as *Skimmia*, sometimes present similar conditions; but the perfect and imperfect flowers are on the same, not different plants. Both forms of the *Skimmia* may be seen amongst the Camellias at the entrance of the Royal Horticultural Society's Gardens, Chiswick.

Unheated Peach House.—During the recent severe frost, when the temperature fell to 23° Fahr., or in other words, exhibited 9° of frost at Guunersbury Park, Acton, recourse was had to candles to maintain the temperature sufficiently high to prevent injury to Peaches, Nectarines and Cherries in a house entirely unheated by hot-water pipes or flues. In a narrow lean-to or glass case about 30 yds. in length, twenty-eight candles were stuck in sand in ordinary flower pots, and

placed on the ground along the front side of the house. These candles were lighted about 11 p.m., when the temperature soon after rose to 45° Fahr. In the morning this had only sunk to 40°, so that the Peach and other blooms were perfectly unhurt.

The Drought and its Effects.—The unusually dry weather, three weeks of April without rain, has affected spring-flowering plants very differently at Oakwood. Of two North American plants one has been injured the other benefited by it. The "May flower," *Epigæa repens*, though flowering freely, has smaller flowers and smaller trusses than usual, while Blood-root, *Sanguinaria canadensis*, has been especially fine, though in full sun; in a rockwork bay above seventy beautiful flowers were out at once; all the Daffodil family in the damper situations have been very fine. We have a tree now in bloom which is, I think, not nearly enough grown, the Weeping Cherry, *Cerasus pendula*. I had never heard of it till Mr. Bunyard, of Maidstone, advised me to get it, but everybody admires it. The flowers are single and small, but many, and hang most gracefully.—*George F. Wilson, Heatherbank, Weybridge, April 23rd.*

Poinsettia pulcherrima Planted Out.—Your correspondent, "J. H. H.," in your last week's number, writes about Poinsettias planted out, and sends you cut examples from a plant in his small Cucumber house. I am sure that "J. H. H." will forgive me when I state that under these initials I recognise a friend, and that I have repeatedly seen the large plant in question during the winter, for it is somewhat a veteran, nor have I seen it without fine bracts since November. At a recent meeting of the Gardeners' Society at Birmingham, the writer, Mr. Horton, gardener to R. Chamberlain, Esq., M.P., contributed three very fine heads of bracts, which rather astonished some of the members by their size. The fact of this plant doing so well planted out, and its continuous blooming after the first bracts or inflorescence is cut away by the formation of secondary bracts, is a question well worthy of the consideration of our market growers, for a big supply of these during Easter, as Mr. Horton has had, would fetch a price in our markets.—*Edgbaston.*

Susette de Bavay Pear.—Dessert Pears become doubly valuable at this season of the year, when home-grown fruit of any kind is by no means over plentiful. The variety under notice ripens in January and February; but even now, at the end of April, it is in excellent condition in Mr. Beaton's fruit room, Style Hall, Gunnersbury. The ripening of fruit can be greatly retarded by keeping it in cool quarters until near the time when wanted for use, as we have ample evidence in the case before us. Fruits imperfectly matured or mellowed, after being placed in an ordinary sitting room for a fortnight, materially improved in flavour, and in the melting, juicy, and sugary condition peculiar to the fruit when at its best. The fruit room in which the Pear in question was stored is underground, being, in fact, formerly used as an ice house, and is accordingly exceptionally cool. Ordinarily, the fruit is medium-sized and pale yellow when matured, more or less suffused with russet, especially round the eye; but a quantity of small fruits had evidently been collected from another probably much less vigorous tree.

Anemone Fanniniæ.—Seedlings of this new South African species, raised from seeds that were received from Natal last year, have just commenced to flower in a cool house at Kew, containing bulbs and similar things. The leaves are all radical at present, orbicular, five to seven-lobed, ample and distinct in appearance; the flowers are moderately large and white, but will almost certainly improve in that respect when the plants attain size and gain strength. The outer five petals are much broader than the inner, and more or less distinctly tinted with purple externally, while the latter are linear, more numerous and whiter. If this species proves amenable to improvement under the hands of the hybridist or cultivator we may yet obtain something fine, while the distinctness of the type adds greatly to its value. It may prove in many respects similar to *Anemone japonica*, but differs in the orbicular shallowly-lobed leaves.

Troughton's Prolific Cucumber.—I had a few seeds of this Cucumber sent to me by a friend early in January, with a request that I would give it a trial, and knowing that my friend had been very successful with it during the winter, I was anxious to do so.

Shortly after this I read in your columns that fruit of it had been exhibited at a meeting of the Fruit Committee, when it was compared to Rollisson's Telegraph. My plants were but young at the time, and the fruit small, though I doubted the correctness of the remark. I am, however, now in a position to state that it bears no resemblance to that variety except in colour, which is common to most Cucumbers. I have the two varieties growing in the same house, and they are quite distinct. I have never yet seen Rollisson's Telegraph with four and six fruit to a joint, measuring 3 ins. to 12 ins. in length. This may be frequently seen on Troughton's Prolific. The skin is of a good green colour, thinly covered with spines, slightly tipped with black. The plant has a vigorous, strong and prolific constitution—qualities that must commend it as a winter Cucumber. It does not grow quite so quick as Rollisson's Telegraph, but it attains about 24 ins. in length, and proportionate girth.—*Andronicus.*

Verge Cutters.—At p. 522, "Salopian" asks for information respecting verge-cutting machines. I am pleased to inform him that we are using one of Messrs. Green's patents, and we are highly satisfied with it. It does its work admirably, and is easily pushed at a good walking pace; that is if the edges are in good order. We find it a great saving in labour, as we have a considerable amount of this work to do. Previous to getting this machine we found the shears most trying. It is just possible "Salopian" will not meet with a better for general purposes than this.—*H. Markham, Mereworth Castle, Maidstone.*

Chou de Burghley.—Having read the various opinions expressed from time to time, as to the qualities of this plant as a vegetable, I was induced to give it a trial. It has been a puzzle to many to say to which section of Brassicas it belongs, and, I must confess, I am somewhat at sea upon the point. The leaves and habit of the plant through the winter resembles a true Cabbage; but in spring the leaves unfold and display a small compact flower head about the size of a cricket-ball. But here this head seems to lay longer dormant, nestling amongst the tender Cabbage-like leaves, whilst the Cabbage bolts out upright, its tier after tier of leaves carrying its small flower-bud along with it. The sluggishness of this small Broccoli-like head to move, and with the warm advancing spring weather again causes shoots to burst out up the stem. Whether it is cooked and served separately as a Cabbage, Broccoli, Sprouts, or altogether, the raiser is to be congratulated upon his shrewdness in naming it Chou de Burghley. Like others, I consider its greatest merit is as a Cabbage, and I consider it likely to prove a most excellent hardy winter vegetable. Its cooking qualities are good, being mild and delicate in flavour.—*B. L.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—With Cattleyas and Lælias generally, the best time to re-pot them is after they have done flowering and fairly settled down to grow. Thus the Trianaes, which have nearly all done flowering and are actively moving, should now be re-potted if they require it; the Mendeliis to follow in their turn later on; and each of the sections of large-flowering Cattleyas as they are ready, every batch being allowed a time after the flowering is done to recover and commence growth. Above all things it is necessary to secure a good sample of light peat of Fern-root, as free from soil as possible, as this simplifies Cattleya and Lælia culture immensely. At one time it was next to impossible to obtain such; but at present several of the dealers can supply fine samples.

Many plants of Lælia elegans that have flowered, and require re-potting or basketting should be attended to; the varieties of this plant flower at various seasons, and are seldom ready for re-potting all at once. Cattleyas and Lælias, when potted in good material, and in pots well-drained two-thirds of the way up, by no means require re-potting every year; and in many cases may be left in the same pots two or three years with advantage to these flowers, by carefully removing the old peat at potting time, thoroughly driving out accumulated dirt from amongst the drainage by forcing water in from the syringe. After leaving them uncovered for an hour or so, replace on the surface good fibry peat, and where sweet charcoal can be obtained, use a few pieces of it. If

not a few crocks worked in with the peat is very beneficial in ventilating the drainage, and ensuring the free passage of water. In good samples of peat stout rhizomes of *Pteris aquilina* will be found; these some remove and throw away, but this should not be done, but they should be worked up with the rest of the peat, any surplus being placed first on the top of the crocks.—*James O'Brien.*

Mr. Shuttleworth's Cypripediums.—The number and variety of these are truly surprising considering the limited space at command for their accommodation. The specimens are neither large nor extensively in flower, but their healthy appearance and the choice nature of the kinds make ample amends in that respect. *Cypripedium Druryi*, a comparatively recent introduction from India, is at once beautiful and interesting amongst Cypripediums, owing to its novel, striking and uncommon colour. The whole flower is of a rich shining yellow colour, with a deep brown or black longitudinal band along the middle of the sepals and petals. The twin-flowered scape of *C. Warneri biflorum* bears blooms having highly attractive colours, that centre in the petals, but more especially the upper sepal or standard. The deep purple spots on the petals of *C. Argus* are very characteristic of that species, which well merits the distinction of being named after that goblin-eyed being, Argus. The rare hybrid *C. superciliale* is conspicuous by the enormous size of its lip, which is purple, and the strong fringe of hairs with which the upper edge of the petal is furnished. Another striking hybrid, flowering at present, is *C. vernixium*, having for its parents *C. Argus* and *C. villosum*; and the flowers of which are very large with brownish purple petals, while the foliage is very robust and faintly tessellated with two shades of green. The flowers have, moreover, both size and a striking appearance to recommend them. The same may be said of *C. Dautheri*, the upper sepal or standard of which is the most attractive feature of the flower. This is large brown and purple flushed with green, and having a broad white margin flamed with a claret colour. *C. callosum* is a striking and handsome hybrid, rapidly getting disseminated in gardens, and likely to become popular. The standard is striped with green, and flushed claret on a white ground, and the petals are characterised by having dark purple spots near the upper edge. We must not omit the beautiful-foliaged *C. Lawrencianum*, whose handsomely tessellated leaves will always render it conspicuous in a group independent of the flowers, which, however, are not to be despised at any season. There are many other rare and beautiful species or hybrids in Mr. Shuttleworth's collection, which we must notice on a future occasion.

Odontoglossum Rossii.—A small plant of an almost white variety of *O. Rossii* made its appearance at Protheroe & Morris's Rooms on Friday last. Seven and a-half guineas were bid for it, but the plant did not change hands.

Orchids in Scotland.—We are pleased to hear that Mayfield, Falkirk, so long the home of the late Provost Russell, has passed into the hands of a gentleman who promises to maintain its orchidic reputation. The present proprietor, Mr. Robert Wilson, has rebuilt the houses, and is filling them up with a choice collection of Orchids, which are being cultivated by Mr. Sorley, the old gardener, who had charge of Provost Russell's collection. Mr. James Wilson, father of the proprietor of Mayfield, has bought the neighbouring estate of Bantaskie, and is also forming there a large and choice collection. The new Cattleya *Schrodæ* flowered for the first time in Scotland in this collection; and recent additions to the collection are a plant of *Cælogyne Massangeana*, nearly 3 ft. over; a grand specimen of *Lælia elegans Turneri*; and *Odontoglossum Pescatorei Wilsoni*, a beautifully spotted variety.

Cattleya Lawrenciana.—In the paragraph referring to Cattleya Lawrenciana, in your issue of to-day, you mention eight as the greatest number of flowers yet produced upon a spike. I have now a plant with three spikes, on one of which is nine flowers, and the others have six each. The flowering bulbs are all home grown.—*S. Courtauld, Bocking Place, Braintree, April 23rd.*

Dendrobium albo-sanguineum.—There are numerous plants of this very distinct Dendrobe now flowering in Mr. Shuttleworth's collection at Clapham. The flowers are very large, and produced on lateral but

sub-terminal few-flowered peduncles, and are strikingly distinct from all others most usually seen in cultivation. The pseudo-bulbs are short, very stout and erect, easily accommodated as to house room, and may be grown in pots or pans hung up close to the glass in the East Indian house. The pale creamy yellow colour of the large flowers is also strikingly novel, and character is given to them by two large deep purple blotches, one on each side at the base of the labellum. The flowers have also fragrance to recommend them.

Epidendrum Ghiesbreghtii.—The general appearance of this species reminds one of a small form of *E. macrochilum*. Indeed, the ovoid pseudo-bulbs, the leaves and the flowers all bear out the resemblance, and, no doubt, the plant belongs to that section or group. The sepals and petals are brown, while the squarish labellum is pure white. Being small in its parts and easily accommodated, it may be hung up near the glass, which well suits its requirements admirably. It is now flowering in Mr. Shuttleworth's collection at Clapham.

Dendrobium sulcatum.—The sub-terminal drooping racemes of this species have the internodes so short that the flowers appear a dense yellow mass. They appear somewhat similar to *D. densiflorum*, but are smaller and of a fine soft yellow, with a hood-shaped labellum striated with a few brown lines. The pseudo-bulbs are also short, stout, erect and distinct, bearing a few large leaves towards the apex. A specimen may now be seen flowering in the cool division of the Orchid house at Kew.

Maxillaria grandiflora.—A beautiful and rather distinct form of this is now flowering in Mr. Peacock's extensive collection at Sudbury House, Hammersmith. The flowers are ordinarily white, with the exception of the labellum, which is heavily striped and spotted with brown on the lower part, with a singularly curious, fleshy and powdery yellow terminal lobe. The form we observed the other day exhibited a beautiful rose colour in bud, giving rise to expectations, which, however, were not realised when the flowers expanded, showing themselves to be slightly tinted only, internally.

Dendrobium macrophyllum giganteum.—Mr. Latham has now in flower in the Birmingham Botanic Gardens, a perfect example of *Dendrobium macrophyllum giganteum*, with fine strong young blooming growths, and quite 150 expanded blooms, and so fine a plant in flower is rarely met with. *Dendrobium crepidatum* is a comparatively little known Orchid, but it is a lovely plant as seen now at the Botanic Gardens. A good example of *Vanda gigantea* is also now in bloom amongst the other Orchids.

Odontoglossum triumphans.—As a species this is annually assuming more importance in gardens, as we day by day receive fresh evidence. Mr. J. T. Poë, Riverston, sends us a flower of striking proportions. Neither the sepals nor petals are remarkable for individual breadth, but they are heavily coloured with a rich chocolate brown, with yellow tips and a few transverse yellow bars, which are most dominant, however, at the base of the petals. The whole flower measures $4\frac{3}{4}$ ins. across the sepals, and almost as much across the petals.

Dendrobium Wardianum.—Mr. Poë also sends us, from his garden at Riverston, Nenagh, a magnificent bloom of the above-named *Dendrobe*, measuring 5 ins. across the petals, while the latter have a breadth of $1\frac{1}{2}$ ins. The flower was produced on a stem developed in Mr. Poë's garden since the plant was imported, and the plant is also flowering for the first time since its importation. Messrs. Ireland & Thompson, of Edinburgh, send us an even more remarkable specimen, measuring $5\frac{1}{2}$ ins. across the petals, while the individual petals exhibit a breadth of $1\frac{1}{2}$ ins. The colours of this bloom are of a deeper tint than the former, but the magnificence of either can scarcely be imagined by those who have not seen them. It flowered in Mr. Robert Wilson's collection at Mayfield, Falkirk.

Vanda teres.—A magnificent sight is to be seen in a pit occupied by *Vanda teres* at Gunnersbury Park, Acton, one of the seats of Baron Rothschild, whose garden there is kept in admirable order by Mr. J. Roberts, his gardener. The pit in question contains healthy specimens, grown either in pots or planted out, and although the compartment is confined to one sash, there are at present thirty spikes of bloom,

averaging five flowers each, and some have eight. The individual flowers are 3 ins. in diameter each way, while the flat, rounded, horizontal petals measure sometimes $1\frac{3}{4}$ ins. in breadth. The sepals and petals are a soft rosy purple, while the deeply pouched labellum is heavily striped with brown, orange and purple lines, but several plants show considerable variation in the intensity of the colours. The plants are kept well supplied with moisture, especially during the growing season, while the surface of the soil is covered with loose sphagnum. Less atmospheric moisture is given during the flowering period.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

THE POINSETTIAS which were headed down a few days since already show signs of starting into growth; consequently, they have been watered, and are kept freely syringed. At the same time they are kept in a light, airy, and thoroughly open situation on the stage in the intermediate house, so that the growth made may not become drawn, which will certainly be the case if they are kept in a shaded position, or where too high a temperature is maintained. As soon as room can be found, we shall transfer ours to a heated frame which has been utilised for forcing Asparagus, to which use, through the unfavourable weather, it has this season been unduly prolonged.

At the time of pruning back, wood for propagating was selected, and the eyes have been inserted and placed in a brisk bottom-heat, where they will quickly start. Struck thus early, they may be subject to one stopping, which will have the effect of giving two or three heads instead of one; added to which the plants will be dwarfer in habit than if allowed to grow unchecked. One great point in the culture of this plant is that until it receives its final shift it must never be allowed to become pot-bound. Should it do so much of the foliage will be lost long before the bracts appear, rendering the plants most unsightly.

CINERARIAS AND PRIMULAS.—We have made an early sowing of Cinerarias, which we hope to have in flower by the latter end of November, when they are most acceptable for house decoration and for staging purposes. Let the pans be kept shaded from strong light and sun, or the seed will not germinate freely, taking care that the material is removed as soon as the little plants appear, or they will be spoiled; we find that for the general cultivation of this plant from now onward, a north frame is the most suitable for them. We have also potted off a good batch of Primulas, although the seed has not germinated so freely as usual; these will be taken care of and placed in a little warmth until they start; then they, too, will be placed in the cold frames and treated as Cinerarias, only taking the precaution that they are not subject to any heavy rains or stormy weather, as the foliage is apt to be broken and the plant thus spoiled.

BEDDING PLANTS.—Use all diligence in the pricking out of such things as Lobelia, Phlox Drummondii and the hundred-and-one subjects necessary for bedding-out and cutting purposes, as once they become stunted in the seed-bed one half of their character is destroyed. Any temporary-made pit, so long as it can be covered with lights, will answer the purpose for pricking them out if frames are not available. Let the bedding stuff which was removed from the houses be freely ventilated preparatory to being placed out of doors, and so make room for more tender subjects.

SINGLE DAHLIAS have been placed in the pits, where their growth will be much more satisfactory than if kept in the vineries. This also reminds me that it is high time the stools which were selected last season may be at once planted out in the most suitable positions for furnishing cut bloom; this they will do much more abundantly than if seedlings alone are trusted to.

THE FRUIT HOUSES.

VINES.—Thanks to paying strict attention during the time the Muscat Vines were in flower, we have obtained an abundant set; and we are now busy tying the laterals into position, removing surplus clusters, and thinning will at once commence. To leave them too long entails much trouble, and there is a great probability of many of the berries being injured when they become so thick. Another matter, too, requiring

attention in the thinning of all white Grapes, is the keeping of scissors frequently wiped free from moisture, or the berries become stained and are unsightly. Many growers indulge freely in looping; we consider it undesirable, as when the clusters are dished for dessert, they never look so well as when allowed to grow into position, and are always more or less rubbed. Of course, in the case of very heavy shoulders it may be advisable; still it should be avoided as much as possible. When the Vines arrive at this stage, and as soon as thinning is finished, we make a practice of sprinkling guano or some other manure upon the borders after the honses are closed; it greatly strengthens the foliage, and so renders them much better able to withstand the attacks of red-spider and thrip.

THE EARLY PEACH TREES have again been gone over, and all the wood neatly tied in to the trellis. All lateral growths must be pinched out to the first pair of leaves. Some growers remove them entirely, which is an objectionable practice, as it creates a blank in the wood the following season. We have gone over the earliest Figs, stopping all round at the fourth leaf, and tying in all necessary wood. Frequent and heavy syringes are advisable in the cultivation of this delicious dessert fruit.

THE KITCHEN GARDEN.

SEED SOWING.—As previously stated, the frost destroyed the greater part of our first sowing of small seeds, so that it was advisable to make another, which has been done under glass so as to gain time. As they advance they will be pricked out on a prepared bed. The early sowing of Celery is now making a good growth, and will shortly be fully exposed preparatory to planting, the ground for which purpose was prepared in February, being heavily manured and double-dug. We are so well satisfied with growing this crop on the flat that trenches will be abandoned for the future.

CARDOONS will be grown upon the same square, the preparation of the ground suiting both crops. A few simple weeds having made their appearance amongst the Strawberries, the borders and squares have been scuffled. That very early variety, Prince Frederick William, is in flower; but although so early and free-bearing, it is deficient in colour, and we must discard it on that account. We have also run the hoe through the beds of Tripoli Onions, Garlic, and Shallots. The lights have been removed from the spring-sown Cauliflowers, Brussels Sprouts, and Lettuce, which are making a good growth, and must be kept as sturdy as possible.

We have planted out the earliest batch of Vegetable Marrows—of course, under cover—and in case of frost, the box will be matted up at night. We have also prepared the bed for pricking out the main planting of Celery, the sorts we generally grow for standing the winter being Snperlative and Sandringham. We must try and put in another sowing of Peas; but what few showers we have had have made no difference to the soil, which is like flint. We shall also sow half a dozen rows of Runner Beans, and a drill or two of late Broad Beans.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—April 26th.—A very interesting and varied display of exhibits was brought together at this meeting, for besides the extensive collections of Narcissi, now cut from the open ground, Roses and Rhododendrons in themselves produced a fine effect. Hardy plants, both herbaceous and alpine, had also a very enlivening effect owing to the variety of habit and the numerous distinct and striking colours occurring amongst them. Add to these the exhibits brought forward by the National Auricula Society's Show, and the collections of Primulas and fruit by various exhibitors, and it will be seen that it was by far the largest and most varied exhibition we have had this season. Messrs. Barr & Son, Covent Garden, were awarded a Silver Banksian Medal for their extensive collection of Narcissi cut from the open ground. It was conspicuous for the numerous fine forms of the Trumpet Daffodil section, including the new N. Johnstoni, which was certificated, numerous forms of N. incomparabilis, and the white N. moschatus of Haworth. A Silver Banksian Medal was also awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a group of Narcissi enlivened with a few bulbous

plants, such as *Muscari botryoides* and its white variety. Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, London, also exhibited an extensive group of cut blooms of *Narcissi* arranged in coloured glass vases, and greatly improved by an intermixture of Ferns and Palms, which had the effect of toning down the prevalent yellow and white colours. A Silver Banksian Medal was given for the group. A group of cut *Narcissi*, consisting chiefly of forms of *N. incomparabilis*, and hybrids between that species and *N. poeticus*, was exhibited by Mr. James Walker, Whitton, Middlesex; while a much smaller exhibit was made by Messrs. James Dickson & Sons, Newton Nurseries, Chester, of *N. Sir Watkin* and *N. pallidus præcox*.

An extensive and very attractive group of Roses in pots was exhibited by Messrs. H. Lane & Son, The Nurseries, Berkhamsted, for which they were awarded a Silver-gilt Banksian Medal. They were grown in the form of bushes, and consisted of Teas, including well-bloomed *Madame Margottin*, and, amongst H. P's., the intensely dark-coloured *Fisher Holmes* and *La Rosiere*. An attractive exhibit was also made with Tea and H. P. Roses grown as standards and also bushes by Mr. William Rumsey, Joynings Nurseries, Waltham Cross. *Marechal Niel*, *Madame Margottin* and *Souvenir d'un Ami* were very conspicuous amongst Teas; *Abel Grand* amongst H. P's., and *Mignonette* amongst Fairy Roses. Several boxes of cut blooms were also exhibited, and the group was awarded a Silver Banksian Medal. A Silver-gilt Banksian Medal was awarded for an exhibit of Roses by Messrs. Paul & Son, The Old Nurseries, Cheshunt, including some of the finest and most popular Roses. *Prince Camille de Rohan* was noticeable on account of its intense dark colour, while the pink *Souvenir d'un Ami* and the favourite *Marechal Niel* were well done. The same exhibitors showed a new pale rose-coloured one, named *Her Majesty*. They were accorded a vote of thanks for some new seedling *Amaryllis*. Mr. J. Walker, Nurseryman, Thame, Oxon, staged some boxes of cut blooms of Roses, which showed evidence of excellent cultivation. This was especially evident in a box wholly occupied by the *White Niphetos* and the soft yellow *Marechal Niel*, the blooms of which were of a handsome size, and attractive. A Silver Banksian Medal was awarded for the exhibit.

Herbaceous and Alpine plants, including *Epigæa repens*, *Pulmonaria daturica*, *Androsace vitaliana* and the free-flowering *Doronicum austriacum* were exhibited by Messrs. Paul & Son, The Old Nurseries, Cheshunt, to whom a Silver Banksian Medal was awarded. The group was of considerable size, and created a great display on account of the variety of colours. A Silver Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a fine collection of various hardy plants in bloom. Conspicuous amongst other things were numerous *Megasias*, including *M. cordifolia purpurea*, *Tulipa Greigi*, with scarlet blooms and spotted leaves; *Fritillaria Moggridgei*, *Anemone apennina*, and *A. a. alba*, for the latter of which he received a vote of thanks.

A valuable group of miscellaneous plants was forwarded from Kew. There was a considerable number of hardy plants, mostly *Primulas*, amongst which *P. japonica alba*, *P. ciliata Balfouri*, *P. mollis*, *P. obconica*, *P. verticillata*, *Narcissus calathinus*, *N. apodanthus* and *N. triandrus* were conspicuous. The huge flowers of *Rhododendron Aucklandiæ*, but more especially of *R. Nuttalli*, were a source of great attraction. The same might be said of the gorgeous crimson, scarlet and yellow flowers of *Thunbergia Mysorensis*, and the handsome panicles of *Medinilla magnifica* and *M. amabilis*. R. J. Measures, Esq., Cambridge Lodge, Camberwell, besides the *Odontoglossum* certificated, exhibited *Trichopilia suavis*, *T. s. alba* and *T. coccinea*, for which he was accorded a vote of thanks. A Cultural Commendation was given for a large well-flowered plant of *Oncidium macranthum lamelligerum*, and a vote of thanks for *Cypripedium Wallisii*. This was a striking flower; apparently a pale yellowish variety of *C. caudatum*, with petals $19\frac{1}{2}$ ins. in length. *Phalænopsis amabilis* and *P. Sanderiana alba* was exhibited by A. H. Smee, Esq., The Grange, Wallington, Surrey, who was awarded a vote of thanks for the exhibit. A well-flowered specimen of *Cymbidium tigrinum* was exhibited by Messrs. Shuttleworth, Carder & Co., 191, Park Road, Clapham, who was accorded a vote of thanks. The deep brown sepals were pale internally,

and showed off by contrast the white labellum, which was spotted and striped internally with dark brown. Besides the certificated *Odontoglossum*, F. G. Tautz, Esq., Studley House, Hammersmith, exhibited *Cattleya Lawrenciana oculata*, with a beautiful white throat, and *Odontoglossum radiatum*, with a magnificent spike bearing fourteen finely-spotted flowers. Mr. Bond, gardener to C. N. Ingram, Esq., Elstead House, Godalming, received a vote of thanks for cut spikes of *Odontoglossum*, and exhibited a finely-blotched *O. Alexandræ* and three pots of *Cattleya Mossiæ*.

A Silver Banksian Medal was awarded Messrs. H. Lane & Son for a well-flowered group of Hybrid *Rhododendrons*, containing white, pale, dark and handsomely spotted varieties. Mr. Anthony Waterer, Knap Hill Nursery, Woking, Surrey, received a Bronze Banksian Medal for an interesting exhibit of hardy *Polyanthus* of various colours. Messrs. John Standish & Co., Royal Nurseries, Ascot, Berks, exhibited a well-flowered group of *Erica hyemalis*, considering the lateness of the season. The exhibit was accorded a vote of thanks. A group of the recently certificated new, dark violet, double, *Victoria Violet* was exhibited by Mr. J. Chambers, Westlake Nursery, Isleworth. Some of the plants, which were well flowered, were lifted from the open ground; and the odour emanating from them could be perceived at some distance. A vote of thanks was given for a new white-flowered *Mignonette*, named *White Perfection*, and exhibited by Mr. W. H. Bannister, Cote House Gardens, Westbury-on-Trym. Messrs. J. Veitch & Sons, Chelsea, exhibited a box of cut blooms of the white *Magnolia stellata*. A vote of thanks was accorded them for *Primula Sikkimensis*. Besides that certificated they staged several seedling *Amaryllis*, amongst which *Endymion* and *Credo* carried very fine blooms. Mr. J. Douglas, The Gardens, Great Gearies, Ilford, received a vote of thanks for *Primula Sikkimensis*; and also exhibited the new white-flowered *P. Reidii* and the curious *P. geraniifolia*. A double-flowered gold-laced *Polyanthus* named *Queen Victoria* was exhibited by Mr. Owen, nurseryman, Hartford, Cheshire. Mr. Rupert Miller, Southdown Nursery, Shoreham, forwarded a box of *Myosotis dissitiflora* in bloom. Mr. E. Menzies, The Gardens, Sandford, Wareham, Dorset, showed some *Amaryllis* flowers; and Messrs. Vilmorin-Andrieux & Co., Paris, forwarded a box of cut flower-heads of *Cinerarias*.

A fine collection of Apples, in excellent condition, brought before the Fruit Committee by Messrs. J. Cheal & Sons, Crawley, Sussex, was awarded a Silver Banksian Medal. Beauty of Kent, Winter Peach, Emperor Alexander, and others presented a fine appearance. A similar award was made to Mr. G. W. Cumming, gardener to A. H. Smee, Esq., The Grange, Wallington, for another fine collection of fruit. Mr. Divers, The Gardens, Wierton House, Maidstone, was accorded a vote of thanks for a collection of Apples mostly, that had been kept in a dark room since they were gathered. The thermometer often fell to 28° , and yet the fruit was in good condition, including fine specimens of *Loddington* and *Blenheim Orange*. Mr. J. C. Mundell, Moor Park Gardens, Rickmansworth, likewise received a vote of thanks for a collection of Apples in good order. Cox's Orange Pippin and Wellington presented a fine appearance. Seedling Apples were exhibited by Mr. A. Barker, The Gardens, Hindlip, Worcester.

National Auricula and Primula.—This annual exhibition was held at South Kensington on Tuesday, but owing to the lateness of the season, and the trying character of the weather, was not so large as usual, or so good in quality, the flowers generally being characterised by much of what florists call roughness. The Rev. F. D. Horner, of Burton in Lonsdale, again held his own in the leading Auricula classes, and the Northern growers were also well represented by Mr. F. Pohlman, of Halifax, and Mr. W. Bolton, of Warrington. In the premier class for twelve Auriculas there were half-a-dozen competitors, and the awards went as follows:—First, Rev. F. D. Horner; second, Mr. James Douglas, Great Gearies; third, Mr. W. Bolton, Warrington; fourth, Mr. F. Pohlman, Halifax; fifth, Mr. C. Turner; and an extra prize to Mr. Sanders, gardener to Viscountess Chewton, Bookham Lodge, Cobham. Mr. Horner staged no less than eight of his own seedlings, these being *Heroine*, *Dulcie*, *Rubra*, *Merlin*, *Candida*, *Ivy Green*, *Magpie* and *Fairy Ring*,

and the others Rev. F. D. Horner (*Simonite*), Mrs. Douglas (*Simonite*), George Lightbody (*Headly*) and John Simonite (*Walker*). With Kathleen (*Horner*), Grayling (*Horner*), G. Lightbody, Rev. F. D. Horner, *Heroine* (*Horner*) and *Miranda* (*Horner*), the Rev. F. D. Horner came in first for six, beating Mr. W. H. White, Killingworth, Newcastle-on-Tyne, Mr. F. Pohlman, Mr. James Douglas and Mr. W. Bolton, who secured the other awards in the order named. For the best four, the highest award went to A. Potts, Esq., Hoole Hall, Chester, for Mrs. Douglas, Rev. F. D. Horner, G. Lightbody and Mrs. Dodwell (*Woolhead*), the other awards being taken in the order named by S. Barlow, Esq., Castleton, Manchester; Mr. W. S. Walker, Earley, Reading; Mr. C. Phillips, Hamilton Road, Reading, and Mr. T. E. Henwood, Hamilton Road, Reading. Mr. Potts also showed the best pair, viz., The Rev. F. D. Horner and Walker's John Simonite. Here again Mr. Barlow came in second, and the other prize-takers were A. Spurling, Esq., The Nest, Blackheath; Mr. Henwood and Mr. W. L. Walker. In the single specimen classes, the best flowers were, *Prince of Greens*, green-edged; a seedling of Mr. Douglas, grey-edged; *Acme*, white-edged; and Sir W. Hewett, self. The Turner Memorial prizes were won by Mr. W. Bolton, Mr. Henwood and Mr. Phillips. Mr. Turner and Mr. Douglas were, as usual, the only exhibitors of collections of fifty plants, and the last-named secured the leading position.

Mr. Turner, with a dozen of his own seedlings, took the premier prize in the leading class for Alpines, showing such fine sorts as Mrs. Llewellyn, Eclipse, Wrestler, Sceptre, Symmetry, Mango, McGeorge, Garnet, Edith, Sir H. Darvill, Lady H. Grosvenor, Faust and Sunrise; Mr. Douglas was second. The next class, which was for half-a-dozen, brought out a better competition, and the awards went as follows:—First, Mr. Turner; second, Mr. Douglas; third, Mr. Spurling; fourth, Messrs. Paul & Son; fifth, Mr. R. Dean, Ealing. The highest award for four went to S. Barlow, Esq.; and the other prizes to Mr. Pohlman and Mr. Henwood. In the class for gold centres, Mr. Turner secured the first twenty-one prizes with Sunrise and Lord H. Grosvenor; Mr. F. Pohlman the third with Emir; and Mr. Douglas the fourth with Love Bird. With white centres, Mr. Turner's Lady H. Crewe was placed first; Mr. Douglas's Queen Victoria and Miss Mollie, second and third.

Mr. Barlow was invincible with fancy Auriculas, and, amongst others, staged a curiosity in a green-edged Alpine; the body colour being black, the edge narrow and green, and the centre and tube yellow. With single Primroses and Polyanthus Mr. R. Dean secured the highest honours, and with gold-laced Polyanthus Mr. S. Barlow held his own well in both classes.

QUESTIONS & ANSWERS.

BIRD'S EYE PRIMROSE.—E. B.: *Primula farinosa* is the botanical name of the above; and as it is a native of the northern parts of this country, though not particularly common, it may be regarded as hardy. It seldom lasts many years, however, in cultivation, but is best treated as a biennial, flowering the second year from seed. The cause of its dying is probably due to liberal treatment causing a rapid and succulent growth, which is liable to succumb and damp off during the unstable and changeable weather we experience in winter.

BEGONIAS AND GLOXINIAS.—*Journeyman*: If sown rather early, and brought on in a moist warm house till they attain some size, most or all of the seedlings will flower the first year. The flowers will neither be so numerous nor large as in full-sized plants, but they will be sufficiently developed to give a fair idea of their character, so that they may be discarded or retained for future use at the will or pleasure of the grower.

GRAFTING CAMELLIAS.—In reply to E. G., p. 525, these may be grafted at various times; but just before they commence to grow in spring is a very good time, on account of the increased activity of the sap. Camellias, like other evergreen plants, are never at rest even in the popular sense of the term, so that grafting may be done at various times. Stocks may be collected now, however, and grafted with desirable varieties; the former should be clean and free-growing pieces, and the grafts inserted on their sides as near the ground as possible, so that the young plants may be branched to the base. Retain the leaves on the stocks (previously shortened) till the grafts have taken, but do not allow any buds to push, except that of the graft. As soon as the latter has fairly commenced to grow, giving evidence of having taken, cut the stock clean away above the graft.

BROMUS BRIZIFORMIS.—A. F. G.: Retain the plants of this grass which failed to flower last year, they will certainly flower this year and prove very handsome if allowed to develop freely in a well-exposed position. It is naturally a biennial, producing only dense tufts of leaves the first season after sowing. The flower-heads are comparable to those of *Briza maxima*, but are scarcely so thick or massive.

GRAFTING CLEMATIS.—*W. J. Drawer*: The Cucumber house, with the propagating frame, is the best house you mention in which to place the pots after the roots they contain have been grafted. It is most convenient to work or graft the roots before potting, as the graft should be below the surface of the soil. Take for grafts young huds just started into growth from the desired varieties, and after carefully adjusting them on the roots and potting the latter, place them in the frame, which should be kept close till they commence to grow away vigorously, showing that they have taken. Gradually harden to cooler temperatures before putting them finally in a greenhouse, cold frame, or out of doors.

CARPET BED.—*One in a Fix*: If you plant the bed as follows, the effect should be as good as you can get with the materials:—1, Golden Feather Pyrethrum; 2, Sedum glaucum; 3, Sedum Lydium; 4, Oxalis corniculata ruhra; 5, Mesembryanthemum cordifolium variegatum; 6, Antennaria tomentosa. Two lines would look very well in the small bed if planted with dwarf subjects.

HARICOT BEANS.—*Omicron*: Yes, certainly. The seeds ripen early. You can sow at once.

NAMES OF PLANTS.—*Reginald Young*: 1, We have seen this in gardens under the name of *L. candida*, and it appears to be a pale green sepaloid form of *L. Lawrenceana*; 2, *Cattleya Skinneri*; 3, *C. S. alba*, not quite so clear as the best varieties, but good; 4, *Masdevallia Harryana*, a very bright variety. The box containing the flowers had collapsed and all the blooms were much smashed and almost unrecognisable. *W. J. Drawer*: *Koempferi aureo-maculata*, generally known in gardens as *Farfugium grande*.

COMMUNICATIONS RECEIVED.—*J. C.*—*W. K.*—*O.* and *M.*—*L. J.*—*W. D.*—*J. J. U.*—*W. D.*—*E. O. W.*—*D. T.*

LONDON SEED TRADE.

April 27th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a brisk demand for Clover and Grass seeds. Foreign Red Clover has advanced 2s. per cwt., owing to short supplies. Alsike White and Trefoil are offering at very low prices. Rye Grasses firm. No change in value of Bird Seeds.

COVENT GARDEN MARKET.

April 28th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, ½ sieve	2	0	5	Pine-apples, St.	
New Grapes .. per lb.	6	0	8	Michaels, each ..	1 6 6 0
Grapes .. per lb.	3	0	8	Pine-apples, Eng., lb.	1 0 1 6
Kent Cobbs .. 100 lbs.	60	0		Strawberries, per lb.	4 0 8 0
Peaches .. per dozen	20	0	60		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Globe, doz.	2	0	3	Horse Radish, hundle	3 0 5 0
Beans, French, per lb.	2	0	2	Lettuces .. per dozen	1 6
Beet, per dozen	2	0	3	Mushrooms, p. basket	1 0 2 0
Brussel Sprouts, per lb.	0	3		Onions, per bushel ..	4 0 5 0
Cabbages .. per doz.	2	0	2	Parsley, per bunch ..	0 6
Carrots, per bunch ..	0	6		Radishes, per dozen ..	1 6
Cauliflowers, English,				Sea Kale .. per basket	1 6 2 6
per dozen	3	0	5	Small salading, punnet	0 4
Celery, per hundle ..	2	0	2	Spinach, per strike ..	2 0
Cucumbers, each ..	0	6	1	Tomatos, per lb.	2 0 3 6
Endive, French, doz.	2	6	3	Turnips .. per bun.	0 6
Herbs, per bunch	0	2	0		

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones .. 12 bun.	2	0	4	Marguerites, 12 bun.	3 0 6 0
Arum Lilies, 12 blms.	3	0	5	Mignonette, 12 bun.	4 0 6 0
Azalea, 12 sprays ..	0	6	1	Parma Violets (French),	
Bouvardias, per bun.	0	6	1	per bunch	2 0 3 6
Camellias .. 12 blooms	1	0	3	Pelargoniums, 12 spys.	0 6 0 9
Carnations, 12 blooms	1	0	3	Pelargoniums, scarlet,	
Cut Tulips, 12 blooms	0	4	0	12 sprays ..	0 4 0 9
Czar Violets (French),				Primroses, 12 bunches	0 6 1 0
per bunch ..	0	9		Primula, double, bun.	0 9 1 6
Daffodils, double, 12 bun.	2	0	4	— single .. 12 bun.	
— single .. 12 bunches	1	0	2	Roses (coloured)	3 0 6 0
Epiphyllum, 12 blms.	0	6	1	Roses, Tea .. per dozen	1 0 2 0
Eucharis, per dozen ..	3	0	6	Roses, red (French),	
Gardenias, 12 blooms.	1	6	3	per doz.	1 6 2 0
Heliotropes, 12 sprays	0	6	1	— Saffrano (French),	
Hyacinths, in boxes,				per doz.	1 0 2 0
from Holland .. box	1	6	4	Spiraea .. 12 bunches	0 6 0 9
Lapageria, red, 12 blms.				Tropaeolums	1 0 2 0
Lapageria, white, 12,				Tuberose, per dozen.	1 0
Lilies of the Valley				Violets .. 12 bunches	0 4 0 9
12 sprays ..	0	6	1	Wallflowers .. 12 bun.	2 0 6 0
Lilium longiflorum,				White Jasmine, bun.	0 6 0 9
12 blooms ..	4	0	6	Xmas. Roses, 12 blooms	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi, doz.	6	0	18	Fuchsia .. per dozen	9 0 12 0
Arum Lilies, per doz.	9	0	12	Genesta .. per dozen	6 0 9 0
Azalea .. per dozen	24	0	42	Hydrangea .. per doz.	9 0 12 0
Cineraria .. per dozen	6	0	9	Lily of the Valley,	
Cyclameu .. per dozen	10	0	18	12 pots ..	12 0 18 0
Cyperus, per dozen ..	4	0	12	Lilium longiflorum,	
Daffodils .. 12 pots	8	0	10	per doz. 24 ..	0 36 0
Dracena term., doz.	30	0	60	Marguerites, per doz.	6 0 9 0
— viridis, per dozen	1	0	24	Mignonette .. per doz.	6 0 9 0
Epiphyllum, per doz.				Palms in variety, each	2 6 21 0
Erica, various .. doz.	18	0	42	Pelargoniums .. doz.	9 0 18 0
Evergreens, in var.,				Pelargoniums, scarlet,	
per dozen	6	0	24	per dozen	4 0 8 0
Fairy Roses .. per doz.	10	0	12	Rhodanthe .. per doz.	6 0 9 0
Ferns, in var., do ..	4	0	18	Roses (various) .. doz.	18 0 30 0
Ficus elastica, each ..	1	6	7	Solanums .. per doz.	9 0 12 0
Foliage Plants, vari-				Spiraea .. per dozen	12 0 18 0
ous, each	2	0	16	Thilips .. per doz. pots	

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CARNATIONS, old crimson Clove	3	0	20 0
VIOLAS, best hedding sorts	1	6	10 0
PANSIES, a choice collection	2	0	15 0
SWEET WILLIAMS, very choice	1	0	6 0
PHLOXES, in good variety	2	0	15 0
PYRETHRUMS, double-flowered, splendid plants	3s. to	6	0
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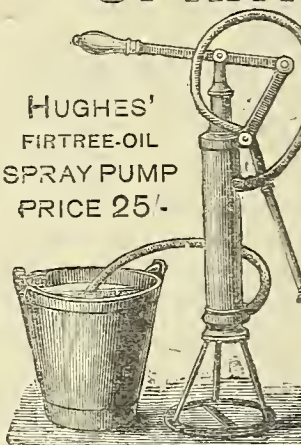
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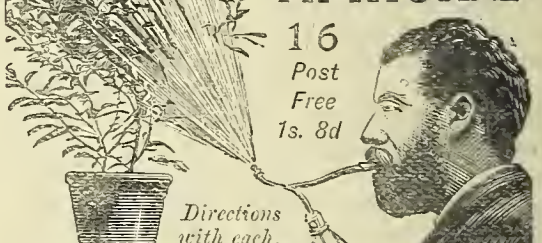
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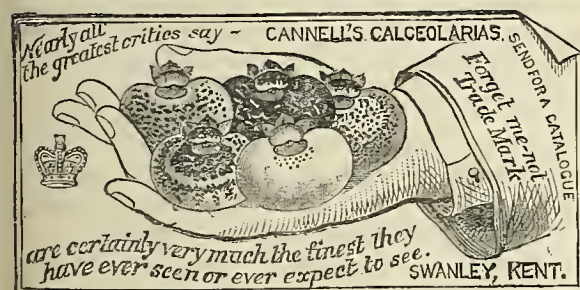
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Establishment for New and Rare Plants, 536, King's Road,
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1887 DAHLIAS 1887

Present season's Catalogue is now ready, and may be
had, gratuitously, upon application. It is made up as
follows:—

CACTUS OR DECORATIVE DAHLIAS.

To this section I pay a very considerable amount of
attention, and I am in the present season's Catalogue
offering some two dozen really first-class and showy
varieties, perfectly distinct from the Shows and Fancies,
and all more or less following the style of the well-
known old Cactus variety, Juarez. The new varieties
of the present season are specially deserving notice.

POMPONES OR BOUQUET DAHLIAS.

My collection of these is one of the most complete in
the trade, consisting of about three dozen varieties of
really first-class distinct sorts; all invaluable for
bedding and for cutting.

SHOW AND FANCY DAHLIAS.

My collection of these includes all the well-known
old varieties, as well as the best of the new ones.

SINGLE DAHLIAS.

The collection is this year considerably improved by
the addition of a dozen exceptionally choice new sorts,
which are offered in this year's Catalogue for the first
time. In addition to these, my Catalogue comprises
all the choicest of the varieties of the previous year's
introductions.

THOS. S. WARE,
HALE FARM NURSERIES,
TOTTENHAM, LONDON.

Shropshire Horticultural Society.

SUMMER SHOW (open to all) August 17th
and 18th. Twenty Plants, £25, £20, £15. Collection of
Fruit, £10, £6, £3. For Grapes, £44. Collection of Vegetables,
eight sorts, £5, £3, £2, £1. Schedules and full particulars from
MESSRS. ADNITT & NAUNTON, Shrewsbury, Hon. Secs

Second National Co-Operative Flower Show,
SOUTH KENSINGTON, August 23rd, 1887.

£60 in **PRIZES** for Flowers, Fruit, and
Vegetables. Silver and Bronze Medals. Certifi-
cates of Merit. Numerous Special Prizes. Schedules of Prizes
on application to **WILLIAM BROOMHALL**,
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ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m.,
in the Lindley Library; Fruit and Floral, at 11 a.m., and
Narcissus, at 12 noon, in the Conservatory, on **TUESDAY** next,
MAY 10th.

Admission free to Fellows at 12 o'clock; and to the Public at
1 o'clock, upon payment of One Shilling.

N.B.—Entrances, N.E. Orchard House, Exhibition Road; and
Exhibitors' Entrance, east side of Royal Albert Hall.

**NATIONAL ROSE SOCIETY OF
ENGLAND'S**

GRAND EXHIBITION will be held in the **WAVERLEY MARKET,**
EDINBURGH, on **WEDNESDAY, July 13th, 1887,** in connection
with the **SUMMER SHOW** of the **ROYAL CALEDONIAN HOR-**
TICULTURAL SOCIETY.

For Schedules, &c., apply to **SECRETARY, Royal Caledonian**
Horticultural Society, 18, Waverley Market, Edinburgh.

**CRYSTAL PALACE.—GREAT FLOWER
SHOW OF SEASON, Saturday, May 21st.** Schedules
and entry forms on application to **W. G. HEAD**, Garden Superin-
tendent.

Next Week's Engagements.

TUESDAY, May 10th.—Royal Horticultural Society Fruit and
Floral Committees at 11 a.m. Sale of Stove and Green-
house Plants at Wolsey Grange, Esher, by Protheroe and
Morris.

WEDNESDAY, May 11th.—Sale of Florists' Flowers, Cape Bulbs
and Imported Orchids at Stevens' Rooms. Sale of Plants,
Bulbs, &c. at Protheroe and Morris's Rooms.

THURSDAY, May 12th.—Sale of Imported Orchids at Stevens's
Rooms. Sale of Specimen Exhibition Plants at The
Nurseries, Pewsey, Wilts, by Protheroe & Morris.

FRIDAY, May 13th.—Sale of the second portion of The New
Plant & Bulb Co.'s Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 7, 1887.

THE VALUE OF ORCHIDS.—The leading horti-
cultural event of the week has been the sale of
duplicate specimens of Orchids, which took
place at Downside, Leatherhead, on Tuesday
and Wednesday, and which has been looked
forward to with a considerable amount of
interest by many owners of valuable collec-
tions. We are glad to be able to say that the
results of the sale are of a very assuring
character to Orchid growers, for the satisfac-
tory—and, in some cases, remarkably high—
prices paid conclusively prove that good Orchids
are not declining in value. A quarter of a
century ago the really good collections of
Orchids could have been counted by tens,
where there are now hundreds; and while at
that time £25 was thought an extravagant
price, it is by no means uncommon now for
three figures to be run up under the hammer.
It is marvellous the number of Orchids that

are now grown, and on all accounts it is eminently satisfactory to know that the numbers are increasing, and that values are being maintained. A perusal of the sale catalogue shows that all good Orchids—and especially the rare and really ornamental ones—still command the highest or best prices that they have ever done.

The run on *Cypripediums* and specially select *Cattleyas* is remarkable; and with regard to the former, it is no exaggeration to state that the demand, especially for hybrids, is greater than the supply. The highest price obtained for any single plant was given for *Cypripedium Stonei platytænium*—a specimen with four growths, and coming originally from Mr. John Day's collection at Tottenham, where it flowered nearly twenty years ago as a chance plant amongst an importation by Messrs. Hugh Low & Co. This realised 310 guineas, an extraordinary price for so small a plant. The difference between this variety and the type is shown by our illustration, Vol. ii., p. 761. A hybrid between *C. Stonei* and *C. superbiens*—viz., *C. Morganæ*—realised the handsome sum of 170 guineas. It was a splendid specimen, however, with eleven growths, and just pushing up for bloom. A noble specimen of *Cypripedium grande*—a hybrid between *C. Roezii* and *C. caudatum*—realised 65 guineas. This was exceeded by *C. tessellatum porphyreum*, a selected and the best variety from hybrid seedlings between *C. barbatum* and *C. concolor*. Forty-two guineas were obtained for a continental unnamed seedling, a hybrid between *C. javanicum* and *C. superbiens*; while the so-called white *caudatum*, named *C. Wallisii*, fetched 30 guineas. Other hybrids realised prices ranging from 20 to 42 guineas, while some of the more common ones were in great demand at lower but still very satisfactory prices. There can be little doubt that the great value attached to these *Cypripediums* is attributable to their scarcity, their hybrid origin, slow increase, their extremely ornamental character, free-flowering habit, and the impossibility of flooding the market with them so as to bring down their value.

Next to *C. Stonei platytænium*, the highest price realised at the sale for a single specimen was 190 guineas, given for *Cattleya Trianae Lceana*, a fine specimen with thirteen pseudobulbs, and at present not to be found in any other collection. Another specimen, for which 100 guineas were bid, was not sold. Two plants of *C. T. Osmanii* fetched 60 and 100 guineas respectively; while *C. T. Dodgsoni* sold for 75 guineas, and *C. T. Dayana* 50 guineas. Two plants of *C. Amesiana* realised 65 and 90 guineas, while a large plant of *C. exoniensis*, with seventeen pseudobulbs, and the best-coloured form of that name, was run up to 100 guineas. *C. Skinneri oculata* sold for the respectable figure of 70 guineas; and 65 guineas were bid for an enormous piece of the typical *C. Skinneri*, grown in a pot, and having 231 pseudobulbs with 50 leading shoots, but it remained unsold.

The third highest price obtained at the sale was 180 guineas for *Lælia bella*, a hybrid between *Lælia purpurata* and the autumn-flowering form of *Cattleya labiata*. This was a small plant bearing only six pseudobulbs. A handsome specimen of *Lælia grandis*, supposed to be the finest in the country, was sold for 90 guineas; eighty-six pseudobulbs formed a massive-looking piece. A very fine dark-coloured variety of *Dendrobium Phalænopsis*, said to be very scarce in the country (while the ordinary form is by no means common), realised the respectable sum of 50 guineas, although it was but a small plant of four pseudobulbs, with a single leading shoot.

Not the least important and striking feature of the sale was the high figure run up for several isolated members of genera that are

pretty frequent in gardens, and do not ordinarily command a high price. One of these, *Saccolabium Harrisonianum*, usually considered as a white form of *S. giganteum*, was knocked down at 155 guineas. It recently flowered in the Downside collection, and has pure white flowers. It is grown in a large basket, and consists of eighteen growths, bearing 119 leaves. Its appearance when in flower may be better imagined than described. Another white-flowered *Saccolabium*—viz., *S. Heathii*—realised 150 guineas. It is a white variety of *S. Blumei majus*, a variable plant well known in gardens in the spotted forms; but only a solitary one of the white variety has ever been found in its native wilds, which makes it all the more valuable in a collection.

MR. B. S. WILLIAMS' annual Orchid exhibition will be opened at the Victoria and Paradise Nurseries, Upper Holloway, on Wednesday next.

THE display of DUTCH BULBS IN HYDE PARK is now at its best, and very good for the season.

WE understand that the promised donations and subscriptions to the GARDENERS' ORPHAN FUND now amounts to over £500.

MR. E. TROLLOPE, foreman to Mr. Bardney, at Norris Green, West Derby, Liverpool, has been engaged to succeed Mr. Sanders as gardener at the Firs, Lee, Kent.

THE SOUTHWELL HORTICULTURAL AND COTTAGE GARDEN SOCIETY'S Show will be held on July 2nd.

THE annual exhibition of the OXFORD ROSE SOCIETY will take place in the gardens of Worcester College, Oxford, on Tuesday, July 12th.

WE are informed that Mr. VICCARS COLLYER is now in Palestine, on a visit to Mr. Lawrence Oliphant, with a view to opening up commercial relations with that country in connection with Horticulture, &c.

THE annual exhibition of the TAUNTON DEANE HORTICULTURAL SOCIETY takes place on August 11th, and, as usual, in Vivary Park. Very handsome prizes are offered for twelve stove and greenhouse plants.

MR. R. DEAN, of Ealing, read a paper on THE FLORISTS' AURICULA at the Bedford Park Natural History and Gardening Society, on Thursday last (28th April). He treated it in a popular and interesting way, giving details of its history from the earliest records of it in this country down to the present day. The paper was illustrated by a large group of plants, consisting of exhibition varieties proper, Alpines, as well as nondescript forms, together with varieties of *P. Sieboldi* and *P. ciliata purpurea*.

The Scotsman for April the 29th states that "it is announced that a new and splendid variety of *Asparagus* has been discovered on the Steppes of Akhal-Tekiz."

MR. BARLAS, lately gardener at Castle Hill, Egham, has been engaged as gardener to — Mitchell, Esq., Undermount, Bonchurch, Isle of Wight.

THE summer show of the CROYDON HORTICULTURAL SOCIETY will be held on June 29th, in the grounds of Brickwood House, Addiscombe Road; and the Chrysanthemum show on November 9th.

MR. A. GRICE, who has for a number of years acted as manager of the seed business of Mr. T. B. Thomson, High Street, Birmingham, is leaving there for Liverpool, having engaged himself to the firm of Messrs. Blake and Mackenzie, School Lane, to act as traveller, and also to take charge of their catalogue department. Mr. A. Grice is widely known and greatly respected among a large circle of horticulturists; and with the gardening fraternity he has always been highly and deservedly popular. He will leave Birmingham amid many regrets, and the best wishes of a host of friends.

WE understand that in connection with the special appeal now being made in aid of the funds of the GARDENERS' ROYAL BENEVOLENT INSTITUTION, the secretary has received promises of the following amounts from the noblemen and gentlemen named, conditional upon the amount required to meet the special expenditure it is proposed to incur being raised:—The Duke of Westminster, K.G., £50; The Rt. Hon. Lord Revelstoke, 25 guineas; Baron Schroder, 30 guineas; James Hughes, Esq., 20 guineas; James McIntosh, Esq., 30 guineas; Harry J. Veitch, Esq.,

30 guineas; N. N. Sherwood, Esq., 20 guineas; Mr. W. Gibbs, Bristol, 50s.; G. Andrews, Esq., Sydney, 5 guineas; A Friend, 10 guineas; E. Kemp, Esq., Birkenhead, 1 guinea; Mr. R. Jordan, 1 guinea; and Mr. W. Swanborough, 10s.

EXHIBITION VERBENAS AT SWANLEY.

LOOKING over some notes made in and near London, last autumn, I came upon the above, and I should like to ask why are Verbenas not so largely grown as formerly? There are many reasons why they should be grown much more so—one of which is that there are magnificent varieties easily and cheaply to be had now that would have filled our ancestors with envy. No doubt, in some measure, Cactus and Single Dahlias, Tuberous Begonias, Orchids, &c., indoors and out, have been elbowing them aside, but I am persuaded that if those who want brilliant flowers for cutting and conservatory decoration—and many of the varieties are specially suited for the beds or borders of the flower garden also—saw the large 100 ft. Verbena house at Mr. Cannell's at Swanley, containing between eighty and ninety distinct varieties, and some thousand plants during the three months blooming period, they would never be without some of its contents.

Now as this is an excellent time to procure plants to make or add to a collection, I am tempted to draw your readers' attention to this old favourite, which I am sorry to say I rarely see referred to in the gardening journals (and I get almost all published). Mr. Cannell's firm has done much for the Verbena, and will evidently do more, as in walking through the house I noticed many novelties, including semi-doubles, fertilised and hybridised with the view of securing some distinctive desirable feature; but at present it would probably be of more practical interest to briefly say something of the most suitable soil to grow them in, the method of treatment, and the varieties that caught my eye as either new or distinct.

SOIL.—Nothing better than a porous yellow loam with some fibre running through; old grass sods, rotten, yield this, but good results are often attained from ordinary soil, with some rotten manure and sand, broken and mixed up together similar to that made up for Chrysanthemums.

TREATMENT.—Seedlings cannot be depended upon to give anything like the magnificent trusses and distinct varieties of named sorts. Procure healthy strong plants now, and pot according to size, and put in a close pit or frame until root-action commences; they cannot then have too much sunlight and air. Chills from very cold or hard water, or draughts of a frosty April or May morning conduce to, if not directly produce, their great enemy—mildew. Sulphur dusted under and over the leaves will banish this if it appears. As I mentioned Chrysanthemums above, I may here say, like that fine flower, Verbenas cannot be too well fed.

VARIETIES.—I only had time to note a dozen out of seven times that number, but purchasers can readily see the *Floral Guide*:—Lord Brooke, scarlet-crimson, white eye; Lilacina, curious, dark lilac-mauve; Alba magnifica; Acquisition, large rosy trusses; Fairy Queen, white, with yellow and pink circle; Rosy Morn; Blue Boy, distinct; Madame Vanaur; Imperatrice, striped; Uraïne; Regalia and purpurea—all good and distinct. —W. J. Murphy, Clonmel.

MR. BULL'S ORCHID SHOW.

WHILE Orchid connoisseurs were assembling at Downside, Leatherhead, on Tuesday last, to assist at the dispersion of what may be called an overflow collection of valuable species and varieties from Mr. William Lee's famous collection, another class of admirers were wending their way Chelsea-wards, the magnetic attraction being Mr. William Bull's magnificent display of Orchids in flower. This is now an established item in the calendar of annual fashionable events, and is looked forward to by many with as much interest as the opening of the Royal Academy or Grosvenor Gallery. Unfortunately the weather on the opening day was of a most unpropitious character, and kept many away, but happily had no effect on the exhibition itself. Ample provision had been made beforehand for securing the success of that, as a display of Orchidic wealth and beauty.

The show house, as before, is filled to repletion with

the choicest species and varieties now in flower, and the arrangement of the plants, is all that the most fastidious could desire, every specimen being so placed as to harmoniously contrast with its surroundings, and the result is a triumph of the floral decorator's art. *Odontoglossums* and *Cattleyas* contribute the greatest number of specimens, among the former being some notably fine forms of *Mendelii*, the variable *Lawrenceana*, including a pretty rose-coloured form, the new *Schrodereæ*, also a most variable plant, and the showy *Skinneri*, &c. *Odontoglossum crispum* alone furnishes some 200 spikes of flowers, and singularly fine are many of the forms of this most charming plant.

Other notable examples of this genus are to be found in *O. Edwardii*, *O. Ruckerianum*, *O. Roezlii*, *O. Pescatorei formosum*, *O. amabilis*, and *O. decorum*, &c. *Oneidium Marshallianum* furnishes large spikes of its showy yellow blossoms. *O. papilio*, the always attractive Butterfly Orchid, and the diminutive *O. nigratum*, also lend interest to the display. *Cypripediums*, upon which there seems to be quite a run just now, are abundantly represented, while the richly-coloured *Masdevallias* provide tints and shades not to be found in any other genus. Those enumerated only comprise the bulk of the plants on view, but it must be said that the remainder includes a considerable number of subjects of an interesting and beautiful character. Considering the lateness of the season, and that many notable species are not yet in flower, which in other seasons have been available at this period, the display is in every way a most remarkable one, and promises to remain so for the next three months.

GOLDEN PIPPIN APPLE.

THE late Mr. T. A. Knight once stated that no variety of the Apple could retain its qualities for more than 200 years, and that the Golden Pippin, as a variety, would shortly become extinct. This fear has been entertained by others, but the Apple yet exists, and if anyone will refer to the list of sixty dessert Apples selected the greatest number of times from the whole of Great Britain, and published in the report of the Apple Congress, it will be found that the Golden Pippin stands twenty-second on the list. The Golden Pippin must be a very old Apple, for it is mentioned by Austin, Evelyn, Worledge, Ray, and other early writers. Its origin, too, is enveloped in uncertainty; but Dr. Hogg in his *Fruit Manual* states that "all writers are agreed in calling it an English variety, and some state that it was raised at Parham Park, near Arundel, in Sussex." I have been much interested in a passage relating to Apple culture which appears in Mr. Leo H. Grindon's book on *Fruits and Fruit Culture*. He remarks, "much depends, as regards success in Apple culture, upon the judicious care exercised in the original planting of the trees; remembering at the outset that Apples like a deep sub-soil, and that to hope for good results from badly-drained land is out of the question. Apple trees have no love for the banks of streams, nor for any kind of low-lying situation, since it is here that fogs and spring frosts are likely to be most harmful. A south-west aspect, with a tendency to due south, is their delight as to point of the compass. If the situation be somewhat exposed, and anything in the nature of an orchard be intended, the trees should be planted rather near together, say about 18 ft. apart. In sheltered positions, and where the soil is kindly, the distance should be about 30 ft., the one from the other. In either case the lines of trees should be planted in such a way that every four trees shall make a square, but after the manner called by mathematicians 'quincunx,' familiar in all kinds of spotted muslin and other web patterns. The individual trees have then more room, although the reciprocal distances are no greater than when disposed rectangularly. A very good plan supplementary to the Apple tree planting is to insert a Plum tree between every couple of Apples, the Plums beginning to bear sooner, and thus furnishing a revenue while the orchard itself, because of its growth, is not yet productive. But do not plant too many kinds. A nicely graduated succession of sorts is better than a multitudinous variety, to say nothing of the uncertainty of a great number of different sorts doing well in any one specific locality. No collection, even of a moderate extent, can be depended upon for a certain crop every season in a climate like that of England, where so many different perils are identified with the period called spring. Plentiful as Apple trees are

already, there is room in England for an indefinite increase of the number. Every small farm ought to have its orchard, and its plot of bush fruits as well, since, excepting during haytime, the owner generally has leisure enough to attend to all that is wanted, and the return helps in no slight measure to pay the rent." —R. D.

GRIFFINIA HYACINTHINA.

ABOUT seven or eight species of *Griffinia* are known to science, all natives of Brazil. They are near relatives of *Crinum* and *Amaryllis*, bearing white, purple, lilac, or blue flowers, but most commonly two of these colours are present in one flower. The decided blue of this species is of rare occurrence in the order; and what is even more interesting botanically, the leaves in most of the species have a broad lamina suddenly narrowed into a petiole, and furnished with a close latticed venation—a very unusual occurrence among monocotyledons. The flowers have a very short tube, with a widely-spreading limb of six recurved pointed segments, which are white in the lower half and bright blue in the upper.

The irregularity of the flower, and the comparative narrowness of its segments, are, doubtless, a great drawback in the eyes of the florist, but could probably be improved by intercrossing with allied species having broader segments. Five of the latter are directed upwards or horizontally, leaving the sixth in an



GRIFFINIA BLUMENAVIA.

isolated position, to uphold the beauty of that part of the flower as best it may. The aim of the florist in the improvement of the genus *Hippeastrum*—popularly known as *Amaryllis*—is to enlarge the lower segment of the inner three, and to make the flower as round in outline and as regular as possible. In this case the task most probably would be a difficult one, owing to an unusual amount of irregularity.

Independently of this, however, the flowers as they exist naturally are very attractive, and worthy the attention of cultivators, especially of lovers of bulbous plants. Spring is the natural flowering season of all, including this species, unless they have been unduly forced; and that under notice may be seen flowering at the present time in one of the propagating pits in the gardens of the Royal Horticultural Society, Chiswick. The curiously-netted foliage accompanies the flowers, so that the plant does not possess the objectionable feature of flowering from leafless bulbs—a fault attributable to many whose handsome and conspicuous flowers would otherwise command the respect of many cultivators.

The treatment suitable to this bulb is similar to that of allied genera. A good fibrous loam, coarsely broken up by the hand and not sifted, should be mixed with a fair quantity of well-rotted cow-manure, and the whole made porous but not too light by an admixture of sharp river sand. The base of the bulb only should be inserted in this, and if it is furnished with roots, as it ought to be, the bulb may rest on the surface of the soil. Although a native of Brazil, cool stove treat-

ment will meet its requirements; and when the season's growth has been completed, water must be gradually withheld for a time to induce ripening, or, in other words, the storage of reserve material in the bulbs to furnish the flower-scapes of next year with necessary support.

We have heard of no instance of this plant being attacked by the dreaded *Eucharis mite*, but believe it liable to that danger just as much as a great many, if not most, of the members of this family. Cultivators should, therefore, be on the alert against it coming in contact with any other bulbs already affected.

The figure accompanying this, illustrates *Griffinia Blumenavia*, a rather smaller species with white flowers, beautifully flushed or flamed with pale rose. These are produced, six or eight in an umbel, on scapes that seldom or never exceed 8 ins. in height, but may be shorter. The oblong leaves are much narrower than in *G. hyacinthina* and tapered to a slender petiole. It generally flowers late in winter and is very desirable.

LACHENALIA TRICOLOR.

NOWHERE may this be seen grown in better form than the large group of plants exhibited in the greenhouse at Kew. Notwithstanding what some connoisseurs say to the contrary, the grouping of masses of this fine bulbous plant is productive of a fine effect. This applies not only to *L. tricolor*, but such as *L. Nelsoni*, *L. pendula*, *L. aurea*, and others which may be included in the same group, either by themselves or mixed with one another. The plants forming the group in question are grown in 48-sized pots, which are closely filled with bulbs, most or all of which have flowered strongly. A novel effect is produced by a number of hanging baskets in the same house filled with *Lachenalia tricolor*. Not only is the top occupied with bulbs, but the sides also, and on the sides the leaves hang down at considerable length, as if they were naturally pendulous. The flower scapes, on the other hand, project a short way at right angles to the basket, and then rise upwards.

Although the idea of growing the plants in this fashion is not original, the practice is not so extensively carried out as its suitability for such a purpose would warrant. The freedom with which this bulbous subject responds to treatment as a basket plant—so unlike its natural mode of growing—is rather remarkable; and those who have never tried the experiment, or seen it done, would naturally discredit the idea of cultivating it in that fashion. Ripening of the bulbs in this, as in all other deciduous subjects, is a matter of the greatest importance, and one most conducive to the successful flowering of the plant the following season. When they have done flowering they must not be thrown under the stages or any other out-of-the-way corner, to exist as best they may till potting time again comes round. This practice is all very well for *Hyacinths*, *Tulips*, and similar Dutch bulbs, which one can always buy cheap, and then discard or plant out in the borders when a convenient time can be found for so doing. Instead of this treatment, the pots or baskets containing the bulbs should be placed in a cool frame, and watered regularly while they continue to show signs of not having completed their growth. When they arrive at this stage, withhold water gradually till at last the leaves are perfectly withered down, and may remain quiet till potted up in autumn.

There can be little doubt that cool treatment while making their growth in winter is most essential to their well-being, and most conducive to success. I have seen several species kept in a warm pit with very little ventilation, and year after year the whole of them were more or less pronounced failures, without any apparent reason. Other bulbs grown in a house close by, because belonging to a different species, and which grew one might almost say luxuriantly, were considered to be of a more robust and vigorous habit, and consequently more easily cultivated.

The real secret of success in this particular instance was placing the plants near the glass in a light, airy, well-ventilated house, and allowing them to come on gradually without forcing. Attend to them regularly in the matter of watering while making their growth, and see that the drainage is faultless, as they dislike stagnant moisture, like all other Cape bulbs. Under the cool airy system of ventilation, the leaves grow away slowly but vigorously, with that glossy green appearance and sub-fleshy character common to members of the genus when well grown. Shallow

frames, heated sufficiently to exclude frost, answer their requirements admirably, and close proximity to the glass will also tell in their favour.—B. B.

DEUTZIA CANDIDISSIMA PLENA.

For forcing into flower during April, or any time about Easter, this fine variety stands well to the front. The double flowers are of the most delicate pearly white, and are produced from every eye on the last year's wood. It is not often grown as a forcing plant, being oftener seen in the mixed shrubbery. To bring it to perfection for forcing purposes, it should be kept in pots all through the season. If medium-sized plants are potted up now (or if potted up earlier would have been better), all the weak wood should be cut clean away and the stronger shoots shortened back, leaving about half-a-dozen eyes on each; allow them to stand for a short time in a cool house till the root-action commences (which will generally be in about a fortnight). They should then be placed in a good light house having an intermediate temperature, where they can be well syringed, which will soon cause them to break vigorously. The growth thus made, coming from the strong shoots, will necessarily be strong; these shoots will soon grow to the length of 1 yd. or so, when they will have finished their growth.

It is as well to place them in a cooler structure for a fortnight before finally taking them outside, when they should be plunged in a bed of ashes, and fully exposed to all the sunshine they can get. In this bed they can remain until wanted for introduction into heat again for the purpose of hastening their flowering period. This variety will not force so early as *D. gracilis*, and to attempt it will only result in causing the eyes to go blind instead of expanding. The plants should be treated liberally at all times, as far as water and stimulants are concerned, and never be allowed to get dry.

After they have become established in pots, it will be advisable to keep them in pots permanently; and every season after the plant has bloomed it must be cut back, and as soon as it shows signs of fresh growth should be turned out of the pot, the ball of soil reduced, potted again into the same size, and grown on as previously advised. Strong compost is best for this *Deutzia*. Good loam and rotten manure, well incorporated together, with some sharp river-sand, suits it as well as anything that can be used.

I have found it to be one of the most useful plants we possess, and the flowers are always in demand for wreaths or bouquets, being especially esteemed by ladies for wearing.—W. G.

CLIVEA v. HIMANTOPHYLLUM.

NOTWITHSTANDING the cry amongst modern gardeners and others for simple botanical and English names, they still stick to the old ones (no matter how difficult or inconsistent they may be) with a dogged pertinacity that is truly remarkable. Not less striking are the endless inquiries as to whether the name should be spelled *Imatophyllum*, *Imantophyllum* or *Himantophyllum*. Of these three, if priority has the greatest claims upon our consideration, then *Imantophyllum*, the name given to it in the *Botanical Magazine*, t. 2856, ought to stand. There are those, moreover, who argue that because a name has once been given, it should not on any account be altered, whatever blunders may have been originally committed with regard to its orthography or derivation.

Imatophyllum is now considered by the leading authorities to be erroneous, and *Imantophyllum* is advanced instead, because the word has been derived from *imas*, *imantos*, a thong, and *phyllon*, a leaf, referring to the leathery thick strap-shaped leaves, characteristic of all the species. Still another version of this is that the Greek derivation of the first part of the word was aspirated, and we should accordingly pronounce it *Himantophyllum*, as Sprengel wrote it.

All this argument is on the assumption that *Clivea* and *Himantophyllum* are to be retained as distinct genera—a position which is untenable according to experiments, recent information, and a close study of the structure of the different species in question. There is still an inconsistency to be surmounted, inasmuch as gardeners do not adhere to their own tenets. If pendulous tubular flowers are held to be the distinction

between *Clivea* and *Himantophyllum*, then why is *C. Gardeni* called *H. Gardeni* in some gardens and books?

If we are to reduce all the species to *Clivea*, as should be done, there still remain three different ways of spelling the generic name. *C. nobilis*, the generic type, was introduced in 1823, and was first named by Lindley after a Duchess of Northumberland of the family name of Clive. The specimens from which the generic description was drawn up flowered at Syon House before those at Kew, which Sir William Hooker named *Imatophyllum Aitoni*. *Clivea*, then, is virtually the oldest name; but we find two more modern spellings of it—namely, *Clivia* and *Cliveia*. Neither of the names are to be considered anything else than a Latinised form of English; and the shorter spelling, and that nearest the name Clive, would be *Clivea*, as formerly written. It is, moreover, as easily pronounced and as euphonic as *Clivia*, which is reckoned by some of our leading authorities as the correct spelling.—A Gardener.

STEPHANOTIS FLORIBUNDA.

I AM pleased to know that someone has been successful in flowering this beautiful climber in a cool greenhouse. Mr. B. D. Knox (p. 507) asserts that he can flower it easily from the month of May to the middle of December, in a greenhouse that can with difficulty be kept above freezing-point during the winter months. Perhaps Mr. Knox would kindly forward to the editor a box of flowers taken from his plant in a cool greenhouse the first week in December. If he will do so, I shall be happy to pay him the market value of the flowers, as a souvenir of skill greater than I can boast of possessing.

Your correspondent "D. H." (p. 538) is a little more reasonable in his remarks when he says his plant was good in July and August, a few flowers being left in October, and that his house did not get below 45°—sometimes 40°. This bears out the concluding part of my remarks on p. 473, at the end of the second paragraph, which says that I can perfectly understand the plant being grown in an intermediate heat, so as to flower in the autumn; but to say that it will flower freely in any greenhouse is altogether misleading.

We have *Stephanotis* flowering profusely now, having done so all through April, and we are likely to have flowers for some time to come; but we use stove heat to get them so early. Our plants are never allowed to be in a lower temperature during winter than 45°; and at the present time we run the heat as high as 80°, with air on during strong sunshine. I am rather inclined to keep to the old system of growing the *Stephanotis* in heat, for I do not see that the cool system would be a profitable means of making the plant pay for the labour expended.—W. G.

BOILERS.

IN my note on the "Gunnensbury" and other boilers (p. 517), I simply stated facts that have come under my own personal observation, and have been impressed upon me in the course of my practice. Mr. J. B. Sidney's criticisms on my boiler (p. 553) are simply theoretical, and are largely made up of surmises, and only need a little light thrown on them to show their unreasonableness. I am afraid Mr. Sidney did not read my note very carefully, or he would not ask why I claim greater durability for the "Gunnensbury" boiler "than is possessed by the Flue and Terminal-end Saddle, &c."

In my case (as I stated before) I get rid of the sediment from the most vulnerable part, the foot, of all the forms of saddle boilers. I can assure Mr. Sidney that when I had the Gold Medal and other forms of the Saddle in use, that the precautions he mentions of running off the water at intervals was adopted, and I can further assure him that something stronger than an $\frac{1}{2}$ -in. iron rod was required to break up the incrustations at the foot of the boiler, and there was still greater difficulty in getting rid of the sediment through an ordinary plug $\frac{1}{2}$ in. in diameter. The only effectual plan to deal with the incrustations on a Saddle boiler is to have a plate about 8 ins. in diameter fixed about midway on each side of the boiler. The boiler can then be examined and cleaned out every six months by any ordinary country blacksmith. The trouble of uncovering the crown of the boiler is not much; and those who have Saddles in use, and wish them to last, cannot do better than adopt the above plan.

In my previous situation all our boilers were plated as described above; otherwise their existence in sound condition would have been very short, owing to our supply of water coming from the limestone.

The comparison Mr. Sydney makes between the "Gunnensbury" and "Trentham" cannot be worth much, as he has not tried the "Gunnensbury." When I got tired of the incessant trouble attending Saddle boilers, I turned to the Trentham Cornish and had two fixed to replace two Gold Medals, so that I am in a position to speak of the relative merits of this boiler compared with my own. My Trenthams are set in the manner described by Mr. Sydney, with upper and under flues, and I am able to say that they are not nearly so quick in action as the "Gunnensbury." It is useless putting in Trenthams without at the same time putting up a chimney more adapted to a factory than a garden, as the Trentham will not act satisfactorily without a long shaft to give necessary draught. As to cost, in my case the "Gunnensbury" was the cheapest of the two.

The subject of cast-iron *versus* welded boilers is not new, as in my earliest stoking days cast-iron boilers were very common. There is always an uncertainty about them unless they are in constant use, as the sudden expansion and contraction when they are in intermittent use often leads to their destruction. I had a case here during the past winter which forcibly illustrated to me the uncertainty of cast-iron. During a spell of frosty weather, a thoughtless man turned the heat fully on to a set of pipes that were standing at the freezing point, and in less than ten minutes the flow pipe snapped asunder like a piece of glass.

I am glad to be able to agree with Mr. Sydney's advice, that it is better to put in two medium-sized boilers than to trust to one large one.—J. Roberts, *Gunnensbury*.

GRAPES: GROS COLMAR v. LADY DOWNES.

I HAVE carefully read Mr. Riding's last communication, and have only to say that he, of anyone, has the least cause for complaint. If Mr. Riding fails to see the question so distinctly raised by me on p. 379, and raises side issues having no direct bearing on the main question, as well as attempting to turn the subject into a question of general opinion as to the qualities of flavour of Gros Colmar and Lady Downes, he must excuse me for clearing away the irrelevant matter—as soon as I find such to be the case—and returning to the original question. That raised on p. 379 is not one of "treatment," but of "kind of heat," as the context plainly shows. My object in asking your correspondent the questions he complains of was to enable him, if he could, to more clearly show the relevancy of his first remarks to the original question raised by me. Mr. Riding appears to forget the fact that this discussion did not originate with the four questions I asked him. Neither did I raise that of the general quality of Gros Colmars as usually grown, but drew attention to their superior quality under certain peculiar conditions. I distinctly stated that "until last December I never tasted a Gros Colmar that I considered equal in flavour to an equally well-grown Lady Downes." That statement distinctly shows that I had previously shared the general opinion in regard to the flavour of this well-abused Grape.

But that statement I now wish to qualify by the words "with one exception," for until a few days since I had quite forgotten a circumstance that occurred several years ago. I was visiting a friend in winter, who has charge of some well-known gardens, and he brought into the room where I was sitting, a few Grapes, with a request that I should express an opinion as to their flavour, and also try to guess the name of them. The berries were larger than average Hamburgs, but not quite so large as average Gros Colmars, and quite black in colour; the flavour was quite distinct from any black Grape in general cultivation—supposing that the disagreeable flavour peculiar to average samples of Gros Colmar to be the proper and constant flavour of that variety—but more nearly resembled that of West's St. Peter's; and the skin was as thin and more dissolving than the skin of Hamburgs. I confessed my inability to name the Grape; felt confident it was not Gros Colmar, because of the superior flavour of the sample, and of the entire absence of the nasty flavour so frequently found; but

thought, probably, it was some variety of Hamburg that I did not know much about. However, it proved to be our old friend in its best condition, but it was with difficulty that I was convinced of the fact. It is a very singular coincidence, but these Grapes had also been grown under similar conditions to those mentioned by me on p. 379; both of the vintages are heated by flues and not by means of hot water.

The questions I had in my mind when I penned my original notes were: Can it be possible that a vinery heated by flues is more suitable for Gros Colmar than a vinery heated by hot water? And if that is so, are there not likely to be other varieties of Grapes whose flavour would be much improved by cultivation in such a vinery? And are there not possibly some kinds of stove and greenhouse plants that would be more at home in a house heated by flues, as in times past? And lastly, are flues, for the heating of greenhouses, the unmixed evil they are commonly supposed to be? Such were my thoughts; and I now submit them for the consideration of some of your better-informed readers. Several of our greatest authorities on Vines and Vine culture I know are readers and occasional contributors to THE GARDENING WORLD, and I hope the foregoing thoughts will induce some of them to express their opinions thereon.—*J. Udale, Elford, Tamworth.*

GARDENING NOTES FROM SCOTLAND.

Seasonable Notes.—The Strawberry crop always asserts its importance, and attention, in due time, to the requirements of the plants is of great moment. At the present time one can fairly judge of what the plants are likely to produce, and if they have not been already helped with the usual supply of manure by surfacing or forking into the soil, no time should now be lost in giving the necessary aid to them. A good surfacing of rotten manure spread over the roots, then a layer of clean litter laid over all will do much to give large fruit, and a few good soakings of water leaves a clean and sweet surface on which the fruit can ripen and be kept free from grit. Manure-water, given where the soil is light and sandy, is of great advantage.

Among other things which should not be overlooked are the hordes of slugs (in old gardens especially) which are now preparing their quarters among the plants, or in the mulching which has been given during last autumn or later. A good dusting of soot and lime mixed will destroy many nests of slugs; and waterings of soot-water form an excellent stimulant for giving health and vigour to the plants, as well as destroying vermin. Some are already complaining of the dry spring; but in our district the rains last week were copious—falling in continuous gentle showers—and were of the most root-reaching and refreshing description.

We have some mulching to put on to keep the fruit clean, but the greater part of the work was done in autumn, in a summary but efficient manner. The former mulching and surface cleanings were loosened up and the surface stirred for the admission of rains at the same time. All was evenly spread over the whole break, leaving the plants standing clear, a good dusting of soot was given, then a coating of rotten manure neatly over all, leaving the whole level and sightly. Now the manurial portions are washed down and clean, straw only is visible. The oldest plants are two years old, and the others were forced plants of last year. The latter are the best; but we never had Strawberries more healthy and promising.

HERBACEOUS BORDERS.—Nowhere are herbaceous plants seen in greater vigour or are more serviceable than in the northern districts, and it would appear the further north one goes the better they seem to do. Attention is well bestowed when directed rightly among these plants. At the present time there are many in flower but the best are to come. The plants in our own borders are extra strong this year, and though protection was given to only a few kinds there appears to be no deaths. It is well, on poor ground, to give a surfacing of rich manure at this time if the work has not been seen to earlier. By this time the plants will have shown their position, and the fork can be gently used to turn in rotten manure, or artificial,

if preferred, which is very suitable on heavy land. Any plants which have inadvertently been mixed with their fellows should be removed, as each kind standing clear is very desirable. The staking of some kinds now demands attention. We have mixed a portion of coarse sand into the surface of the borders, which will help the heavy soil to yield to the action of hoe or prong. The naming of kinds requiring new labels should have attention.

GARDEN EDGINGS, &c.—The cutting of Box, Ivy, Berberis, Mahonia, or whatever is used to form edgings to shrub borders, flower beds, or vegetable garden borders, is generally performed just as new growth begins. This is a very favourable time to attend to such work; new growth is very late in commencing this year, and when it does fairly start it will likely be rapid and vigorous. Box is often cut during the latter part of July and early in August in northern gardens. We have tried a number of experiments with this favourite edging, and that which was cut in August has remained more compact and grown with less vigour than the Box clipped in April, May and June. One may fairly say that it might be a matter of convenience when to clip, but we would do it between April and August in northern gardens; in the south, such work we generally performed at the end of April. Ivy clipping on houses and walls should not be neglected where it is getting bulky; we are now clearing off old growths from houses, walls and fences; the young growths are just starting and will soon cover the surfaces with a mantle of emerald green.

CELERY.—In THE GARDENING WORLD we notice sound advice given as to the management of Celery planted on the surface of the soil—a practice which all who have had experience will endorse. It is many years since we took note of marketmen about Fulham and elsewhere adopting this method, and finer Celery has never been seen than that grown in these parts. We have practised the surface system of planting since first we commenced the Celery growing, more or less. It is very serviceable in damp localities; much labour is saved, and the earthing is done with great facility. Cropping between the rows is also easily managed, but French Beans, Cabbage and such crops cannot be had in northern parts as in the south; but then Turnips, Spinach, Lettuce, Dwarf Peas, and some other crops can be raised. We prefer three and four rows of Celery together for economy, and this method meets all our wants. We have now (May) a good supply of solid, well-preserved Celery, to which no protection was given. There is a ridge ready for an early lot, but occupied with Stocks and Calceolarias waiting removal.—*Caledonian.*

THE AMATEURS' GARDEN.

VEGETABLES IN SEASON.—Garden crops are now fairly started, although, considering the season, they are very late; consequently, as far as usable vegetables are concerned, we are in no better position than we were a month ago, except in the case of those possessing the advantage of pits, frames, and forcing houses. Where the amateur has been fortunate enough to be able to sow Lettuce, Radishes, and such things under glass in the early part of the season, he will now be able to enjoy some fresh young salading. Spinach when sown in autumn and outstood the winter will now be fit for use, while that sown early on a warm sheltered border, or at the foot of a wall on a south or west aspect, will be fit for use shortly, subject to the conditions of the weather.

Chou de Burghley still affords a supply where it has not all been cut, through a scarcity of other things. It should generally be used as a Cabbage in the winter, but the solid white central head may now be used after the manner of Broccoli, and the side buds as Brussels Sprouts, which will now prove tender and acceptable. Purple-sprouting Broccoli where sown and planted late last year, is still furnishing a supply of a useful well-flavoured vegetable. The purple small-branching heads do not possess much attraction for consumers either in a fresh or cooked condition, but those who have tried it relish the flavour of the heads, which, when boiled, become of a pale green. The white Broccoli are less hardy than the last, and frequently succumb to the freezing and thawing to which they are subjected in our variable climate. In order to overcome

this as much as possible, Broccoli and other subjects of that tender kind should be grown in soil that is tolerably firm, and has not been urged into gross luxuriance by liberal supplies of manure, as their stems then ripen better, and altogether they are more hardy. Late Queen Broccoli is a good variety for late supply.

Last year's Leeks are still in good condition, and where they are liked, prove a wholesome and easily grown vegetable. Spring Onions are now plentiful in the market and cheap, so that those who cannot afford space to grow them, may now buy. Carrots, Parsnips, Beet, and Onions are, and will be good for many weeks to come. Parsley has grown again tolerably well recently. Rhubarb and Sea Kale is now plentiful, especially the former, and both may be blanched by covering them with Sea Kale pots, or any box or vessel that will keep them dark.

VEGETABLE SEEDS.—Some of the early sown Peas are now well above ground, and may have the soil drawn around them; this will assist greatly in keeping them up till they can lay hold of the stakes. This is most essential to those which have been forwarded in pots or boxes indoors, and now planted out. Stake immediately, and this will not only shelter the young Peas, but assist in preserving them from the ravages of birds that are particularly destructive at this season, especially in localities surrounded by woods, or even in the suburbs of London where gardens are usually infested with the plague of house sparrows.

Make successional sowings of Peas to furnish later supplies. In the drier parts of the country, such as in the neighbourhood of London and other parts of the South of England, it often proves necessary to sow Peas in trenches so as to be better able to resist drought or be assisted with water. Sow Beetroot for next winter's supply. That sown previous to the last week of April or the first week in May is liable to grow too coarse in a long growing season. Continue sowings of seeds for salading. Haricot Beans and Scarlet Runners may now be safely sown in the open air. Of the former Osborne's Prolific, Ne Plus Ultra and Negro Long-pod are good kinds.

CUCUMBERS, TOMATOS, &c.—Where the directions were followed in sowing these early, they should now be in a very advanced condition. The Cucumbers should be kept growing in quarters as warm as possible until a hot-bed has been made up for their reception. If this cannot be done immediately, the young plants should not suffer a check to their growth, either from their roots being too confined, or by putting them in a cool place as a makeshift to afford room for something else. Shift into a larger-sized pot if necessary, and where it has not been done get a hot-bed ready. When the latter has sufficiently cooled down, place near the middle or upper end of the frame a mound of good loamy soil enriched with well-rotted cow-manure, and plant out in this. Cover the frame at nights to keep up the temperature, but leave a small chink of air for the escape of condensed moisture.

Keep Tomatos near the glass, and encourage them to grow slowly till the weather becomes sufficiently warm for planting them out where that is intended. By sowing early, and getting them thus advanced, they have a long season before them to ripen their fruit by sun-heat. Next to well-grown indoor fruit, that ripened in the sun is always more choice and better flavoured than that ripened on the shelf of a warm house afterwards. Vegetable Marrows may be treated similarly to Cucumbers, but require less heat, and may soon be planted in the open ground under hand-lights.—*F.*

PRICKING OFF HALF-HARDY ANNUALS, &c.—Those who were fortunate enough to sow some weeks ago in heat such things as Stocks, Asters, Saponaria, Perilla, Amaranthus, Tagetes, Phlox Drummondii, Zinnias, &c., will now have plants large enough to prick off for the purpose of growing them on into size. There is nothing better for this purpose than some shallow wooden boxes, which can be bought cheap. If they are about 4 ins. deep, all that is necessary is to place some pieces of turf at the bottom, on this a little rough soil, filling up with a finely sifted compost, and then pricking out the young plants about 3 ins. apart. If such boxes cannot be bought, they can be readily made by a carpenter out of $\frac{1}{2}$ -in. or $\frac{3}{4}$ -in. white deal. The handiest sized box is one 20 ins. long, 12 ins. wide and 4 ins. deep. When the plants are pricked off they should be placed in a shady part of the greenhouse, and then out in the open ground by day; and either removed within doors by night or covered so as to protect them from frost.—*R. D.*

SMALL AURICULA GROWERS.

So another Auricula Show in London is over,—and a very pretty show it was. We adorers of the Auricula are apt to think an Auricula show as far removed, in its delicious delicacy, from other and gayer Flower Shows, as is pale biscuit-china from brightly coloured pottery. And it was impossible not to regret that that table, with its snow-sprinkled green load of beauty and its unique perspective, could not be left undisturbed for eight-and-forty hours, so that Londoners might go home the first evening to think about what their eyes had feasted on, and return next day to feast anew before the long fast till April, 1888!—How many times did we turn in our slow retreat at last to the distant door to have one more look at the beautiful assemblage! How passingly did even the Roses, brave Roses though they were, divert our attention from the quiet stars of grey, white, green, purple, peeping above that frosty mist of foliage! In one of the newspaper reports of the exhibition occurs an expression of satisfaction that “the number of small growers seems to be increasing,” and all who love the Auricula will echo the note of approbation. Yet may I, as one of the “small growers,” say a word or two?

Most of the Auriculas exhibited on the 26th ult. were shown by growers rich in the resources which are of priceless value in a cold, late spring. If we except the superb flowers staged by the Rev. F. D. Horner, —which seemed to have brought the dew of the garden to London with them,—and a few single specimens in different quarters of the show, there were few collections there that were not faintly suggestive of the heat that had stimulated them to a quick-step not piped by Nature, so far, in 1887. Now we small growers are not so paltry-spirited as to grudge their great privileges to the happy possessors of lean-to or span-roof houses, of pipes, boilers and stoves, and ventilators as good as puukahs. Away with the very thought of such a mean disposition! Who should applaud and admire the success and skill of the great growers so cordially as we, enlisted as we are in the service of the same royal flower, and jealous of her honour? I, for my part, would rather see Mr. Horner's Auriculas at home than any sight in the world, though the spectacle would probably leave “no more spirit” in me than the Queen of Sheba could boast of after she had completed her survey of King Solomon's wonderful possessions. Nay, though I am not able to see them, the very knowledge that there is a garden, that there are houses, where the Auricula has nothing left to desire, is a sort of “glory in the air” to me.

But might not room be found among the arrangements at the South Kensington exhibitions for an acknowledgment of the small growers' contracted sphere, in the shape of a prize or two to be competed for only by those who can command no artificial heat? Or, failing that, might not the London show be a May-day festival, so as better to equalise the chances of all competitors by giving a little more time? I have a few flowers ready to show now (May 3) which it would have been a mockery to enter a week ago, and my case must be the case of others in like circumstances. And in the uncommon event of an English spring without cutting winds and heart-chilling frosts, it would be far easier to keep back over-eager blooms than it is to push unwilling buds into flower. Let the great growers strain their imaginations for a moment. Let them first realise and then pity the sorrows of the small growers, and more especially of those who live in London. For weeks together this year our only auxiliary force has been matting. Matting wet,—heavy with snow; matting dry,—full of dark-complexioned dust; matting charged through warp and woof with Loudon blacks; matting fringed into frivolous ribbons woven in the wind's wild loom. Oh! “the weakness of the War Department” when only matting is at hand wherewith to meet such foes as easterly winds, northerly winds, fog, and black frost, and snow, with an occasional glaring stare of the sun into the frames, to see how miserable the inhabitants are! The long-enduring plants here were stonily apathetic for quite a month beyond their usual time of awaking, and when at last the buds did begin to appear here and there, they came on, not evenly and graciously, day by day, but with short jerks and long pauses that reminded one of that peculiar form of progress known in the dancing-school as the “Stop Walk.” And who, thus discouraged, could venture upon a kindly watering, such as our superiors in the

lean-to and the span-roof houses were regularly bestowing without a misgiving? Except with one's tears how could one dare to water with the mercury at freezing-point, and only matting between the blacks on the frames and the black in the sky, swept about by the industrious besom of a north-easterly blast?

Well, all that is over, for this year at least,—the frames are open now, and there are the few flowers that were determined to bloom, cost what it might. *Very* small is the honourable band, as honourable bands are wont to be. There stand Beauty and Smiling Beauty side by side, and there is Peveril of the Peak, and beyond him Topsy and Lancashire Hero, this last the most diminutive of heroes. And on the shelf below them is an Alpine that would worthily have graced last week's exhibition table, if only there had been anything more genial than matting to coax her into getting ready in time. She is Florence (Douglas), a gold-hearted flower with petals so deeply purple as to be all but black. Her truss carries five pips, all large, and fine, and flat, and she is a real beauty of her kind. Florence is flanked by other Alpines still less forward,—Mercury, Diadem, Etua, Norah, and King of Crimson.

“Are those all?” cries somebody in high disdain; “why, how ridiculous to call yourself a grower at all!” Perhaps so. But yet,—though George Lightbody and Ringleader, True Briton, Mayflower, Frank Simonite, Aeme, Talisman, Incomparable, and others of birth as noble as they, to say nothing of many seedlings,—though all these give me nothing better this year than perfectly healthy foliage, crisply green or silvery white, they have been more sinned against than sinning; they have had only the hospitality of the smallest of small growers. And who knows that next year they may not give, in return for three seasons of even that, a smile, in the shape of a truss, apiece? “Many a little makes a mickle,” as we all knew in the nursery. Meanwhile, friends, will not other “very small growers” tell us who read THE GARDENING WORLD how they have fared this season? I hope they will, before the Auricula is swept out of all thoughts, except those of a faithful few, by the rush of summer flowers to which all the world does homage.—C. A. G.

HARDENING OFF BEDDING PLANTS.

LAST week I passed in review some of the subjects that are suited for embellishing the flower-garden in summer. Next follows the duty of hardening off such things as require it. Subjects that have been struck in a pit and grown on into size, if still there, should be placed in a cold frame and the lights kept close for two or three days, taking care that no cold draughts are allowed to play upon them, until such time as they have become inured to a colder climate. Plants that have been in cold frames for some time may be stood in the open air if space is wanted, taking care that they are well watered on drying days. The process of hardening off is a very important one, especially when the flower-beds are in exposed positions. What is a more melancholy sight than to see tender plants put out into beds before they have been sufficiently hardened off? Cold nights, and, perchance, early-morning frosts, soon impart to them a miserable appearance.

It may be that some of the readers of THE GARDENING WORLD may follow the advice I gave last week, and purchase bedding plants. If they come some distance by rail, they will, no doubt, have been packed in moss or soft wadding; as soon as they are unpacked they should be stood in a cold frame, or, failing a frame, in some warm position, and sprinkled overhead, and then covered up close to recover. I have known young green-Dahlia plants to be sent 400 miles in a hamper, laid on their sides with layers of moss on them; when taken out placed in a frame, sprinkled overhead and shut up close, and in a day or two looked as fresh as they did when packed. But much depends upon the packing. When plants are packed in as tight as possible they travel much better than when packed loosely and carelessly.

Any plants that, like Calceolarias, are not of so tender a character as to be harmed by frost, may be planted out soon. While the temperature is so low at night, and cold winds from the north-east prevail, it is well not to put out anything scarcely, unless want of room makes it necessary to do so.

The working of the beds will be improved by forking them over once more, and, if it is available, adding a

dressing of sifted soil from the refuse bench, which greatly assists the plants in laying hold upon the soil. In any planting out that I do—either of Primroses, Polyanthus, Stocks, Asters, Pansies, Aquilegias, &c.—I always place about the roots a little finely-sifted refuse soil, mingled with some fine cocoa-fibre refuse, and the roots seem to work in it directly. I think the death of many plants of Calceolaria results from planting them out without proper soil about the roots to enable them to get to work. Especially is this the case in villa gardens in the suburbs of London, where the soil is harsh and often unsuitable. I am plagued with such, and I neutralise its effects to a large extent by adopting the practice I have just recommended.—R. D.

VIBURNUM TINUS HIRTA.

IN this we have a useful and ornamental variety of an old plant capable of furnishing a large quantity of handsome white flowers of great purity, at a season when white flowers of any kind are most appreciated. It is hardy in all but the severest winters, consequently a large number of plants in pots for forcing purposes could be housed at a minimum outlay. Except during intense frost, no artificial heat would be required by plants enjoying the protection of a glass structure, until wanted for forcing purposes. The ordinary form flowers in the open air during the autumn and winter months in mild seasons. Under these conditions, however, the flowers are tinted with pink or purple.

The variety under notice is a greatly improved form with intensely dark green, coriaceous, more or less hairy leaves—the latter character being overlooked by our artist, although otherwise the figure is a faithful representation of this elegant shrub. The flowers are ivory-white, and although small, are collected in dense terminal semi-globular cymes, which are seen to the best advantage when furnished and supported with their own leaves. Unlike the Camellia, plants, whether grown in pots or planted out, are benefited rather than otherwise by an annual cutting back, so that leafy sprays can well be afforded and always look very natural. The substitution of this variety for the ordinary one would be of great advantage to those who grow large bush or pyramidal specimens in pots or tubs for cool conservatory work. Messrs. Cutbush & Son, of Highgate Hill, are always very successful with this plant at the spring exhibitions, and make a special feature of it, being able to furnish large quantities for cut flower purposes with little labour or outlay.

Being naturally a winter-flowering subject, the least provocation in the matter of forcing is requisite to bring it into bloom; their cultivation is an easy matter, and those who grow Deutzias could manage the plants easily. After flowering, cut the plants into shape and keep them in a cool house till they start into growth of their own accord; of course by urging them into growth earlier they would be induced to ripen their buds and flower sooner next autumn or winter. If it is necessary to re-pot, give them a shift, using a compost of fibrous loam with a mixture of well-rotted cow manure and sand. In summer they may be plunged out of doors in ashes in a sunny, or at least, in a position well exposed to light.

CHISWICK HOUSE.

IN spite of the encroachments of the builder, London can still boast of some pleasant spots in its immediate neighbourhood, quiet and secluded places of retirement, oases as it were in the wide expanses of bricks and mortar still rapidly expanding in every direction. Chiswick House is one of these, and possesses both an antiquated appearance, and an interesting history. It is not our purpose at present to relate or discuss its history, but essay to describe its appearance now, all inadequately as the pen can do it.

The boundary walls include sixty acres of ground, and owing to the greater part of these being occupied with trees, some of great antiquity and others more recently planted, the principal features of the place are the copses, woods, endless and labyrinthic walks intersecting the latter in every direction; grassy glades, and other sylvan scenery, having a natural and truly rustic appearance. By the courtesy of Mr. May, the gardener, we were enabled to make a circuit of inspection, and were not more delighted with it than with his knowledge and appreciation of the various trees and other subjects grown.

The house itself is a rectangular and solid-looking mass of building, and was originally very small, having been commenced by the Earl of Burlington as a tea house with a small garden attached. At present it belongs to His Grace the Duke of Devonshire, and is tenanted by the Marquis of Bute, and had as a former tenant the Prince of Wales. Those would, probably, be considered by some as palmier days, as well as when, in the heyday of the Royal Horticultural Society's Gardens at Chiswick, visitors had access to both places on special and festive occasions. Those memories, however, in no way detract from the quiet serenity and seclusion to be enjoyed inside its walls, amongst the trees and shrubs of every hue, now bursting into leaf several weeks behind their usual time.

In front of the house is a broad walk leading straight to what is known as the poets' corner, and on each side of this the smooth, verdant, velvety lawn is dotted with the once fashionable statuary and various trees planted by and in commemoration of some great personage. We noted a healthy specimen of *Cedrus Deodara*, planted by Garibaldi in 1864, and now known as Garibaldi's Cedar. The poets' corner is surrounded and overhung by large evergreen trees of *Quercus Ilex* or Holly Oak, which, having retained their leaves in good condition, form suitable surroundings to the statues of the poets which are arranged in a semi-circle. Amongst others we noted P. Virgilius Marco, Nero, Cicero and Brutus. The statues appear to consist of Portland oolite, and were more common in the neighbourhood of London than they are now. An old gateway apparently of the same or a similar material stands near one end of the house, and presents an aged and weather-beaten appearance; it bears the inscription, "Built by Inigo Jones, at Chelsea, 1621," and having been neglected was conveyed hither many years ago.

In the rear of the house are some giant Cedars of Lebanon, with their very characteristic and familiar, immense, horizontal limbs, creating surprise that they could have resisted the enormous weight of snow that must have accumulated upon them during the snow storms of last winter. One tree presented a singular aspect from the fact of its being propped up with wooden beams of great length. This has been so for many years however, and it may not be out of place, in passing, to state that the destruction of trees and their branches by the memorable snowstorm the day after Christmas, last year, was very serious.

Westward from the house, what is known as the Broad View presents a very charming bit of scenery, and judging from its present appearance one may anticipate a marked improvement when the trees are in leaf. The turf slopes gradually down to a sheet of water, on either side of which groups of trees give character and wildness to the view. Towering above these the strikingly pillar-like Lombardy Poplar (*Populus nigra pyramidalis*) shows individual characteristics than can never be mistaken in a landscape, but which are too infrequently employed. In the foreground a tall Birch with white trunk and long pendent fringes of slender branches, displays its beautiful form against those trees of more sombre hue; while in the distance the red bark of a tall straight-stemmed Scotch Fir, affords another striking feature in woodland

scenery. At one end of the ornamental water is what used to form a cascade or waterfall: it is faced with flint, but, being now completely draped and concealed with a mantle of Ivy, it is known as the grotto. Ascending this, which we can by a side path, we reach the top of the Mount—a high mound, although purely artificial, yet so well clothed with trees, shrubs and other vegetation, as to present a very natural appearance. A great profusion of *Hypericum calycinum* must be highly effective and showy in summer; but at present the observant eye can note the blackening berries of the Ivy as they approach maturity; and *Cnicus heterophyllus*, as well as other noble British plants which we must not designate by the name of weeds, springing up amongst Box, Yew and mock Oranges.

Some striking views are obtained in various directions from the top of the Mount, which is continued for some distance in the form of a ridge round one side of the

soil must be suitable and the tall surrounding trees shelter it from the fog and smoke-laden winds. A broadly spreading, much-branched specimen of the Lucombe Oak stands isolated on the grass; it seems a distinct form with rather small, glossy, shining leaves that have not yet lost their lustre. We must not neglect to notice a patriarchal tree of the typical *Platanus orientalis*, one of, if not the largest tree of its kind in the neighbourhood of London; the diameter of the bole, and the height and spread of the tree is considerable, while it may interest some to note that the Russian Princess, Maria Nicolaiewna once held a picnic under its branches. Scarcely less noteworthy were some grand old trunks of the Wych Elm, the uppermost branches of which have assumed a curious pendulous habit.

A rather novel feature presents itself in a circular pond sunk in a woody part of the grounds. An obelisk stands in the centre, flags margin the water, and a temple is visible partly enshrouded amongst trees, on the opposite bank. On a terrace surrounding the water numerous Laurels (*Laurus nobilis*) are planted. They were killed to the ground in 1860 by frost, but have again reached a height of about 12 ft., are in healthy vigorous condition, and showing for bloom freely. Near this is a group of Pines, including *Pinus pinea*, *P. strobus*, *P. ponderosa*, and *P. laricio*. The latter is conspicuous for numerous strong limbs or branches which push out horizontally from the main stem and then ascend candelabra fashion. Upon this tree is to be seen a huge specimen of fasciated branches, forming a green mass of great density and over 6 ft. in depth. It is suspended from a comparatively slender branch that owes its strength probably to its pendent position. The deciduous trees are now fast breaking into leaf, and who can fail to admire the green, the amber and gold of the young leaves of *Acer pseudo-platanus*, as seen against some dark background, such as that of the sombre and evergreen conifers. The red flowers and young fruit of *Acer rubrum* are no less conspicuous and beautiful.

Turning to the glass structures, the visitor cannot fail to be struck with the massive bank of Camellias

that line the greater part of the length of the large conservatory. These are planted out in a wide border and also cover the back wall with a living carpet of green, studded with innumerable flowers of the ever-useful and acceptable *C. japonica*. There are whites, reds and striped flowers in all shades of intensity, but many of them were past their best at the time of our visit, and having commenced to make fresh growth were being syringed to encourage it. Several fine specimens of *C. reticulata* are grown against the wall or in the border; but a magnificent and aged specimen in the central and domed part of the conservatory particularly took our attention by the thickness of its stem. *Magnolia conspicua* and *M. c. soulangeana* (the latter with rosy purple flowers) were trained against pillars, and being allowed to branch overhead, looked grand. Other pillars were occupied by aged specimens of *Fuchsia*, whose grey or brown decorticated stems were notable also for their thickness; their branches were trained down towards the front of the house from the supporting rafters, and although not yet in bloom, their appearance then may be anticipated.



VIBURNUM TINUS HIRTA.

garden. From here may be seen fields and market-gardens, furnished here and there with Lombardy Poplars. Presently we descend at the obelisk gate, where several green walks converge at an obelisk, with figures carved upon it in relief, and bearing to the left we reach a part recently added to the garden. A wall has been built around this and the ground planted with masses and isolated clumps of trees; a very laudable endeavour to prevent the builder from encroaching in that direction. A long walk is being carried through this part, a rustic bridge has been thrown over a river-like sheet of water, and altogether Mr. May, who is superintending the operations, together with attending to his ordinary duties, must find his time closely occupied.

Amongst trees in the older part of the grounds we noticed a fine specimen of the American Holly (*Ilex opaca*). The common Holly forms trees 40 ft. to 50 ft. in height, with a trunk 12 ins. to 15 ins. in diameter. A noble and perfectly pyramidal specimen of *Wellingtonia gigantea*, 60 ft. in height, was feathered to the ground and in vigorous health; we cannot account for its healthiness so near London, except that the sub-

A healthy, well-grown, and good-sized specimen of *Semele androgyna*, showing flower-buds on the margins of its curiously-flattened branches, occupies a pillar in the central part of the conservatory. The difficulty of propagating this fine plant easily acts as a great hindrance to its rapid dissemination in gardens. At present numerous well-flowered *Richardias* add greatly to the appearance of the other plants in the house, and were notable for the size of the individual spathes. One wing of this block of buildings is occupied with Orchids and stove plants, while the corresponding wing at the other end contains Ferns. The manner in which the stems of the tree Ferns were clothed with seedling *Adiantums* is very pleasing, and a thing that might be adopted with advantage in other establishments. The Azaleas—almost indispensable spring-flowering plants, next to Camellias—from having been kept in a remarkably cool house, are only now coming into flower. Owing to the fact that neither proprietor nor tenant reside constantly at this place, a great supply of the ordinary greenhouse and stove plants is not required. We noticed, however, a finely-coloured lot of *Vitis heterophylla variegata*, and a good-sized plant of *Casuarina equisetifolia*, the latter being in flower. In front of the conservatory is a fine collection of herbaceous plants in beds on the grass, and a much more pleasing feature than the same extent of bedding plants. These we must notice later in the season.

CURIOUS PLANTS.

A few words of explanation may not be out of place in introducing such a wide subject to the reader's notice. A few typical instances, picked at random from the vegetable kingdom, will serve my purpose. It is popularly believed that plants are only to be considered curious that offer some remarkable peculiarities or differences not observable in the vast array or assemblage of plants we daily see around us. This interpretation is undoubtedly correct in the main; but we must not overlook the fact that when a plant becomes common it ceases to be strange, although still invested with the peculiar habit or appearance that first struck our wonder. On the one hand, there are plants that never become common, while their rarity adds considerably to their interest; and on the other hand, some are abundant and readily discernible, or so minute as to require the aid of the microscope to detect them. This instrument reveals what the naked eye cannot follow—worlds within worlds, as it were—and our curiosity is the more excited when we consider the excessive minuteness of the object under our notice.

THE YEAST PLANT (*TORULA CEREVISIÆ*).

The Yeast Plant is a unicellular organism, not exceeding the two thousand five hundredth part of an inch, and sometimes so small that seven thousand of them could lie side by side on a linear inch. It multiplies by budding with enormous rapidity, and the daughter, grand-daughter, and great grand-daughter cells sometimes remain attached in single or compound strings, or become wholly detached from one another. The constituents of this little plant are protein, cellulose, fat, and water. The rapidity with which it assimilates its food, grows, and multiplies may be guessed when a little yeast added to a saccharine liquid will, in a few days, weigh several thousand or million times its original weight if the conditions are favourable. This diminutive vegetable is of great economical importance in several industries, such as that of bread-making, wine, beer, spirits, cider, and perry-making. Its action in those liquids is to set up fermentation till the latter are so concentrated, or contain so much alcohol, that the yeast is unable to live. So much gas is generated and given off during fermentation on a large scale that it is convenient not to confine the liquid till the operation has ceased. The Yeast Plant will rather die than consume any more of this material; and may be compared to a brewer who will rather undergo martyrdom than drink the beer of his own brewing.

THE VINEGAR PLANT (*BACTERIUM ACETI*).

When the Yeast Plant has done its work, or, in other words, when fermentation has reached that stage resulting in alcohol, another micro-organism steps in and converts the alcohol into acetic acid, better known as vinegar. This is desirable in vinegar making, but a misfortune to the brewer, causing his beer to turn sour. The organism in question is a species of *Bacterium*, namely, *B. aceti*, and is unicellular like the Yeast

Plant. An idea of its absorptive capacity may be gathered from the fact that a single or individual cell in the course of twenty-four hours can convert seventy-five times its own weight of alcohol into vinegar. Were a man possessed with the same enormous faculty of absorption in proportion to his size or weight, he would devour about five tons of food daily.

VOLVOX GLOBATOR.

The individuals of this minute water plant live in colonies. Several hundreds or even thousands arrange themselves around the circumference of a globular mass of colourless jelly, and the whole does not exceed the fiftieth part of an inch in diameter. The centre is colourless, and the outer wall appears densely studded with little green bodies, and these are the individuals that go to form a colony. Some of these individuals divide repeatedly, until a great number are formed; these unite and form young colonies that drop into the interior of the mother one, and are finally released by the decay of the parent. From the outer end of each individual organism, which is unicellular, two long cilia or oar-like processes project into the water, and the thousands of cilia in continual vibratory movement roll the whole colony through the water in which it lives. The cilia move with remarkable rapidity, and their unity of action must be marvellous, considering how quickly and easily the whole colony glide through the water. There are two motions, namely, a rolling one, like our earth upon its axis; and a progressive one, by which the colony may move about in quest of food. *Volvox globator* is extremely abundant in some fresh-water ponds, and in some instances, so prodigious are the numbers, that they impart their own bright green colour to the surface of the water.

WELLINGTONIA GIGANTEA.

In striking contrast to either of the foregoing unicellular plants may be mentioned the Mammoth Tree of California (*Wellingtonia gigantea*), which sometimes attains the enormous height of 363 ft., with a circumference of 93 ft. near the base. The bark is often 18 ins. thick, and a large portion of this was formerly set up in the Crystal Palace to show its enormous dimensions. Judging from the number of annual rings, the tree lives to an age of from 3,000 to 4,000 years. One of these gigantic trees, after being felled, had a ball-room erected over its root, which would, according to the dimensions above given, be 31 ft. in diameter. At 100 ft. from the ground the trunk of the same tree measured 45 ft. in circumference. At one time this was considered the tallest tree in the world; but a species of Gum Tree (*Eucalyptus amygdalinus*) has since been discovered, towering to the height of 400 ft. Although the Mammoth Tree is thus exceeded in stateliness, its portly dimensions have been rivalled by that of no other. The Yeast Plant consists of a single cell, and the *Wellingtonia*, weighing many tons, is merely an aggregation of single cells of no great size.—F.

(To be continued.)

GARDENING MISCELLANY.

Late Chrysanthemums.—I notice in Mr. Lewis Castle's *Chrysanthemum Annual* mention is made of *Géant de Valence*, as being too late for exhibition purposes; and from my experience of this "Mum," I am quite satisfied as to the correctness of this statement. I received a small plant of this variety from the Continent in April last year; it did not make very much progress in the early part of the season—the natural break was somewhat late in making its appearance; it carried three breaks, but it was not until towards the end of November that I was able to find a bud on the plant. I then discovered one crown-bud, and the other two branches came blind; this crown-bud produced a very fair bloom, which I cut about the middle of January. About this time I discovered new shoots making signs of terminal buds; these I watched carefully, and the result is, I have now six blooms on the plant. These blooms are somewhat paler and smaller than the first, measuring between 3 ins. and 4 ins. across. It is not a flower that is likely to be of much use, as it is one of the semi-tubulated varieties, of which we have had far too many from our friends in France; but it is without doubt a late "Mum," and, I think, in all the years' experience I have had with this favourite, I have never reared a bloom as late as this one.—*Practical*.

Cutting Roses for Exhibition.—When is the best time to cut the blooms is a question often put, and not always answered in a satisfactory manner. I think our great rosarians are generally agreed that the best time of the day to do this is at daybreak; but then there is the important consideration that if a long journey has to be made to get to a flower show, the work has to be done in a hurry, and a careful selection of blooms cannot be made. And then supposing it should be wet? why, many of the blooms will be in danger of becoming disfigured. If the previous day is dull and cool, cutting might commence in the afternoon, or later according to the number of flowers which are required. If it is a warm day, cutting will be best left until the cool of the evening. It is a good plan in cutting exhibition Roses to have the boxes on which they are shown ready at hand, surfaced with damp moss, placing the blooms in proper position as they are cut, and securing them by placing a little damp moss or saturated wadding in the tubes to keep them in a secure position. The great art in selecting Roses is to take such blooms as will be developed in their best character when they are staged. This is one of the teachings of experience, and practice makes perfect.—R. D.

Impatiens Hawkeri.—This fine Balsam bids fair to become a universally popular plant. None who have seen it fail to admire the intensely rich carmine-purple tint of the flowers, especially when they first expand. They are of the flattened type like *I. Sultani* now grown in almost every garden in Britain. The flowers are not so numerous as in the latter, but much larger and of greater substance, and last a long time in great perfection. The branching of the stems and shoots is not so free as in *I. Sultani*, but all are much stouter and of a fine metallic-crimson colour, which is one of its distinctive and striking characters. Owing to the internodes being more elongated than in the older and better known species above mentioned, the leaves are more scattered, but this we do not consider a defect, as it shows off the magnificently handsome metallic looking stems to advantage.

Spiræa Thunbergii.—The elegance of this plant is well known to those who grow it in their shrubberies. The slender twiggy branches are rendered conspicuous in spring by a profusion of small white Hawthorn-like blossoms; and these are succeeded by the leaves which are so long, linear and slender, rendering the plant very distinct amongst *Spiræas*. Mr. Boues, of Tower House, Chiswick, forces the plant along with *Deutzias* and other hard-wooded plants, such as *Staphylea colchica*. Presumably from its habit of flowering early it would readily respond to artificial heat, but possibly some might object to sprays of flowers being leafless.

Dracunculus vulgaris.—According to record this curious Aroid seems to have been introduced to this country more than 300 years ago. Occasionally we see it in gardens, but not so frequently as its singular appearance coupled with its hardy accommodating nature would seem to warrant. It is called in some books *Arum Dracunculus* while its English name is the Common Dragon; but Mr. Addison, of Merton Lodge, Chiswick, who grows the plant on the edge of a shrubbery calls it the Tiger plant. The stem-like, long upright sheaths of the leaves are beautifully striped horizontally with brown and grey bars, giving them much the appearance of a snake's body. The leaves are pedate, and the spathe brownish purple, but not so striking or interesting as the so called stems.

Cereus flagelliformis.—The appearance of this plant is probably familiar to those who have been in old-fashioned gardens, where variety was aimed at more than collections of specialties (chiefly of soft-wooded stuff), which are so common at the present day. Some gardeners call this *Cereus* the Rat's-tail, from the long pendent whip-like thongs formed by the creeping or prostrate stems. The latter are densely covered with little tubercles, which are furnished with numerous bristles. On account of this habit, the best effect is produced when the plant is put in a pot or pan, and hung up to the roof of a greenhouse or conservatory, in the absence of a special house for such things. The red flowers and fruit are also very ornamental. Mr. Beaton grows this species at Style Hall, Gunnersbury.

Allamanda neriifolia.—The flowers of this species does not attain the dimensions of *A. Schottii*, or its variety *A. S. Hendersoni*, but owing to their being produced in clusters, a well-grown and flowered plant is very effective amongst a collection of stove plants.

Judging from its appearance at The Chestnuts, Gunnersbury, the attention and treatment it receives is all that is desirable. Good trusses or clusters of bright yellow flowers are freely produced; and the tubular corolla is widened upwards, and striped longitudinally with yellow lines almost throughout its length.

Brunsfelsia calycina.—Most of the cultivated species of Brunsfelsia are known in gardens under the name of Franeisea. The two were previously regarded as distinct genera, but the differences are so slight that the species are now all included under the name of Brunsfelsia. The distinctions of Franciscea chiefly rest on the tube of the corolla being somewhat curved or bent, and widened towards the orifice. The flowers of this species are amongst the largest cultivated, and the plant is frequently seen in gardens under the names of Franciscea violacea or *F. v. grandiflora*. The flowers are about 3 ins. in diameter, and violet or purplish violet fading somewhat with age. A huge specimen planted out in one of the stoves under the care of Mr. Ross, gardener at Pendell Court, Bletchingley, has been a mass of bloom for many weeks.

Gleichenia flabellata.—Owing to the peculiarly fan-shaped branching of this Australian Fern, it is seen to best advantage when grown as a large specimen. Most of the species (of which there are about thirty known to science) have dichotomously-branching fronds—usually considered stems in popular language; and these being continued or added to by fresh growth annually, we get in the present species a series of fan-shaped divisions of the frond, produced tier above tier till the plant attains a height of at least 4 ft. or 5 ft. The individual pinnae are generally about 6 ins. long, with linear segments, and produce a fine effect when well furnished with fresh growth. A large specimen about 4 ft. in height, grown in a tub, may be seen at Chiswick in the gardens of the Royal Horticultural Society.

Jasminum Sambac flore pleno.—For cut flowers and stove decoration few, if any of the species of Jasminum, surpass this one in general excellence, a term which must include its attractiveness, its floriferous character and fragrance. It can, moreover, always be accommodated in a stove, although it grows to considerable size by training it against a rafter of the house as at Gunnersbury Park, where it is greatly esteemed. The leaves of this species are perfectly undivided and no great ornament, but the pure white flowers, whether single or double, as in the present case, coupled with their fragrance, will always be in requisition.

Strawberry Cultivation in Pots.—Paying a friendly visit to Mereworth Castle, Maidstone, on April the 27th with my friend, Mr. Goddard, we were much struck with the successful cultivation of the Strawberry in pots. The variety grown is Sir Joseph Paxton, and it is a favourite with Mr. Markham. In one of the houses devoted to the Strawberry were over 2,000 berries just colouring up nicely. A few here and there had been gathered, and each plant was maturing from seven to ten grand fruits. The arrangement of the foliage and setting up of the fruit was excellent, each fruit being exposed to light and air. The adjoining house, in which the plants were coming on as a succession, was also most promising. Mr. Markham told us that he forced about 2,000 plants yearly of Sir Joseph Paxton, and I noticed that the plants were potted in 24-size pots, which seems to give more robust growth, and to develop larger berries than would be expected from the usual 32's. The plants not being forced early, also gives them a better chance of producing good fruit. I noticed also that all the fruit houses are kept free from plants in pots, none whatever being allowed in them; an excellent arrangement where it can be carried out. The Vines, Peaches and Nectarines, &c., are full of promise, and evidently are well managed. The gardens are in admirable keeping, and reflects much credit on the able management of Mr. Markham. —Robert Smith, Yalding.

Eriostemon scaber.—The narrow, linear, warty leaves of this species constitute a feature by which it may be readily recognised from several others frequently found in cultivation, but a variety or form at Gunnersbury Park, Acton, has much broader leaves than usual, and fewer of those glandular warty excrescences which furnish a reason for the specific name. The flowers are white, tinged with pink, and resemble small orange blossoms, while the plant is indeed a member of the same extensive family.

Hutchinsia gracilis.—Those who desire a hardy pure white-flowered Alpine plant, would find in this Crucifer a dwarf and very attractive subject for the decoration of the rockery in spring. Most of the family to which this belongs inhabit cool or temperate countries, and the freedom with which this is now flowering on the rockery at Kew is very gratifying after the stormy winter and cold late spring we have just passed through, but unfortunately have not yet seen the last of. The intense green leaves are small and deeply divided or cut, clothing the ground with a green carpet, and the base of the flower stems that do not exceed 2 ins. or 3 ins. in height. When in flower the blooms are borne in flat umbel-like racemes, and the effect of the aggregation of the flowers in this manner is very pleasing, and makes ample amends for their smallness individually.

Sir Watkin Daffodil.—To those who are fond of Daffodils (and who is not?) this is a bold, striking, and handsome variety of the *Narcissus incomparabilis* type, that need only be seen to be appreciated. Messrs. James Dickson & Sons, Newton Nurseries, Chester, sent us a fine boxful of cut flowers, which, when uncovered, proved to be delightfully scented. The whole flower measures about 4 ins. in diameter—sometimes over that—and has sulphury yellow, spreading, imbricated segments, after the manner of the *N. bicolor* section, which shows a great improvement on the starry-flowered typical *N. incomparabilis*. The corona is a deep golden yellow, lobed and plaited at the expanded mouth; and is 1 in. in length and rather more in diameter, both of which measurements are greatly in excess of those of *N. incomparabilis*. A surprise is in store for those who do not yet know the flower, and those who do not possess it will be rewarded by adding it to their collection. A figure of it is given in THE GARDENING WORLD, Vol. I., p. 489, the uppermost figure of the illustration, together with an interesting history relating to it.

The "R. H. S." and its Programme.—I am pleased to see that you have taken up the cudgels against the absurd proposition of the Royal Horticultural Society to hold a Chrysanthemum conference and show on the 8th and 9th of November, which as you have so well pointed out, will clash with the dates of the two best shows in the kingdom, the "National" and the "Kingston." I always thought that the object of the "Royal" was to encourage those who were working hard to promote the love of flowers amongst the people of this country, but I am afraid they are simply starting this scheme with the idea of replenishing their exchequer, no matter what other society may suffer. If this be persisted in, one of two things will happen, either their show will be an utter failure, or else there will be three poor shows near London at the same time, instead of two good ones as has been the case hitherto. Anyone taking the trouble to study the report and schedule of prizes of the "National" just issued, will see that this society is doing all that is necessary to encourage the growth of the Chrysanthemum; its floral committee meets on September 14th, October 12th and 26th, November 9th and 23rd, and December 7th, at which any member of the society can attend; and in addition to these an early show will be held in September, and the grand show in November, and a show of late varieties in January at which prizes are offered ranging from 5s. up to £10, and certificates are awarded to new or rare productions. The "National" has some thirty societies in affiliation, to which medals and certificates are given, and further, the secretary has, I believe, placed himself in communication with these societies with the object, if possible, of preventing the dates of their various shows clashing, and after having done all this, the "Royal" comes down like a wolf in the fold, and promises to spoil everything. Is there no neglected branch of horticulture that the council can more profitably turn their attention to? If not, then there is no longer any reason for the society's existence, and the sooner it is dissolved the better for those societies that are trying to do good work in their own quiet way. —H. Figgures, 45, Edmiston Road, Forest Lane, Stratford.

Three-spathed Richardia.—Messrs. R. B. Laird & Sons, Edinburgh, send us a copy of a drawing of a specimen of Richardia occurring in their collection bearing three spathes on one peduncle. They have noted two spathes previously, but the three now mentioned appears for the first time. The outer one is of the normal size, while the other two are successively

smaller, and all rolled within each other hose-in-hose fashion. If this habit of producing two, three, or more spathes were constant, and could be perpetuated, it would add greatly to the value of a plant already universally popular. A laudable attempt is being made, in the present instance, to fertilise the flowers with their own pollen, in view of perpetuating the sport. It may be as well to state, however, that the same plant may behave differently a second year; and the production of a plurality of spathes is often the result of excessive luxuriance of growth. We have noted a variety of Anthurium very much given to the production of numerous spathes or bracts, which, however, were small.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—There are two things especially which militate against the well-being of *Aërides*, *Vandas*, *Saccolabiums*, *Phalænopsis*, and other plants, usually denominated East Indian, and they are their being kept too hot, close, and wet in winter, and dry in summer. From henceforth these plants require a liberal supply of rain water, and to be kept in what is generally called a growing temperature, viz., moist and warm, but not close. When these plants are well drained in their pots and baskets they will rejoice in as liberal a supply of water at the roots as the cold house plants, but in my opinion should on no account be syringed or watered overhead, although in watering a long-stemmed *Aërides* or *Vanda*, it is a good plan to occasionally let water from a spout drop into the axils of the lower leaves.

Unless in cases where a very gentle and well-regulated heating apparatus is at command, the artificial heat should be entirely discontinued for the season in the cold house, and in all the other houses careful watch should be made that, by means of ventilation and the distribution of moisture, the proper temperature be observed. The remainder of the unpotted Dendrobes should now be attended to, and all other Orchids seen to be in proper condition of growth and root should be re-potted if requiring it; such as various *Anguloas*, *Lycastes*, *Maxillarias*, *Oncidiums*, *Cymbidium eburneum*, &c. When the sun gets bright after the protracted dull period we have been having, its rays will have a great and injurious effect on many Orchids in unshaded houses, or if the shading is not properly attended to. For using where roller blinds do not reach, or where they cannot be used, "Williams' Eureka Shading" is an excellent thing for painting on the glass.

THE TEMPERATURES FOR THE MONTH of May should be, degrees Fahrenheit:—Warm or East Indian House, 70° to 75° by day, 65° at night; *Cattleya* or intermediate house, 65° to 70° by day, 60° at night; Cool or *Odontoglossum* house, 60° to 65° by day, 55° at night. 8° or 10° above these figures in the day-time if by sun-heat, and the houses are properly shaded, damped and ventilated, will do no harm. —James O'Brien.

Cattleya Lawrenceana.—This new and interesting addition will now be flowering in many collections, and though, perhaps, at first the blooms were a little disappointing, there is no doubt that this spring many growers, having at least some idea of the form and colour of the flowers, will accord the fresh blooms a heartier welcome than when they first appeared twelve months ago. Already eight and nine flowers have been produced on a spike; and when such numbers become the rule rather than the exception, greater satisfaction regarding this species will be manifested than when only the two or three flowers appear, as has often been the case hitherto.

There would seem to be variety and distinct forms in this species; most, however, have the round furrowed bulbs, very similar in appearance to *C. speciosissima*. A dark purple colour pervades the whole of the leaves and bulbs, though in some cases the bulbs are dark in colour whilst the leaves are green. The growth which is made during the summer, usually brings up a lengthened sheath, this remains quiet and dormant until February, when the buds will begin to show at the base; at first their progress is very slow, but with light and warmth and a little extra moisture they come away, so that when the buds have reached the top of the sheath, at last they push quickly through and develop very rapidly, and in a day or two expand in all their freshness and beauty.

Deep rosy purple would seem to be the prevailing colour, with the outer portion of the labellum of a darker tint. We have flowered good pieces of this form, and also a plant with four spikes, the sepals and petals of which are pure white; the lip also white with only a band of light purple on the outer part of the labellum. This specimen, which we have named the Howick House variety, was bought with others when the imported plants were first introduced, and has grown well amongst other Cattleyas, such as *C. Mendelii*, *C. Trianae*, *Laelia purpurata*, &c., having flowered this season for the second time. Last year when it bloomed, we exhibited the plant at the Manchester Town Hall, and were awarded a First Class Certificate by the Manchester Botanical Society. —*W. Swan, Howick, Preston.*

Odontoglossum crispum with Three Spikes.—The plant bearing three spikes from the base of one pseudo-bulb referred to on p. 504, and also by Mr. De B. Crawshay, p. 540, was bought at Stevens' in 1882, consequently five years have elapsed since it was imported. The plant was a small piece then, but the pseudo-bulbs have increased in size considerably every time it has made fresh growth, so that the leading growth is now very strong. Two spikes—one from each side of the pseudo-bulb—were about a month in advance of the third one, which is now almost past. Curiously enough the two strongest spikes were produced on one side, one bearing eight flowers and the other eleven; and from the side producing one spike, the young growth is now pushing up. Last year I had a plant of *O. crispum* which produced a spike from each side of the pseudo-bulb, and one from the apex of same. This mode of producing three spikes from one pseudo-bulb is not, I believe, so rare as the three being produced from the base. Mr. De B. Crawshay's spike of *O. Rossi majus* with fourteen flowers on one spike will, I am afraid, continue to be the highest on record for some time to come. —*Alex. Wright, Devonhurst.*

Origin of Phalænopsis Stuartiana.—This fine Orchid has long been considered a hybrid between *P. amabilis* and *P. Schilleriana*. The idea has to a certain extent been confirmed recently by the result of Mr. Seden's experiments with the parents in question in Messrs. J. Veitch & Sons' establishment at Chelsea. The hybrid obtained, however, shows unmistakably the labellum of *P. amabilis*, the seed parent presumably, in the breadth of the terminal lobe, and its basal angles. Assuming, however, that the two species in question were the parents, it has been argued that we have no clue to the spotting on the lateral sepals, so characteristic of *P. Stuartiana*, as those of *P. amabilis* are, as a rule, pure white. Colour, however, is very uncertain, and often disappears where we should expect to find it, and, on the other hand, extends to organs of the flower previously unoccupied by it. Quite recently a variety of *P. amabilis* has flowered at Kew, having the lower or contiguous halves of the lateral sepals conspicuously spotted, as in *P. Stuartiana*. The latter, as we now find it, has a labellum not unlike *P. Schilleriana*, and supposing the hybrid to have occurred in a state of nature many hundreds of years ago, ample time and opportunity would have been afforded for *P. Stuartiana* to have become modified to its present form. —*J. F.*

Lycaste Skinneri.—The pliability and variability of this species is notorious to those who grow a collection. Like all other *Lycastes*, this species bears normally a solitary flower on each scape; but frequent instances occur of two-flowered scapes in Mr. Peacock's collection at Sudbury House, Hammersmith. The tongue or crest on the labellum is another striking instance of variability, but is usually more intensely coloured than the rest of it. We recently saw an instance of a yellow crest; but in the above noted collection a flower with delicate rose petals, and a labellum similarly blotched, exhibited a pure white crest. This is the more notable seeing that the process in question is the last to part with its colour.

Odontoglossum Edwardi.—The singular colour, no less than the fragrance and the profusion of flowers, constitutes this one of the most distinct species grown, and argue for its reception in every collection of any extent. The colour of the flower is rather difficult to describe, and at the same time seems to vary in individuals; consequently, we hear of it described as violet-blue, violet-purple, or mauve with a violet tint. Those at Sudbury House, Hammersmith, appeared recently of a reddish purple tint. The

flowers smell of Violets, or, according to some, of Violets and Primroses.

Miltonia Warscewiczii.—The puzzling and labyrinthic synonymy with which this plant is fettered in gardens is a source of great annoyance, notwithstanding its distinctness when in flower. Besides the above name, *Oncidium fuscum*, *O. Weltoni*, and *Odontoglossum Weltoni* are all current in gardens, and difficult to discard when once they have become disseminated. The sepals and petals are ordinarily of a cinnamon-brown, the labellum violet-purple with a yellow blotch at the base, a pale margin at the apex, and an extremely curious varnished blotch on the middle. There are several distinct forms at Gunnersbury Park, some of which are much more deeply coloured than usual.

Phalænopsis Manni.—At first sight this may remind one of *P. Cornu-cervi*; but it wants the peculiarly flattened and notched peduncles of the latter, which give rise to the specific name of Stag's-horn. The sepals and petals are much longer comparatively than that species, narrow, and blotched with brown on a yellow ground; while the pale yellow labellum is furnished with violet tints at the base. It is grown as a basket plant at Gunnersbury Park, Acton, amongst other East Indian Orchids.

Cypripedium Stonei.—A healthy well-flowered specimen of this noble Orchid may be seen at Gunnersbury Park, Acton, where Mr. Roberts has always something interesting in the Orchid way, notwithstanding the amount of cut bloom that is required. Three flowers on a stem are generally all that may be reckoned upon; but three stems, each bearing four flowers, with their long pendent petals, have a fine effect. These latter are of a china-white colour, variously suffused and streaked with red, purple, and pale yellow. The singular slipper-shaped labellum of this species is also strikingly distinct from that of other *Cypripediums*, except *C. S. platytenium* and the hybrid *C. Morganiae* of that group.

Dendrobium Devonianum.—Under good treatment this lovely Dendrobe is not to be despised, even in a collection that lays some pretensions to being of a select nature. Several plants have been gay with bloom for some time at Devonhurst, Chiswick, where Mr. Wright looks upon it with great favour. The flowers are produced in lateral clusters on slender stems devoid of foliage during the flowering season, and are notable for the exquisitely delicately-fringed labellum, which is purple in the throat, with two large golden blotches above this on a white ground. It is tipped with purple, as are the sepals and petals; while the latter are unusually dark-coloured and reticulated with purple. Unless skilfully managed, this species is liable to degenerate or become weak and flower less freely in a few years after importation.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

THE SEEDLING TUBEROUS BEGONIAS having now made a good start have been removed to the stages in the intermediate house, there the growth made will be much more satisfactory than if kept in too high a temperature; and when I say that Strawberries in the ripening stage are kept on the shelves in this house, it will be readily understood that an abundance of air is admitted. Keep an eye on all the last season's bulbs which had not started when the first batch were potted up, and if no signs of growth are apparent, shake out the bulbs to see the cause, which will probably be due to rot; or, if sound, then the bulbs may be placed in pans or boxes in leaf-mould to induce them to make a start. The variety *Frœbelli* may yet be allowed to remain dormant, as it is, strictly speaking, an autumn-flowering variety; but if the pots are stored in a very dry position, it will be advisable to remove them and stand them upright in some place, but out of the way of drip, or the bulbs will be apt to rot.

THE POT ROSES are now going past, and consequently they have been placed in a sheltered position out of doors, and their place will at once be taken with Tomatos in 12-in. pots, which have been potted on for the purpose; we have never had such a satisfactory lot of pot Roses, the bloom from them having been most abundant and of good substance and quality. The kinds we mostly grow are *Gloire de Dijon*, *Jules Margottin*, *Baronne Prevost*, *Maréchal Niel*, *Le Pactole*, and last, but best of all, *Devoniensis*; this, when worked upon a suitable stock, is indeed a perpetual-flowering variety.

Those put into heat earliest are now growing away luxuriantly, with flower buds at almost every break; of course high culture is necessary, that is, by frequent feedings and changes of liquid manure, or they will soon wear out. They will also require re-potting annually; in fact, all pot Roses to succeed must be so attended to, but directions later on will follow.

PETUNIAS, &c.—We have potted off a good batch of double Petunias, autumn-flowering Begonias and other things, and put them on the side stages of the intermediate house, where they are under constant attention, so very necessary with such an important class of plants, for very much depends upon the manner in which these plants are grown and the condition of the houses later on; no after care can make amends for neglect in this respect now. Pelargoniums are fast coming into flower, and consequently require attention; keep the plants frequently turned that the flower may not become drawn or one-sided, and manure of some kind should be given at every watering, varying it as much as possible. Should green-fly make its appearance, fumigate at once, taking care that it is not too strong a dose; but rather let it be done upon three consecutive nights lightly.

THE FRUIT HOUSES.

MUSCAT GRAPES.—We have finished the thinning of the Muscat Grapes, and by the time these notes appear shall also have completed the thinning of the succession vineries, thus leaving us only the Lady Downes to attend to in this respect. The work has been carried on early and late, and glad we are it is out of hand, that time may be devoted to other pressing work. As soon as possible the late Vines must be gone over, the laterals stopped and looped down to prevent injury to the foliage by remaining in contact with the glass. Although the weather has been unsettled, the rainfall has been light, rendering watering of Vine borders a necessity. We continuously feed our Vines with Clay's manure, and find the best results from its use.

THE EARLY PEACH TREES should now shortly commence the final swelling of their fruit. As soon as this is perceived, more generous treatment may be followed; the borders should be frequently watered, giving a change always in the manure which may be applied. A higher temperature may also with advantage be maintained, particularly at closing time. The house may be slightly ventilated through the night, for it must be borne in mind that thorough ventilation is necessary for the production of good fruit. Let the foliage be tied back from the fruits, that they may be fully exposed to the light and sun, and so take on a good deep colour.

Through press of work we have not yet heeled in the late Peach trees, but time must be made now that the Grape thinning is over. The border of the house has been filled with Tomatos in pots, which are trained to twine and run in a double row the length of the house, and also at each end, but not so as to obstruct light. Make regular sowings of Melons and Cucumbers, taking care that they are planted out before they become pot-bound; pay due attention to the stopping and training of both to prevent overcrowding.

THE KITCHEN GARDEN.

SEED SOWING, &c.—We have sown different varieties of Kale and late Broccoli, protecting at once with wire guards, as the birds make sad havoc just as they are bursting through the ground, and frequently much mischief is often done before it is noticed. The weather continues unsettled, and we hope to take advantage of it for planting out our early batch of Celery, immediately giving a thorough soaking of water that the removal may not cause a check, or bolting is apt to follow. It will be advisable now to take off and prick out sufficient Violet runners for next season's beds, afterwards forking out the old roots and giving a good dressing of manure to the ground, as they are a most exhaustive crop.

Another matter requiring immediate attention is the disbudding of Peach trees; we have secured a good set of fruit and the trees are making a clean free growth, at the same time early disbudding is advisable, as should green or brown-fly attack them they are so much more readily cleansed; it is also of the greatest benefit to the young fruit, which makes but little headway if not assisted thus early. Look well to the sowing of Radishes and small salad, choosing a cooler position from now onwards, as we may reasonably expect hot

weather shortly ; remove old Broccoli stools as soon as the heads are cut, give a good dressing of farmyard manure, and dig the squares ready for next crop as may have been determined.—*Walter Child, Croome Court.*

GARDEN PLANTS ILLUSTRATED.

ONCIDIUM JONESIANUM.

This handsome Orchid has rather a singular history, and was actually in our midst before anyone recognised or would notice it ; it comes from Paraguay. The sepals and petals are whitish, more or less pure in good varieties, and handsomely spotted with brownish purple. The labellum, however, constitutes the most attractive feature of the flower, both from its size and the distinctness of its colours. The small lateral lobes are yellow, while the terminal one is pure white with few or numerous purple spots. In the variety *O. J. phœanthum*, the sepals and petals are brown, while the labellum is altogether unspotted. This form is now in the collection of Sir Trevor Lawrence.—*Reichenbachia*, t. 21.

SACCOLABIUM GIGANTEUM.

The general appearance of this Orchid at once distinguishes it amongst its congeners as a truly noble species, which, it is hoped, will become common. The leathery evergreen leaves form an effective background to the massive pendent spikes of bloom that are desirable, not only on account of their beauty but their delicious odour. The sepals and petals are white spotted with amethyst ; while the labellum forms a notable feature of the whole flower from the large apical amethyst blotch. It is a native of Burmah, Siam, and Cochinchina, and requires warm moist treatment, such as is given to Vandas in the East Indian house.—*Reichenbachia*, t. 22.

MASDEVALLIA BACKHOUSIANA.

The general appearance of this species recalls that of *M. chimera* : but the flowers are evidently smaller in all their parts, and the flower-stalks mostly pendent. The sepals are broadly ovate-triangular, whitish or yellowish white, and beautifully spotted with purple. The interior and margins are curiously furnished with thready filaments. The deep dull purple tails are shorter than in *M. chimera* ; but a very characteristic feature of the species resides in the oblong labellum with numerous blunt teeth along the margin. It was discovered by Messrs. Backhouse's collector near Frontino, in New Grenada.—*Reichenbachia*, t. 19.

FLORICULTURE.

AURICULAS.—The exhibition over, and the plants again arranged on the stages, the cultivator has leisure to examine and enjoy his flowers. Had the show been a week later, I would have staged a very interesting collection of doubles, but my plants always bloom late. The work now to be done is to shade the plants from hot sun, keep any decaying foliage picked, the surface-soil clean and sweet, and never allowed to want for water. If small plants are allowed to flower, they should not be permitted to bear seed, as it weakens them so much. As much air as possible should be given, but any plants that have been fertilised for seed purposes should be kept away from insects. I am already re-potting young stock. I put them into small pots after shaking them clear of soil, and then I re-pot in fresh. It is a great mistake to over-pot Auriculas, and especially young plants ; it is easy to give them another shift at the end of the summer. From seed I have had a few very handsome doubles that have bloomed for the first time this season. I have now about two dozen varieties, all of a very interesting character.—*R. D.*

FINE NAMED AURICULAS THAT ARE PROCURABLE.—This last word is full of meaning ; because anyone who visited the Auricula show at South Kensington on the 26th ult., might possibly have taken a list of names of Auriculas that were shown in the belief that they were as easily procurable from a nursery as some Carnations and Show Pelargoniums. The fact is, a considerable number of the finest flowers are not procurable at all—many of them were seedlings ; the whole stock consisting of the one plant shown ; and when they may be sent out in the usual way, it is quite difficult to determine.

But there are certain fine varieties that can be had by anyone willing to pay the prices demanded for them. Among the green-edged flowers, are Colonel Taylor (Leigh), Freedom (Booth), Prince of Greens (Trail), Anna (Trail), Talisman (Simonite), The Rev. F. D. Horner (Simonite) and J. Crossley (Pohlman). All these are high-priced flowers, averaging from 7s. 6d. to 15s. each, according to the strength of the plant. Among the more numerous class of grey edges there are several very fine sorts, such as George Lightbody (Headly), Alexander Meiklejohn (Ray), Lancashire Hero (Lancashire), William Brockbank (Mellor), Frank Simonite (Simonite), Mrs. Moore (Douglas) and Rev. Horner (Pohlman). Of white-edged flowers there are Heaps' Smiling Beauty, John Simonite (Walker), Acme (Read), Reliance (Mellor), Conservative (Douglas), Silvia (Douglas) and Dr. Kidd (Douglas). A new variety now in course of distribution is Mrs. Dodwell (Woodhead), and this is a fine promising variety. Of selfs, the following fine varieties are readily obtainable ; Helen Lancaster (Pohlman), Garibaldi (Pohlman), Pizarro (Campbell), Mr. Douglas (Simonite) and Sapphire (Horner). Other fine new selfs in course of distribution are ; Black Bess (Woodhead), Blue Peter (Royds), Brunette (Pohlman), Brilliant (Pohlman), Nell Gwyne (Pohlman) and Miss Pohlman (Pohlman).

The rapidity with which new Auriculas increase just now is something astonishing. One effect will be to considerably reduce the prices of new varieties. If ten or a dozen are let out in one season at a guinea, it is obvious that growers will have to make a selection, waiting until reduced prices enable them to add the remainder to their collections.—*R. D.*

HORTICULTURAL SOCIETIES.

Scottish Auricula and Pansy.—*May 4th.*—This newly-formed society held its first annual show in the Carlton Convening Rooms, Waterloo Place, Edinburgh, on Wednesday ; and the promoters are more than satisfied with the success of the movement, the number of exhibits—about 300—being beyond their expectations. Plants were sent from places as far distant as Forfarshire and Slough, and show varieties made a large and interesting class. A very interesting collection of Primulas was exhibited from the Royal Botanic Garden, in which were included plants from the Himalayas, grown 12,000 ft. above the sea level. Another plant on the stand which might be said to be conspicuous by its tiny proportions, was a species from Caithness, the only place in the world where it is known to exist. There were also Primulas from Siberia, China and Japan. Mr. Alexander Calder, sculptor, Bellevue, Edinburgh, exhibited a collection of seedling Primulas ; and there were also exhibits from Mr. W. B. Boyd, Faldonside, Melrose ; Mr. R. Cathcart, Pitcairnie, Fifeshire, and others. Mr. Mackinnon, Melville Castle, showed a collection of forty-six different varieties of Narcissus ; and Messrs. Dickson & Sons and Dickson & Co., nurserymen, exhibited stove and greenhouse plants, which served as decoration for the room.

FLOWER SHOWS, 1887.

- MAY 9.—Royal Horticultural Society, South Kensington
 „ 21.—Crystal Palace
 „ 24.—Royal Horticultural Society, South Kensington
 „ 27.—Grand National Horticultural Exhibition at Manchester opens
 JUNE 13.—Royal Horticultural Society, South Kensington
 „ 15, 16, 17.—Grand Floral Fête at York
 „ 17.—Scottish Pansy Society, Edinburgh
 „ 21, 22.—Leeds Horticultural Society
 „ 28.—Royal Horticultural Society, South Kensington
 „ 29.—Richmond (Surrey) Horticultural Society
 „ 29.—Croydon Horticultural Society
 JULY 5, 6, 7.—Flower Show in Victoria Park, Portsmouth
 „ 5.—National Rose Show at South Kensington
 „ 6.—Wimbledon Horticultural Society
 „ 7.—Rose Shows at Bath, Farnham, Farningham, Hitchin, Ipswich, and Romford
 „ 12.—Royal Horticultural Society, South Kensington
 „ 12.—Oxford Rose Show
 „ 13.—Royal Caledonian Horticultural Society
 „ 13.—National Rose Show, Edinburgh
 „ 13.—Bedford Horticultural Society
 „ 14.—Flower Show at Chiswick
 „ 20, 21.—Lewisham and District Horticultural Society
 „ 21.—Southwell Horticultural Society
 „ 22.—North Lonsdale Rose Show
 „ 22.—Crystal Palace Rose Show

- JULY 26.—Royal Horticultural Society, South Kensington
 „ 26.—National Carnation and Picotee Society
 AUG. 9.—Royal Horticultural Society, South Kensington
 „ 10.—Luton Horticultural Society
 „ 11.—Taunton Deane Horticultural Society
 „ 11.—South Hayling Horticultural Society
 „ 16.—Clay Cross Floral and Horticultural Society
 „ 17, 18.—Shropshire Horticultural Society, Shrewsbury
 „ 22.—Royal Horticultural Society, South Kensington
 „ 22.—National Co-operation Flower Show at South Kensington
 „ 25.—Wiltshire Horticultural Society, Salisbury
 „ 25.—Ludlow Horticultural Society
 SEPT. 7, 8.—Royal Caledonian Horticultural Society, Edinburgh
 „ 13.—Royal Horticultural Society, South Kensington
 „ 14, 15.—National Chrysanthemum Society at Royal Aquarium
 „ 26.—Royal Horticultural Society, South Kensington
 OCT. 10.—Royal Horticultural Society, South Kensington
 „ 12.—National Chrysanthemum Society, Floral Committee
 „ 25.—Royal Horticultural Society, South Kensington
 „ 26.—National Chrysanthemum Society, Floral Committee
 NOV. 8.—Royal Horticultural Society, South Kensington
 DEC. 13.—Royal Horticultural Society, South Kensington.

CHRYSANTHEMUM SHOWS.

- NOV. 1, 2.—Southampton
 „ 2, 3.—Richmond (Surrey)
 „ 3, 4.—Havant and Henfield
 „ 4, 5.—Crystal Palace, and Leicester
 „ 7, 8.—Surrey, at Peckham
 „ 8, 9.—Highgate, Brighton, Kingston-on-Thames, Southend-on-Sea
 „ 8.—Royal Horticultural
 „ 8, 9, 10.—Lambeth and Southwark
 „ 9.—Croydon
 „ 9, 10.—National, Ascot, Bath, Cornwall, Southgate
 „ 10.—Walton-on-Thames, Dawlish
 „ 10, 11.—Portsmouth, Ipswich, Weald of Kent
 „ 11.—Hitchin
 „ 11, 12.—Canterbury, Lewisham, Street
 „ 14, 15.—Sheffield and Hallamshire
 „ 15.—Reading, Putney
 „ 15, 16.—Watford, Winchester, Lincoln
 „ 16.—Ealing, Chelmsford
 „ 16, 17.—Birmingham, Hull, Dartford
 „ 17.—Taunton
 „ 17, 18.—Bury St. Edmunds
 „ 18, 19.—Sheffield and West Riding
 „ 22, 23.—Liverpool
 „ 23.—National : Floral Committee
 „ 23, 24.—Bristol
 „ 25, 26.—Pontefract
 „ 29, 30.—Edinburgh
 DEC. 5.—National : Floral Committee.

We shall be greatly obliged to Secretaries of Societies for corrections and additions.

QUESTIONS & ANSWERS.

SPORTING PELARGONIUMS.—*Heath End*: The trusses you send exhibit proliferation of the flower-stalk and branching of the primary pedicels. The cause is probably due to liberal feeding and good cultivation, but some varieties are more prone to this than others. We do not consider it "sporting," as that term is usually considered to mean that some of the flowers come of a different colour from that usually produced on the plant, or the leaves on certain shoots come different from the rest. Later on, the flower trusses may develop properly. We consider also that it would depend mainly on the private opinion of individual judges whether branching of the kind you send would be considered a defect in an exhibition plant. Owing to the branches of such trusses being of unequal length, their even and regular outline is somewhat marred ; and it would be desirable to avoid varieties that are prone to this habit rather than run the risk of being disqualified.

CALOCHORTUS v. CYCLOBOTHRA.—*G. W.*: The former is now the adopted name for all the species, which have been variously reckoned from 21 to 32, according to different authors. The genus was formerly divided into two by Don and Lindley, with the distinctions that *Calochortus* had its three outer segments of the perianth small and beardless, while the three inner ones were much broader, highly coloured, and bearded within. *Cyclobothra* was distinguished by all the segments being bearded and furnished with a depression or nectariferous cavity about the middle of each segment. There are various intermediate gradations, however, and all the species are conveniently grouped under the name of *Calochortus*.

DEUTZIAS.—*R. A. Wallace*: Although these are hardy in the true sense of the word, it would scarcely be proper to place them out of doors yet in full exposure. We presume you mean *D. gracilis*, which is the earliest flowering one, and that universally

forced. Those that have been left out of doors all the winter are in a condition to withstand a low temperature should they be subjected to it; but those that have been started into growth indoors are now tender, and should be encouraged to make young wood under glass if it is possible to accommodate them. Some growers retain their plants in pots for a period extending over many years, and feed them when coming into bloom, with satisfactory results.

CHEIRANTHUS MARSHALLI.—*Propagator*: This fine orange-flowered plant is generally reckoned a hybrid between *Cheiranthus* or *Erysimum alpinum* and *Erysimum Peroffskianum*. One of the reasons for supporting this idea is that no seeds are produced, although the plant flowers profusely. It is, however, easily propagated from cuttings if you can procure them. Small plants frequently, however, do not develop leafy shoots at the base of the flowering one, but die after exhausting themselves in the production of flowers. If there is any apparent danger of this, the flower-buds may be removed as early as possible to encourage side shoots.

CRYPTOMERIA.—*E. F. C.*: *C. elegans* is the most ornamental of the two known species, especially when well grown and of some size. This is due to the much longer and more numerous leaves, which give the branches a plummy appearance. The whole tree assumes a bronzy crimson colour in winter, owing to the sinking of the temperature; it, however, regains its colour in spring as the days become warmer. It is much more susceptible of injury from frost in winter than *C. japonica*, consequently it frequently gets killed in severe winters if at all exposed. *C. japonica* is rather straggling, but pyramidal in habit, and being hardy, we frequently meet with specimens of considerable size in gardens.

SELAGINELLAS.—*W. G.*: The form you send us as *S. japonica* is *S. involvens* of Spring's *Monograph*. *S. involvens variegata* is a slender variety of the species, with creamy yellow or white tips. The species in question is a very variable one, and there is a form in cultivation named *S. texta* with simple altogether unbranched stems. The specimens you send called *S. involvens* (true) is a small form of *S. caulescens*—namely, *S. e. minor*. It is very suitable for a greenhouse temperature. There is a form of this same species named *S. e. japonica*, a native of Japan; but no specimens of that were enclosed in the box.

NAMES OF PLANTS.—*W. J. Thomson*: 1, *Angræum articulatum*; 2, *Eria ferruginea*; 3, *Aganisia cœrulea* (*Acacallis cyanea*); 4, not recognised; 5, *Epidendrum campylostachys*; 6, *Epidendrum Linkianum*; 7, *Catasetum gnomus*; 8, *Oncidium leucochilum*; 9, *Phalaenopsis Luddemanniana*; 10, very large and bright *Masdevallia Harryana*; 11, *Saccolabium micranthum* Reich. f. *Constant Reader*: *Fuchsia cordifolia*. *J. H. M.*: 1, *Polystichum acrostichoides*; 2, *Nephrolepis exaltata*. *A. Elliot*: The Gold Fern (*Gymnogramma chrysophylla*) and *Doryopteris palmata*; the *Punkia* is *F. Sieboldi*. *Dr.*: 1, *Amelanchier botryapium*; 2, *Musearia botryoides*; 3, *Doronicum caucasicum*; 4, *Pernettya mucronata*; 5, an *Andromeda*; 6, *Andromeda floribunda*; 7, *Anemone nemorosa*. *H. A.*: The Orchid is *Dendrobium Farmeri*; the flowerless plant, *Ruellia Portellæ*; the *Begonia* is *B. glaucophylla*.

ERRATUM.—At p. 555, eighth line from the bottom of the page, for "on one of which is nine flowers," read "on one of which are nine flowers."

COMMUNICATIONS RECEIVED.—A. F. B.—E. J.—J. M.—G. T.—W. D.—J. W. (thanks).—T. C.—J. B.—D. T.—A. H. C.—Incog.—W. C.—S. H. B.—W. B.

TRADE CATALOGUES RECEIVED.

BENJAMIN FIELD, 75a, Queen Victoria Street, E.C.—Horticultural Soils, Sundries and Pottery.

J. CRUTE, 14, Knightbridge Street, E.C.—Concave Flower Pots.

ROZAIN-BOUCHARLAT, successor to **BOUCHARLAT AINÉ**, 84, Grande Rue de Cuire, Cuire-lès-Lyon, France.—Catalogue and Current Price of Novelties.

LONDON SEED TRADE.

May 4th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a smaller demand for Agricultural Seeds. Prices of Foreign Red Clover, White Clover and Alsike, and Trefoil are very low; English Red being scarce realises full prices. Spring Tares sell slowly at unchanged rates. Bird Seeds are neglected.

COVENT GARDEN MARKET.

May 5th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.	
Apples, ½ sieve	2	0	5	Pine-apples, St.		
New Grapes ..per lb.	5	0	8	Michaels, each	1 6 6 0	
Kent Cobbs... 100 lbs.	6	0	0	Pine-apples, Eng., lb.	1 0 1 6	
Peaches....per dozen	20	0	30	0	Strawberries, per lb..	4 0 8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.				
Artichokes, Globe, doz.	2	0	3	Horse Radish, bundle	3	0	5	0	
Beans, French, per lb.	2	0	2	6	Lettuces .. per dozen	1	6		
Beet, per dozen	2	0	3	0	Mushrooms, p. basket	1	0	2	0
Brussel Sprouts, per lb.	0	3			Onions, per bushel ..	4	0	5	0
Cabbages per doz.	2	0	2	6	Parsley, per bunch ..	0	6		
Carrots, per bunch ..	0	6			Radishes, per dozen ..	1	6		
Cauliflowers, English,					Sea Kale .. per basket	1	6	2	6
per dozen	3	0	5	0	Smallsalading, punnet	0	4		
Celery, per bundle ..	2	0	2	6	Spinach, per strike ..	2	0		
Cucumbers, each	0	6	1	0	Tomatos, per lb.	2	0	3	6
Endive, French, doz.	2	6	3	6	Turnips per bun.	0	6		
Herbs, per bunch	0	2	0	4					

Potatoes.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.			
Anemones...12 bun.	2	0	4	Marguerites, 12 bun...	3	0	6	0
Arum Lilies, 12 blms.	3	0	5	Mignonette, 12 bun...	4	0	6	0
Azalea, 12 sprays ...	0	6	1	Parne Violets (French),				
Bouvardias, per bun.	0	6	1	per bunch	2	0	3	6
Camellias .12 blooms	1	0	3	Pelargoniums, 12 spys.	0	6	0	9
Carnations, 12 blooms	1	0	3	Pelargoniums, scarlet,				
Cut Tulips, 12 blooms	0	4	0	12 sprays..	0	4	0	9
Czar Violets (French),				Primroses, 12 bunches	0	6	1	0
per bunch	0	9		Primula, double, bun.	0	9	1	6
Daffodils, dble., 12 bun.	2	0	4	— single ...12 bun.				
— single ...12 bunches	1	0	2	Roses (coloured)	3	0	6	0
Epiphyllum, 12 blms.	0	6	1	Roses, Tea per dozen	1	0	2	0
Eucharis, per dozen...	3	0	6	Roses, red (French),				
Gardenias, 12 blooms.	1	6	3	per doz.	1	6	2	0
Heliotropes, 12 sprays	0	6	1	— Saffron (French),				
Hyacinths, in boxes,				per doz.	1	0	2	0
from Holland..box	1	6	4	Spirea...12 bunches	6	0	9	0
Lapageria, red, 12 blms.				Tropæolums	1	0	2	0
Lapageria, white, 12,,				Tuberoses, per dozen.	1	0		
Lilies of the Valley				Violets ...12 bunches	0	4	0	9
12 sprays	0	6	1	Wallflowers .12 bun.	2	0	6	0
Lilium longiflorum,				White Jasmine, bun.	0	6	0	9
12 blooms	4	0	6	Xmas. Roses, 12blooms				

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Aralia Sieboldi, doz.	6	0	18	0	Fuchsia per dozen	9	0	12	0
Arum Lilies, per doz.	9	0	12	0	Genesta....per dozen	6	0	9	0
Azalea per dozen	24	0	42	0	Hydrangea...per doz.	9	0	12	0
Cineraria...per dozen	6	0	9	0	Lily of the Valley,				
Cyclamen...per dozen	10	0	18	0	12 pots	12	0	18	0
Cyperus, per dozen	4	0	12	0	Lilium longiflorum,				
Daffodils 12 pots	8	0	10	0	per doz.	24	0	36	0
Dracæna term., doz.	30	0	60	0	Marguerites, per doz.	6	0	9	0
— viridis, per dozen	1	0	24	0	Mignonette..per doz.	6	0	9	0
Epiphyllum, per doz.					Palms in variety, each	2	6	21	0
Erica, various...doz.	18	0	42	0	Pelargoniums....doz.	9	0	18	0
Evergreens, in var.,					Pelargoniums,scarlet,				
per dozen	6	0	24	0	per dozen	4	0	8	0
Fairy Roses...per doz	10	0	12	0	Rhodanthe...per doz.	6	0	9	0
Ferns, in var., do	4	0	18	0	Roses (various)..doz.	18	0	30	0
Ficus elastica, each	1	6	7	6	Solanums....per doz.	9	0	12	0
Foliage Plants, vari-					Spiræas per dozen	12	0	18	0
ous, each.....	2	0	10	6	Tulips...per doz. pots				

POTATO MARKET.

KING'S CROSS.—The ruling prices during the week ending April 30th were as follows:—

	Beds.	Black Land.	Linclns.	Kents	Yorks	Setch. Scotch	Gy. Sl. Red Sl.
Mags. gd. spls.	70/75	65/70	72/6, 80/	75/80	85/100	75/95/125/135/	
Regents ..	..	..	70/	80/90	75/80/	75/85/95/120/	
By. Hebron ..	..	..	..	..	..	67/75/75/80/-	
Champions ..	..	..	65/70	70/75/	..	..	

During last week 306 trucks arrived at King's Cross, and 415 were emptied; 58 arrived on the 30th, and 329 were in stock. In consequence of the inferior quality of the samples on hand, good Potatoes (especially Magnums or Regents) are fetching extraordinary high prices. The demand for good quality tubers just now is ten times in excess of the supply, and consequently anyone holding really tip-top stuff has the monopoly of the trade. The present cold weather is in favour of old Potatoes; but should it turn warm, prices will become weaker, except for very best stuff.—*F. W. Foord*.

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CRYSTAL PALACE.—GREAT FLOWER SHOW OF SEASON, Saturday, May 21st. Schedules and entry forms on application to **W. G. HEAD,** Garden Superintendent.

Next Week's Engagements.

MONDAY, May 16th.—Sale of Imported and Established Orchids at Protheroe & Morris's Rooms.

TUESDAY, May 17th.—Sale of Choice Established Orchids from the well known collection of C. Dorman, Esq., at Protheroe & Morris's Rooms.

WEDNESDAY, May 18th.—Special Sale of Orchids in Flower at Stevens' Rooms. Sale of Greenhouse Plants, &c. at Protheroe & Morris's Rooms. Sale of Stove and Greenhouse Plants at Arle Court, Cheltenham, by Protheroe & Morris.

THURSDAY, May 19th.—Sale of Imported and Established Orchids at Stevens' Rooms. Sale of Greenhouse Plants, Orchids, &c., at Dudley House, Nightingale Lane, Balham, by Protheroe & Morris.

FRIDAY, May 20th.—Important Sale of Imported Orchids by order of Mr. F. Sander, at Protheroe & Morris's Rooms.

SATURDAY, May 21st.—Annual Sale of Bedding Plants at the American Nurseries, Leytonstone, by Protheroe & Morris.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, MAY 14, 1887.

THE AMERICAN EXHIBITION.—In an undemonstrative but business-like manner, as becomes a practical people like the Americans, was opened on Monday last an exhibition of the arts, manufactures and natural productions of the United States, which must prove of incalculable benefit to the nation most closely interested in its success, and not less so as a means of still further cementing the bonds of amity and good will that exists between the peoples of the mother country and of the lost colony.

The exhibition, which will remain open until the end of October next, is most conveniently situated at Earl's Court, having abundant railway accommodation on three sides. The main gallery, which is 1,140 ft. long and 120 ft. wide, is most easily reached from West Brompton station, the gardens from West Kensington, and Buffalo Bill's famous "Wild West" from Earl's Court. On Monday much of the space in the main gallery had not been taken up by the exhibitors, but this is a matter that will doubtless soon be put right, when we shall hope to bring under the notice of our readers such American contrivances as are likely to be of use or interest to them.

For the nonce we may confine our remarks to the gardens, which are of a more than

usually interesting character, insomuch as the main idea which has been carried out in the planting has been to introduce only the native trees and shrubs, and hardy herbaceous plants of North America, with the view, as far as possible, of giving an idea of the beauty and variety of North American vegetation. What is called the West Garden is the most natural in contour, and the one which will afford most pleasure to the visitors; and in justice to that able young landscape gardener, Mr. William Goldring, who designed the whole, and has superintended the formation and planting of the gardens, we must say that he has admirably succeeded in creating a pleasant place of resort out of about as ungainly a bit of ground as any man could have to deal with. In a few weeks' time, when the earlier plants come into bloom, all will be serene and gay; and the grouping has been so happily carried out that a constant succession of bold masses of brilliant colours will be provided to the end of the season. It was a happy idea in this forcible manner to demonstrate the extent of our indebtedness to North America for the beautiful hardy plants that add so much grace and beauty to our borders.

We are informed that the council of the ROYAL HORTICULTURAL SOCIETY have resolved not to hold the proposed Chrysanthemum Show and Conference which had been fixed for November 8th and 9th next.

MR. PHILIP FROST, of Dropmore, died on Tuesday morning last, aged 83 years.

At the meeting of the LINNEAN SOCIETY at Burlington House on the 5th inst., Mr. A. H. Kent, of the Royal Exotic Nursery (Messrs. James Veitch & Sons), Chelsea, was elected an Associate of the Society.

THE twentieth annual exhibition of the CHEADLE HORTICULTURAL SOCIETY will be held on August 19th and 20th.

At the DRESDEN HORTICULTURAL EXHIBITION, which was opened on the 7th inst., Mr. B. S. Williams, of the Victoria and Paradise Nurseries, Upper Holloway, London, was awarded two Gold Medals and the Prize of Honour for his collection of new and rare plants, comprising Orchids, Amaryllis, Himantophyllums, &c.

MR. FRED. HORSMAN, of Colchester, being in Ghent on Monday last, was invited to act on the Jury at the meeting of the Belgian Chambers of Horticulture held in the Casino. The best Orchid exhibited on the occasion was a pale yellow variety of *Odontoglossum scepterum*, which received a Certificate.

The following subscriptions have been promised to the GARDENERS' ROYAL BENEVOLENT INSTITUTION, since the 6th inst. The Baron Ferdinand de Rothschild, M.P., £52 10s.; Messrs. Railton & Co., Melbourne, New South Wales, per N. N. Sherwood, Esq., £5; G. F. Wilson, Esq., Weybridge, £5 5s.; Richard Chimes, Esq., Rotherham, £5; J. McDonald, Esq., Chichester, £1 1s.; Miss Jones, Brynstedford, Conway, £3; Mrs. Wilder, Sulham, Reading, £2 2s.; Mrs. A. C. Bishop, Brandean, Alresford, 10s.; Sir C. H. Strickland, Bart., £1 1s.; Messrs. F. & A. Dickson & Sons, Chester, £1 1s.; W. Godwin, Esq., Chester, £1 1s.; J. Bentley, Esq., Barrow-on-Humber, £1 1s.

At a meeting of the LINNEAN SOCIETY held on May 5th, Mr. J. G. Baker, of Kew, exhibited some photographs of *Narcissus calathinus* or *N. triandrus* sent by Mr. Wm. Brockbank. The numerous recent importations of this species exhibit a great range of variability in respect to the length, colour and fission of the corona normally entire. Mr. Frederick J. Hanbury exhibited fresh specimens of *Primula veris*, *P. vulgaris* and *P. elatior*, with intermediate or hybrid forms; Mr. Baker said that the paucity of these latter in England is purely accidental, as on the Continent they are plentiful where the typical forms grow together in the same locality. Mr. R. A. Rolfe, of Kew, exhibited a number of hybrid *Cypripediums* and read a paper on bigeneric hybrids, describing a number (about four) that have already been produced by the hybridist. This was chiefly to illustrate one that he exhibited and discussed, a *Sedenian* production which he proposed to name *Zygo-colax*, compounded from the generic name of the parents, *Zygopetalum crinitum* and *Colax jugosus*.

ARTIFICIAL FERTILISATION OF CUCUMBERS AND MELONS.

Is this necessary? or is it only a kind of old-world tradition that has fallen away before the test of time? The notion that this process is requisite certainly did once, and perhaps does so now, constitute an important article of faith among practical horticulturists. I turned up an old copy of the *Gardeners' Magazine* the other day, and therein I read that "it is now so much the custom to question and sift the points of orthodoxy, that we make no apology for obtruding on the cultivator of these plants our opinion that artificial impregnation entails a waste of time, and the fruit will set as freely without such, as with it. Wisdom in such a case as this may be looked for in a multitude of counsellors; and we should hear from cultivators, and especially those who grow Cucumbers during winter, and have Melons ripe in spring, what is their opinion on the subject. The 'setting' of the crop by hand is insisted on in all garden calendars, in all treatises, large and small, and in all verbal instructions. If it is not necessary, the immense amount of time consumed thereby is wasted. In raising seed, and in the practice of cross-breeding, it is granted, of course, that artificial impregnation may be practised more or less, whether to preserve the purity of a certain stock, or to originate new varieties. But in the thousands of gardens where handsome and well-flavoured fruit is everything, and seed of no consequence at all, we believe the operation to be altogether unnecessary. At all events, we have managed to secure for our own use, for many years past, Cucumbers and Melons in sufficient plenty, without putting ourselves to the trouble of applying the pollen, and have long since been satisfied that, except for the production of seed, it is labour wasted."

This is another instance of the way in which "old opinions" on matters horticultural are being sifted and modified, if not altogether abandoned. Almost daily there are occurring instances in which there has been a change in some of the details of the cultural process, as new experience comes to cultivators. That fertilisation assists the production of seed there can be no doubt. But impregnation can scarcely have the effect of producing fruit of the most approved symmetrical dimensions if the process be resorted to. It is one of the old ideas that we may safely assume has become obsolete.—*R. D.*

NEW PLANTS CERTIFICATED

By the Floral Committee of the R. H. S.

May 10th, 1887.

NARCISSUS CAPTAIN NELSON.

This is a very free-growing variety of the Ajax section, with large and bold flowers. The segments are oblong and blunt as in the common Daffodil, in contradistinction to the broad segments of *N. bicolor*. They are also about equal to the corona in length, somewhat twisted and of a pale yellow colour. The cylindrical corona is deep yellow, with a wide-spreading lobulate and crisped orifice. Exhibited by Messrs. Barr & Son, 12 & 13, King Street, Covent Garden; also by Mr. T. S. Ware, The Hale Farm Nurseries, Tottenham.

NARCISSUS INCOMPARABILIS GLORIA MUNDI.

Although the specific name of this Daffodil recalls long, narrow, starry segments, that in no way overlap one another, this new variety shows broadly oblong, or oval, very much imbricated segments, of a soft yellow, very much as in the type in the latter respect. The corona is of a medium length, shallow-lobed and crisped, and of a fine orange colour, fading towards the base. On the whole, the flower shows a marked improvement upon the type. Exhibited by Messrs. Barr & Son, 12 & 13, King Street, Covent Garden.

NARCISSUS MADAME DE GRAAFF.

The flowers of this variety exhibit a parentage between the large Trumpet Daffodil, Emperor, and *N. moschatatus*. The long tubular corona is very fine, with a closely revolute rim, a rather distinct feature in a natural flower. As might be expected, a little of the yellow of Emperor is infused into it, so that the white of *N. moschatatus* gives place to lemon. The segments of the perianth are broadly oblong obtuse, white, and somewhat shorter than the long crown. Exhibited by Messrs. Barr & Son for Messrs. S. A. de Graaff Bros., Leyden, Holland.

NARCISSUS GLORY OF LEYDEN.

Of all the varieties of the *N. bicolor* section of Daffodils, this deserves the title of king. Being a cross between Emperor and *N. bicolor*, it exhibits the broad perianth segments of the latter; and are broadly oblong, pale yellow, and about equalling the corona in length. The latter is conspicuous to the most casual observer from the enormous width, lobed at the mouth, deep yellow, and of great substance; this was noticeable after they were partly faded. The leaves are stated to grow as broad as those of the German Iris. Exhibited by Messrs. Barr & Son for Messrs. S. A. de Graaff Bros., Leyden, Holland.

FRITILLARIA PALLIDIFLORA.

Amongst the dwarf species of Fritillary, that under notice must be considered one of the best. The stems do not, as a rule, exceed 1 ft. in height, and bear several flowers each, according to their strength. These are drooping, large and pale or straw-yellow, with numerous small black dots on the inner face of the segments. The leaves are oblong, lance-shaped, and of a deep glaucous hue, which, together with the large conspicuous flowers, constitute this a useful plant for the herbaceous or bulb border. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

PRIMULA SIEBOLDI, WARE'S WHITE.

At first sight the flowers of this remind one of some of the Apocynaceæ, on account of the length of the wedge-shaped segments of the corolla. They are, of course, white, as the varietal name implies; but although not so large as those of *P. Sieboldi grandiflora*, are much more conspicuous and ornamental, because the pedicels are short, firm, and bear up the flowers, whereas in the latter they droop, showing the back of the flowers, and accordingly appear half closed. It adds another to the number of varieties of a most ornamental species. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

NEW PEDIGREE ROSES.

It would appear that Mr. Henry Beunett, of Shepton, is by no means to have a monopoly in the way of raising pedigree seedling Roses. Messrs. Alexander Dickson & Sons, of Newtonards Nurseries, Co. Down, are just introducing three; and while they bear testimony to the fact that such sterling varieties as *Maréchal Niel*, *Marie Baumann*, *Alfred Colomb*, *La France*, *Charles Lefebvre*, *Horace Vernet*, *A. K. Williams*, *Catherine Mermet*, *Lady Mary Fitzwilliam*, &c., have been introduced and made a position, yet, on the other hand, an enormous number of worthless varieties are annually sent out, which have to be discarded as soon as they are tested. They think they are within the mark when they state that five-sixths of the new Roses yearly introduced are worthless, and, in many instances, frauds. The explanation they offer is the feasible one that a haphazard method is generally adopted in the raising of new Roses, the great majority of which are the produce of seeds fertilised by insects or other natural agents. Therefore, they have essayed the raising of seedlings, and in doing so proceeded upon well thought-out lines, using as parents the most perfect varieties only; and the results, in several instances, they declare to be most gratifying.

These new varieties are as follows:—*H. P. Earl of Dufferin*, of remarkably vigorous growth and bushy habit, with thick handsome foliage; an early, continuous and late bloomer, flowers of large size, full, symmetrical, and delightful fragrance; colour rich velvety crimson, shaded with dark maroon. *H. P. Lady Helen Stewart* is also of vigorous growth, flowers well carried above the foliage, large, full, of the most perfect form, and finely perfumed; colour bright crimson scarlet, petals of great substance, large, round and beautifully smooth; a very distinct variety, flowering profusely throughout the entire season until late in the autumn. Tea-scented *Miss Ethel Brownlong* is the third; of robust branching habit, foliage fine, and very free flowering; flowers large, of great substance, petals thick and smooth; colour bright salmon-pink, with yellow shading at the base of the petals; thoroughly distinct and good. The first and third of these have received First Class Certificates of Merit, and so opportunity may be afforded of our seeing these new Roses in London and elsewhere during the season. It is pleasant to find that enterprise in Irish horticulture is to be noted, and any attempt to develop it will have at all times our warmest sympathy.

ORNAMENTAL-FOLIAGED BEGONIAS.

THIS class of Begonias, after having been neglected and, as it were, cast on one side for a number of years, seems to be again coming somewhat into fashion for decorative purposes. There is no doubt but what the large size the leaves of some of the older varieties used to attain had something to do with the cause of their being discarded for a time. The time they have been out of fashion has not been wasted by the hybridist, who has produced some remarkably fine varieties the last few years. A number of kinds have been obtained with very neat and compact foliage, distinct in colour and markings from any of the older sorts. A few of these small-leaved varieties have beautifully-spotted foliage, and when seen in a very young state they are really charming. A good use to put some of these small-leaved sorts to is to use them as a centre plant for some of the fancy china and earthenware pots that are now so much in vogue. A few mixed in amongst a quantity of pots give a very charming break from the monotonous green that we so often see adopted at nearly all entertainments where these fancy pots are brought into requisition.

One variety I consider especially useful for this kind of work; it is called *Annica*. The leaves are produced on foot-stalks about 3 ins. to 4 ins. long, the leaf at no time—if the plant be kept in small pots—exceeding 3 ins. to 4 ins. across, which being beautifully and thickly spotted with silver markings, make it a very presentable little subject at any time and for any purpose where small plants are wanted for decorative purposes. My reason for calling attention to this one variety is that I do not think it is sufficiently well known; for whenever I have called the attention of any gardeners to it, and pointed out its peculiar merits, all have seemed to fall in love with the little gem at once.

To cultivate the ornamental Begonia is no very difficult matter, as it will grow freely if potted in almost any light soil, and have the growing temperature of a stove given to it during the spring months; but it does not like to be syringed, as this will often cause the leaves to decay prematurely. During the summer season they will flourish well in an ordinary greenhouse—and it is from this structure they should be taken, when required, for decorating rooms, &c. They do not like the fierce rays of the sun to fall upon them, but do best when partially shaded; nor should they be stood in cold currents of air, as this cold air will disfigure the foliage as soon as anything.

To my mind they are at their best when grown in about 5-in. pots, and as they become shabby they can be either thrown away or placed on one side for propagating purposes. They are easily obtained by laying mature leaves down on some sandy soil or rubble, in a warm stove, where too much moisture does not settle upon them; a good leaf, in a few weeks, will yield a myriad of young plants that will, if handled well and potted along sharp, soon make good decorative plants. —W. G.

CAIGWYN, NORTH WALES.

A VISIT of inspection to this place recently well repaid the time involved, especially when conducted by Mr. George, the gardener in charge. A noble plant of *Strelitzia regina* bore thirty-five spikes of bloom, and its magnificence may be imagined when I state that it measured about 6 ft. in diameter. The singularly-constructed orange and indigo-blue flowers exhibit a remarkable contrast in that respect, and together with the spathe enclosing them, resemble the head of some bird. The scarlet spathes of well-flowered specimens of *Anthurium Schertzerianum* also show up well against a back-ground of their leathery evergreen leaves. A collection of Ferns and miscellaneous plants also grown here are noteworthy for the excellent growth they are making.

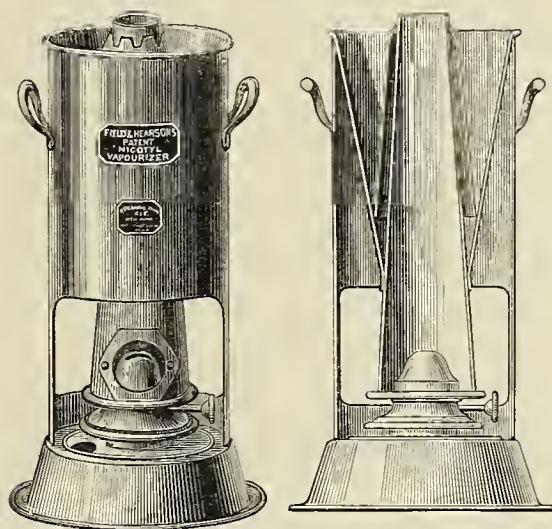
The greenhouse is now very gay with a varied lot of different plants in flower. A considerable number of Camellias, constituting a feature of the house, having finished flowering, were cut back in order to furnish nice bushy plants. They are now growing away freely, and will soon make shapely plants. Not only is this cutting back necessary to make them bushy, but I consider it advantageous to the grower whose house-room is limited. The Cinerarias, now flowering freely, are a very fine lot. Many of the individual heads of

bloom measured 2½ ins. in diameter, and exhibited a rich and interesting variety of all the most beautiful colours. Messrs. Sutton & Sons' strain is that grown.

The Cucumber-house was in full bearing condition; but of all the varieties grown *Telegraph* is the most popular and the most extensively cultivated. There were hundreds of *Chrysanthemums* in the most vigorous and healthy-growing condition. At this season, for want of other accommodation, they are grown for the time being in the Peach-house. From their appearance at present, I should think they would make grand plants by flowering time. All the houses have recently been repaired and painted; the whole place has been very much improved within the last two years, and Mr. George may be complimented for the care and attention he bestows upon them, and the clean and tidy appearance they present. —Visitor.

THE NICOTYL VAPOURISER.

FROM Mr. Benjamin Field, 75A, Queen Victoria Street, E.C., we have received a Nicotyl Vapouriser, invented by Messrs. Field & Hearson, for destroying insects in plant houses, by means of nicotine vapour instead of tobacco smoke. Since we first called the attention of our readers to this method of destroying the numerous insect pests that more or less infest plants grown under glass, a great number of growers have discarded the fumigator in favour of the new system; the advantages of the latter over the former being sufficiently proved by one or two trials. Hitherto, the



THE NICOTYL VAPOURISER.

only instrument offered in this country has been the *Thanatophore*, sold by Mr. B. S. Williams, and described in our issue for January 29th. Since the *Thanatophore* has been regularly used, it has been abundantly proved that while the vapour of tobacco juice is a deadly insecticide it will not injure the tenderest flower, and, therefore, for plants in bloom it is much safer to use than tobacco smoke. The Nicotyl Vapouriser, of which the accompanying is an illustration, and which is the first home-made contrivance that has come under our notice, is thus described by its inventors:—

"The apparatus consists of an annular vertical chamber, into which is dropped a conical cylinder, open at the top and bottom. The introduction of this open-ended cylinder divides the interior of the chamber into two annular portions: a smaller one, next to the centre flue, which for the purposes of this description we will call the super-heater, and an outer larger one, which we will call the boiler. Below the vertical opening in the centre of the chamber, which we will hereafter designate the lamp chimney, we arrange a lamp burner, and a reservoir for containing the paraffin oil, by the means of which the apparatus is heated. The boiler being filled to a certain height with the Nicotyl to be vapourised, and a certain measured quantity of oil poured into the reservoir, the lamp is lighted and allowed to burn until the whole of the oil is consumed."

LEUCOJUM TRICOPHYLLUM.—At the meeting of the Scientific Committee on Tuesday, the Rev. C. W. Dod showed a specimen of this plant. Though figured in an early volume of *The Botanical Magazine*, it appears to have been lost.

TETRATHECA ERICOIDES.

GROWERS of good old-fashioned greenhouse plants know the value of this species as a spring-flowering subject. Its mauve-coloured flowers, which are produced in long racemes, and in many cases much branched, have a very telling effect when arranged amongst other plants of the same class. Its easy culture, and the time it will continue in bloom is a sufficient recommendation to those who do not know the plant. It will possibly stand more punishment than any other of the so-called New Holland plants, and provided it is not absolutely starved to death, it will come forward in the spring as fresh as if it had received the most elaborate treatment.

It will commence flowering in a very young condition, but plants five or six years old, or even older, are those calculated to give the best display. Neither does it require a great amount of labour in staking; about half-a-dozen stakes will hold a good-sized plant in position, and allow it to assume that semi-pendent habit which causes it to be so attractive when in flower. It grows well in a mixture of peat and sand, and requires no further protection than an airy greenhouse from which frost can just be excluded.

To amateur growers who have never yet ventured on any of this class of plants, I should say try this *Tetradthea*. It will give a charming variety in colour, that is scarcely obtainable in the ordinary run of soft-wooded plants, and also give them an insight into the means by which they may learn how to cultivate hard-wooded plants—a class that have of late years been neglected. Why this should be so seems difficult to understand, for amongst the great variety of New Holland plants known, almost every conceivable colour and form can be obtained. The plant under notice will bloom from the middle of March till the middle of May, a period of no mean duration. —W. G.

EXHIBITION AND BEDDING VERBENAS.

YOUR Clonmel correspondent, Mr. Murphy, deplors the fact that this once much-grown bedding and pot plant should have ceased to maintain its general popularity during late years. My acquaintance with these useful, and to my mind lovely plants, dates back to the days of the old Melindres, and from that time I have made the *Verbena* one of my special favourites, and have rarely been without my annual bed of seedlings. I know not of any more interesting display than is afforded by these flowers *en masse* during the summer months in the open garden, whether in beds or in borders.

My experience extends over a rather long period of time, and I may here observe that I have noticed the various changes that have taken place in the affections of the floral world during different periods. There is a trite adage of old standing, that "every dog has its day," and in numerous instances has this been the issue of events with regard to some of our more popular favourites. It really seems that in the course of time the taste becomes satiated, and thus the horticultural purveyor is ever on the alert to introduce some new object of attraction; and should success follow, away go our old loves to the cold shades of oblivion, and a great and general rush is made to secure their new rivals. Doubtless, commercially considered, this transitory movement in the aspect of things in general, tends much to preserve healthy action in every sense, however it may be viewed.

So generally was the *Verbena* used for bedding purposes at one time that it became one of the leading features in the ornamental decoration of almost all gardens, both great and small, and was very extensively grown by my old acquaintance, the late Mr. John Caie, gardener to the Duchess of Bedford, Campden Hill, Kensington, more than forty years ago. I have, on several occasions, exhibited a stand of cut flowers side by side with our old friend, the late Mr. George Smith, of the Tollington Nursery, at the South London shows, Surrey Gardens; and for years the *Verbena* was eagerly sought after—i.e., the new and improved varieties that were annually offered to the public. It was the custom at the time to which I refer for growers such as Samuel Girling, of Stowmarket; John Keynes, of Salisbury; C. J. Perry, of Birmingham; and many others, to send out batches of six or more novelties every year; and I most unhesitatingly affirm that however much the individual pips of the flowering-

trusses may be improved in size and variety of colours, they are not a whit more suitable for bedding purposes than they were thirty or forty years ago.

The carpet-bedding system has been the cause of displacing many of our old favourites that used to be extensively cultivated. We have seen grand stands of Verbenas, of late years, exhibited at many of our metropolitan and suburban shows, that have been grown under glass; and it is astonishing how grandly the flowers are developed when skilfully grown in light airy glass houses. Of these later introductions, very many are far more suitable to be thus treated than for bedding purposes; and should any one for one moment suppose that they can grow them in the open beds, as they are frequently shown, their expectations are very likely to end in disappointment.

There are very few now who grow any but the best kinds for seeding purposes; consequently, seed from any source may be generally relied upon as yielding a fair percentage of really good varieties. And to raise and grow Verbenas from seed being now so easy and simple a matter, everyone can, if disposed, grow them both for pots and borders; and should any of the seedlings prove distinct and worth preserving, they can be propagated. Seed can also be saved from any of the plants, if desired, and is preferable for mixed beds, &c., than attempting to keep plants through the winter months; and by saving your own seed you can rely on the germinating powers of the seed and on the selection of sorts with regard to colour and habit.—*George Fry, Lewisham.*

MR. B. S. WILLIAMS' ORCHID EXHIBITION.

THE commodious structure which Mr. B. S. Williams now annually devotes to a lengthened exhibition of Orchids in the Victoria and Paradise Nurseries, Upper Holloway, never was more gay than it is at present, or so replete with good examples of the leading favourites. The house is a capital one for such a display, the long handsome bank of gorgeous flowers being rendered all the more effective by contrast with the noble bank of specimen fine-foliaged plants opposite, and among which are, conspicuous for their abundant and brightly-coloured foliage, some grand specimens of *Dracæna Lindenii*.

The *Cattleya* is the leading genus among the Orchids, and among the many good things here brought together are some grand varieties of *Mossia*, both as regards size and beauty of colour; some lovely forms of *Mendelii*, fine varieties of *Lawrenciana*, splendid examples of the rosy violet *Skinneri*, a good *Intermedia* with six spikes; and numerous *Lælia purpurata*, &c. The lateness of the season is borne witness to by the presence of numerous examples of *Dendrobium Wardianum* and *D. Devonianum*, with which may be seen the free-blooming *D. Jamesianum*, a pretty bit of *D. Falconeri*, and fine masses of the yellow *suavissimum*; yellow *Oncidiums* are abundant and very bright in appearance. Among the forms of *O. sarcodes* is one with more dense racemes of flowers than we have ever noted before, and very distinct by comparison with the large spikes of ordinary varieties. Large spikes of *O. Marshallianum* also claim attention by reason of their exceeding brightness. Besides *Odontoglossum crispum* in good varieties, this popular genus is well represented by such showy sorts as *O. Pescatorei*, *O. sceptrum*, *O. luteo-purpureum*, and an *O. Andersonianum*, very finely spotted, and the ground-colour nearly white. The white *Calanthe veratrifolia* makes a good appearance, and in company with it is the pretty rose-coloured *C. Sanderiana*, one of the last of the genus to come into bloom.

Cypripediums are well represented, and among individual examples of merit may be named a finely-flowered example of *Oncidium lamelligerum*—a species closely allied to *O. macranthum*, and having showy, brown, yellow-bordered blossoms; a very attractive piece of the beautiful lemon-yellow, faintly spotted *Epidendrum Wallisii*; *Lycaste Harrisonæ*, a grand mass, with about thirty flowers; the rare *Miltonia spectabilis* *Tolliana*, conspicuous for its richly marked labellum; *Masdevallia Veitchiana*, with blooms measuring 7 ins. across; *Vandas tricolor insignis*, *Patersoni*, and the true *Dalkeith* variety; the rich rosy purple *Bletia Sheppardii*; and the deep red *Broughtonia sanguinea*. In the growing houses are scores of well-cultivated examples of all kinds of

summer-flowering Orchids, so that the display is not likely to lose any of its lustre for some time to come; and all Orchid lovers who can should certainly pay Mr. Williams a visit.

CURIOUS PLANTS.

(Continued from p. 570).

ACANTHOSICYOS HORRIDA.

From the same arid regions as mentioned in the last case comes another extraordinary plant belonging to the Cucumber family. We are accustomed to see plants of this class furnished with broad, thin, more or less divided leaves, but those of the *Narras* plant, as it is called by the negroes, are reduced to small spiny tipped processes scarcely one line long, protected by a spine on each side. The numerous stems are pale green, about the thickness of a pencil, and form dense impenetrable thickets from 2 ft. to the height of a man. The *Narras* plant can live without rain, but requires an abundant supply of moisture at the roots, which penetrate through the sands to obtain it for a distance of 200 ft. to 300 ft. or more! It grows vigorously, thriving at the foot of the sand dunes, or covering the latter, serves to bind the shifting sands together, and occasionally gets buried, but its own rampant vigour generally overcomes the evil with little difficulty, and the stems push through the banks or heaps of sand, which now bristle like the back of a porcupine. Immense quantities of fruit are produced of an orange colour, and beset with small spiny projections. These singular fruits vary from the size of an orange to that of an ostrich's egg, and contain a great quantity of white or orange-coloured gratefully acid and refreshing pulp with numerous seeds. The lower animals devour them in great quantities, and the Hottentots get fat on them. The seeds are also relished either raw or boiled. If eaten in great quantity, however, by English travellers, the pulp proves indigestible, and causes sickness. An orange-coloured juice exudes from the base of the branches, and serves to bind the mobile sands together; and human life would be insupportable in that dry arid region where it seldom or never rains, were it not for the existence of the *Narras* plant.

BUTCHER'S BROOM (*RUSCUS ACULEATUS*).

The Butcher's Broom grows wild in several places in the south of England, and to the casual observer might appear commonplace, and undeserving of comment. It is unique, however, in several respects amongst British plants. Besides being the only shrubby species amongst the Lily family and its allies, the true leaves are so minute and inconspicuous that most observers would fail to notice them. What appear to be dark green, vertical, spiny-tipped leaves, are in reality flattened branches. This is proved by the presence of small brown leaves at their bases, and clusters of small insignificant flowers, followed by scarlet berry-like fruits that spring from the middle of these leaf-like structures. Neither flowers nor fruit are produced from true leaves, hence we must regard these structures as flattened branches performing the functions of leaves. A similar condition is observable in *Asparagus*, where the myriads of small needle-like bodies are of the nature of branches, not leaves as might easily be supposed. The cook who is only acquainted with *Asparagus* in the condition fit to be used as a vegetable, would fail to recognise the plant in its adult condition.

WELWITSCHIA MIRABILIS.

Another cone-bearing tree, but somewhat distantly related to the *Wellingtonia*, is no less an interesting object. It is named *Welwitschia mirabilis*, after Dr. Welwitsch, who discovered it for the first time as recently as 1860 on the elevated table lands near Cape Negro, in West Tropical Africa. The trunk is woody, obconical, mostly embedded in the soil, and lives to the age of a hundred years, but can hardly be described as a tree. In old plants it attains a length of 2 ft., is two-lobed on the top, and somewhat depressed or flattened like a table, with a circumference of 14 ft. The Portuguese about Cape Negro assert that trunks exist 6 ft. in diameter, bearing leaves 2 to 3 fathoms long. Two leaves only are produced by the plant beside the seed-leaves, and with that exception the whole plant presents a rough, dry, and semi-lifeless appearance. They are usually about 6 ft. long, and grow at the base only, while the upper ends are brown,

and keep dying back. Owing to the parallel nature of the venation, the leaves readily become torn up into shreds or whip-like thongs, that lie rolling about on the bare, stony, parched soil. Rain rarely falls in the arid region in which this singular and unique plant exists, and these facts are explanatory of its extraordinary habits. Good-sized fruiting specimens and smaller ones are exhibited in a case on the basement-floor of Museum No. 1 at Kew.

CACTI.

The Cacti constitute a natural family consisting of about 1,000 species, some of which are amongst the most curious forms of vegetation, and, with very few exceptions, are perfectly or functionally leafless in the adult state. They are not parasitic, however, but have the functions of leaves performed by the fleshy green stems themselves, which assume the most fantastic and grotesque shapes. They are with one exception, perhaps, confined to the New World in the wild state, inhabiting the arid and sandy or rocky places of Mexico, California, Chili, Peru, and Brazil. They constitute a weird and uninviting kind of vegetation, affording neither shade nor shelter to man or beast where the mobile sands, ever and anon in a state of movement, seem ready to engulf or bury every living thing; yet they are perfectly at home, and seem to enjoy the burning sun and the half-baked earth.

Some of the species of *Opuntia*—such as *O. vulgaris* and *O. Tuna*—produce the fruits known as Indian Figs, or Prickly Pears, and which may often be bought at Covent Garden Market. The huge jointed and flattened stems and branches of many species project in all directions from a large plant, looking like so many gymnasts at play. *Opuntia Tuna* is well armed with spines, and on that account used as hedges in Mexico. The huge, naked, almost unbranched stems of *Cereus giganteus* attain a height of 50 ft. to 60 ft. in the desert regions of New Mexico, and on mountain slopes, where they appear like telegraph-posts for signalling from peak to peak. There are several night-flowering species, with giant flowers 12 ins. to 14 ins. in diameter when fully expanded. Their grand and striking beauty and delicious fragrance is only equalled in interest by their short-lived duration. They open in the evening or at night, and fade early next morning. Some of them, when ready to expand, burst into full flower in the course of twenty minutes. *Cereus senilis* is popularly known as the Old Man Cactus, from the dense covering of hoary or white hair-like prickles that clothe the upper part. Many of the Cacti are perfectly naked, while others are clothed with hair-like bristles, as in the Old Man, or with a dense array of spines, as in the species of *Echinocactus*. In both these latter cases they afford the plants protection from the burning rays of the sun, and from being devoured by animals. Wild horses and other quadrupeds do, indeed, kick them to pieces, in order to suck the juices when likely to perish from thirst.

The Turk's Cap—*Melocactus communis*—is a grotesque-looking plant with a globular outline, about 1½ ft. in height and 1 ft. in diameter, surmounted by a short cylindrical portion termed the cap, and furnished throughout with strong spiny ridges. This upper portion is of a reddish brown colour—at least, when young—and hence the application of the specific name. There are about forty species of this genus, all presenting much general similarity.—*F.*

GARDEN PLANTS ILLUSTRATED.

PHAJUS HUMBLIOTII.

From the interior of Madagascar we have several remarkable or showy Orchids, and that under notice is considered the most important discovery since *Aëranthus sesquipedalis* was found in the island. The sepals and petals in the expanded flowers are lilac; but the remarkable labellum is parti-coloured. The lateral lobes are brownish purple and generally reticulated, while the anterior lobe is deep or intense purple, shaded with lilac in the centre, and having a bilamellate yellow disk towards the base. It grows at the base of large trees in its native home, where it is continually moist, and, therefore, requires a moderate amount of shade in our country with abundance of moisture.—*Reichenbachia*, t. 17.

ZYGOPETALUM INTERMEDIUM.

The species with which this frequently cultivated Orchid is liable to be confounded is *Z. Mackayi*. The

scape is erect and many flowered, while the sepals and petals are ligulate, and green spotted or blotched with brown. The upper sepal and the petals are usually distinctly dilated above the middle. The labellum is wedge-shaped at the base with two small triangular auricles, while the lamina is dilated and bifid, white with numerous velvety veins of a violet colour. The callus at the base is fleshy furrowed and two lobed. *Z. Mackayi* is distinguished by its suddenly dilated labellum not being wedge-shaped at the base.—*Reichenbachia*, t. 16.

ODONTOGLOSSUM INSLEAYI SPLENDENS.

Of several varieties now in commerce, this is one of the most distinct and desirable, and the flowers vary in individual forms to some extent, but this is greatly influenced by cultivation. The whole flower would measure about 4 ins. in diameter, and the sepals and petals are of a deep shining chestnut-brown, with here and there faint streaks of yellow. The decided tone of the latter organs afford a fine contrast to the chrome-yellow labellum, which is characterised by a marginal line of irregularly shaped reddish crimson blotches.—*Reichenbachia*, t. 7.

CYPRIPEDIUM IO.

Whoever knows *Cypripedium Lawrencianum* and *C. Argus*, will probably recognise the affinities of this mule; and the fine marbled foliage recalls that of *C. Lawrenciana*, as does the conspicuous upper sepal. This latter organ is broadly rotund cuspidate, greenish along the centre, with darker veins and purple towards the sides, passing into white at the margins and tip, with deep purple veins. The slightly deflexed petals are green, finely blotched with a dark purple, almost black colour, and rosy brown towards the tip, resembling those of *C. Argus*; the labellum is brown. The mule was raised by Mr. Norman C. Cookson, Wylam-out-Tync.—*Reichenbachia*, t. 23.

SACCOLABUM HENDERSONIANUM.

Whilst this is one of the smaller-growing kinds it is really a gem in its way, and more distinct than many of the larger-growing popular species, such as *S. guttatum*, *S. Blumei*, &c. The oblong distichous, drooping pale green leaves, remind one of small *Phalænopsis*, while they also exhibit a striking contrast to the cylindrical erect, densely flowered inflorescence. The flowers are of a uniform bright rosy red, with the exception of the rather conspicuous spur or pouch. It was originally introduced from Borneo, about thirty years ago, and again previous to 1874.—*Orchid Album*, t. 275.

GARDENING NOTES FROM SCOTLAND.

Vegetables.—TOMATOS are not now largely grown outside in northern gardens, and it is not desirable to attempt their culture on an extensive scale in untoward climates without the aid of glass protection. However, there are many who cannot afford to spare glass for the cultivation of many things which they desire to have, and it is often more profitable to purchase various items than to grow them under unfavourable circumstances. But the pleasure of seeing them grow, and feeling they are one's own, much conduces to the enjoyment which esculents (as well as flowers, &c.) give to proprietors of gardens. The consumption of Tomatos is evidently on the increase, and it is not always agreeable to have those which have been packed in sawdust, &c., and have travelled far before they are put under culinary manipulation. To grow them outside in the north entails extra labour in the early stages of their growth, so that plants, coming into flower, may be ready about the end of May or early in June for planting in their fruiting quarters. They should be established in good-sized pots—the latter to have the holes enlarged for the emission of roots downward. If the plants are well prepared by exposure to air, they get little check when placed against walls, boarded fences, or on slopes formed in front of hedges; slates placed on such sunny positions, on which to lay the plants, are very suitable for Tomatos. We are not favourable to the starving system of growing these fruits, though (like Melons and Cucumbers) they do well in curtailed space when good nourishment is allowed for the roots.

Our early crop of Tomatos are at the ripening period; they have been grown at the back of a plant-house,

with the following treatment:—A large pot is nearly filled with rich soil, rammed firmly. The plant established in a pot of smaller size is put into the larger one, and allowed to root through at the bottom. The stems are strong and short jointed, with plenty of fruit on them; but single stems only are retained, all laterals being rubbed off as soon as they appear. The flowers are thinned, leaving three to six fruits on each bunch. We prefer free growth and strong stems when space allows it. Our earliest Melons are grown in the same manner as the Tomatos this season.

In a warm house filled with Gardenias, Crotons, Anthuriums, &c., large pots are plunged along the front, with bottom heat from pipes. In these are placed pots (with the plants) of a smaller size, and well packed into the soil, which have rooted through and filled the larger pots with roots. Setting has given no trouble; there are about three to five fruits allowed to swell, and they are now in various stages up to the ripening period. Single stems are retained, and not stopped till they reach the top of the house. The extra airing does not injure the pot-plants, as the Melons to some extent shield them from draughts. This is an old practice which we commenced some twelve or fifteen years ago, and by it we never had any difficulty in producing an abundance of good Melons. Having full command over tops and roots, forcing is reduced to great simplicity.

VEGETABLE MARROWS.—In late districts these are got early by an early start with the plants, and if they are large they can be treated the same as Tomatos, by growing them in large pots and allowing them to root through into the soil prepared for them; protection with the ordinary garden hand-light or "plant protectors" brings them on rapidly, and then they may have plenty of room to develop their growth and produce fruit. Crowding of the stems and foliage is an evil often seen, which is against free fruiting and often brings the plants to a premature end by causing the stems to decay.

FRENCH BEANS are not so easily raised outside as they formerly were; they are so liable to destruction by the slightest frost. If the seeds can be raised in small pots, under glass protection, and planted out in a warm position when strong, they soon take to the soil and will bear abundantly. Such early kinds as *Newington Wonder* and *Ne Plus Ultra* are soon into flower. *Negro* is among the hardiest of kinds and suitable for cold districts; we have a lot planted in pots placed under a south wall, and will most likely be in good time for planting out at the end of May or early in June; such plants are not coddled through protection. *Scarlet Runners* are planted in well-prepared ground, but I do not expect they will be much earlier than those planted about the end of May. We prefer to keep them dwarf, and thus get abundance of pods without the trouble of staking the plants.

Dahlias and Tuberous-rooted Begonias are often unsatisfactory in flowering. In many cases this arises from lateness in starting the plants; they should be grown on till they are of a good size, in large pots, and when showing flower, about the first or second week in June, may be planted out in kindly soil then warmed by the sun. If the plants are starved or stunted at first they will make a poor show in cold and late localities.—*Caledonian*.

Scottish Horticultural Association.—A very largely attended meeting of the Scottish Horticultural Association was held on May 3rd at 5, St. Andrew Square, Edinburgh, under the presidency of Mr. D. P. Laird. Mr. P. W. Fairgrieve, Dunkeld Gardens, read a paper on kitchen garden management, in which he gave advice as to the direction of labour and the treatment of the soil. Mr. George M'Kinnon, Melville Castle, read a paper on the *Narcissus*, and illustrated his remarks by means of a splendid display of *Narcissus*, consisting of some forty-six varieties, which were much admired. Both papers gave rise to discussion. Mr. Mackenzie, in the course of some remarks, alluded to the reduced value of land, and said he was disposed to think that, under these circumstances, landed proprietors would not in future keep up such large establishments as they had done in the past. Mr. Fairgrieve replied, and, along with Mr. M'Kinnon, received a vote of thanks for his paper. Mr. Howie, Inch House, Liberton, exhibited a new variety of Leek, a hybrid with a strong vigorous habit. He was asked to exhibit it again in autumn, in order that the members might have an opportunity of seeing its early as well as its late qualities. Mr. Howie also showed a collection of Alpine Auriculas. Mr. M'Hattie, Newbattle Abbey, exhibited a truss of seedling stage *Calceolaria*, which were remarkably fine; and Mrs. Lyle, North Berwick, sent seedling flowers of various coloured Primroses. The usual votes of thanks were accorded at the close of the meeting.

THE AMATEURS' GARDEN.

KITCHEN GARDEN.—Work in this department gets busier day by day, and, to keep in advance of the season, one must needs apply himself energetically to a host of matters that all seem to demand instant attention. Whenever the ground is dry enough to permit or be benefited by it, keep the hoe at work amongst all growing crops as soon as it can be determined where the plants are. This latter statement applies mostly to germinating seedlings of Onions, Carrots, and such things where the weeds should be vigorously kept down from the commencement. They are more liable to be overgrown with weeds where the ground has been manured with vegetable refuse from the rubbish heap, especially if the heap has not been attended to in the matter of turning, in order to kill the seeds by fermentation.

Carefully stake Peas as soon as they are well through the ground. This will the more easily be done now, since the recent rains have made the ground tolerably moist and soft. Previous to this, draw the soil up to the Peas in a sort of ridge, and this will keep them up till they lay hold of the stakes. Use stakes according to the average height that the varieties usually attain, and let tidiness be the order of the day, by putting them in straight lines of even height. Order and regulation of this kind makes all the difference between a well-kept and an untidy garden. Near woods, and where wood pigeons and other birds abound, Peas, as well as other tender vegetables, often suffer, especially when green food generally is scarce; but staking the Peas has often been effectual in checking these ravages. As soon as this has been finished, hoe the ground to destroy all weeds and loosen up the soil again, which prevents to a great extent evaporation.

CABBAGE PLOTS that in the early part of the season looked almost bare now begin to look green, but it is disappointing to see so many of the plants bolting, that is, running to flower and seed, instead of developing large leaves, and ultimately hearting. In the absence of plants to put in their place, cut off their tops, when side shoots will be formed that may be used in the manner of Sprouts. Where precaution was taken to sow some seeds in a heated house, pit or frame, or even in a cold frame to be brought forward by sun-heat, seedlings will now be in a forward state, and may be planted out at an early date. If they have previously been hardened by exposure, no opportunity should be lost in making good the blanks, or making fresh plantations on previously prepared ground, after the first good shower of rain.

CAULIFLOWER AND LETTUCE, where not already done, should be planted out without delay, whether in the case of late autumn-sown seeds or reared on a hot bed early in the season. These will form a first or second early crop, according to the foresight of the planter, and the requirements. Earth up and protect early Potatos, if necessary, with Spruce branches or other similar material, as all danger of frosty nights is not yet over.

Bedding plants of all or most kinds are now in a well-advanced state, and should, in most cases, be kept as cool as possible to harden them preparatory to planting out towards the end of the month. This applies to Pelargoniums, Fuchsias, Lobelias, Stocks, Asters, and a host of things at the amateur's disposal, and by which the garden is made gay in summer. Many, by a little forethought, get far in advance of the season by sowing annuals early—such as Marigolds, Saponaria, Zinnias, and Phlox Drummondii—afterwards planting them out, either directly or after having been pricked off in boxes or frames some time previously. The latter method is to be more recommended, as when the plants get rooted into rich rough leaf-soil, or even stable-manure put in below the soil, or as drainage to boxes, they lift with a fine ball at planting-out time; and if the weather is at all moist they scarcely feel the check, which they would when transferred directly from the seedling pots or pans to the open ground.

HERBACEOUS PLANTS are once more, and deservedly, coming to the front in private establishments; and they are particularly adapted for the embellishment of cottage or villa gardens on account of their hardiness, great variety, and beauty, requiring comparatively little attention beyond an annual top-dressing of some kind lightly forked in among the roots, and timely attention in the matter of staking before the flower-stems get broken down, as they never look so well afterwards if once allowed to become prostrate. Tidiness, above all things, is the best economy with herbaceous plants, as with all other departments.—*F.*

SMALL AURICULA GROWERS.

GRATEFUL thanks to "C. A. G." Under these initials I recognise the genial sympathy of a lady who takes a deep interest in Auriculas and our Auricula shows; and her championship of the small growers will be warmly welcomed by them.

I am a small grower also, with nothing but a cold north house to keep them in all the year round; consequently it is very late in the season, and especially during such a late uncongenial spring as the present one, before my plants show signs of activity. Probably it would be only once in four or five years that I can depend upon having five or six plants in exhibition form by the third week in April; and I am only one of a few others in a like predicament who, being unable to make for the time a warm greenhouse plant of their Auriculas, must wait the slow process of natural development. I am all the more at a disadvantage, because my house has a north aspect, and I cannot turn it round towards the sunny side, as one would a cold frame.

I cordially back up "C. A. G.'s" suggestion, that at our South Kensington Show there should be one or two classes in which prizes are offered, and to be competed for only by those who can command no artificial heat; but it is difficult to see—as seasons go—that anything like a satisfactory competition can be secured so early as the third week in April. Under the present arrangement, the leading prizes are all at the mercy of the large growers, who can give the Auricula artificial heat, and to some of these the Auricula Society must be a kind of gold mine. I think it is time the small growers should have some favour shown them, so that others might be encouraged to grow and exhibit; but I am afraid that any concession of this kind is hardly possible under the present regime.

In the single classes the large growers have it all their own way; each one can exhibit two plants and take two prizes, and they are certain to put in nothing but what is very good. Those who raise new varieties and exhibit them are placed at a great advantage also in the classes for two or more plants, because these new flowers represent a higher order of quality than can possibly be found in the named varieties that are in commerce. It may be said, let the small growers raise new varieties also; but those with large collections of the finest flowers are still at a great advantage, because they almost invariably possess better seed parents than fall to the lot of the small Auricula-growers.—R. D.

As a fellow "small grower" I thoroughly sympathise with "C. A. G." in her interesting remarks on p. 568. Being also destitute of a greenhouse, I feel how hopeless it is to attempt to exhibit. My small collection is even later than that of your correspondent's, for only now, nearly a fortnight after the show, is it at its best. It seems to me, therefore, that the date of the National Society's exhibition renders it next to impossible for those without command of heat to take any of their plants to the show. Some people may say, "Why not make up a hot-bed under a frame, and get over the difficulty in that way?" but the Auricula will not be hurried on by this sort of treatment.

It is not so much a sudden application of warmth that is required, as a long-continued protection from injurious degrees of cold, and the only way of effecting this is by placing them in the carefully-managed temperature of a greenhouse. I am the more certain of this, as I found that the March frosts penetrated three thicknesses of mats on many occasions, and we all know this is ruin to plants in bud. The result in my case is, that instead of being gladdened with the fair face of Smiling Beauty in all her loveliness, she frowns at me with cupped and crumpled petals for the cold comfort she has received at my hands. Lee's Earl Grosvenor is another old and late sort that seems to resent a cold season like this, but George Lightbody Simonite's Mrs. Douglas and Frank Simonite, Read's Acme and some of the newer varieties have given me surpassingly lovely blooms.

There is one thing we cannot help noticing in growing old and new varieties side by side, and that is the superiority of those recently raised, and anyone who wishes to shine on the exhibition table must obtain some of the new sorts, cost what they may, for there are very few of the old ones left now that are not completely eclipsed. I question if there were half-a-dozen plants at the show which had not had a lengthened

residence in a greenhouse, and the same thing happens nearly every year. I should be very glad to subscribe to a class for growers without artificial heat, but do not exactly see how there could be any entries for five years out of six, unless the National Society would alter their date, and this we could hardly expect them to do on our account. Possibly the society are not particularly anxious to encourage small growers, as it is of course desirable that the Auricula should be shown in its best dress, and some of us would, perhaps, only cut a sorry figure by the side of the giants.—J. K.

MYRSIPHYLLUM ASPARAGOIDES.

THIS—the Smilax of America—as a decorative subject for cutting, is found to be of very great value, particularly for embellishing the various receptacles in which it is the prevailing custom to arrange cut flowers, now such a necessary adjunct to the internal ornamentation of the mansion. The wonder is that such an extremely useful plant is not grown to a far greater extent than at present prevails; for, in addition to being effective, it is exceedingly easy of cultivation, and the rapidity with which it perfects its growth, coupled with its cut-and-come-again qualities, should make it an universal favourite. I know of no plant which yields a greater wealth of beautiful foliage available for decorative purposes in a given space than does the Smilax, and the readiness with which it seems to accommodate itself to almost any structure is remarkable. It will grow in the stove, intermediate, or greenhouse, but is most useful when cut from the latter.

Seeds sown about March in fine sifted loam, leaf-soil and sand in about equal proportions soon germinate; and, perhaps, the better way to sow them is to place two or three seeds in a small 60 pot, thus obviating the necessity of an early shift, which would be required were a larger quantity sown together in a pan. The risk of breaking the young and tender growths is thus considerably lessened, and, in addition to this, no check is sustained. The pots containing the seed should be placed in a close moist atmosphere, where a temperature of from 75° to 80° can be maintained, in which they will soon germinate. More air should now be given, and the young Smilax, when about 4 ins. high, have the points of their shoots removed, thus inducing a bushy growth, re-potting into a larger size as required, and keeping them in the same temperature as previously recommended, but with the atmosphere a little more buoyant. About July it will be necessary to determine the uses to which your plants are to be put. If for planting out, continue the pinching process, and endeavour always by judicious watering to maintain the roots in a healthy and growing condition.

During autumn and winter, reduce the temperature to that of an ordinary greenhouse, this being sufficient; and with an appreciable reduction in the supply of water to the roots, will assist in consolidating the growth, thus preparing them for removal in the early spring to their growing quarters. In planting out, a position should be selected where the plants can have an uninterrupted run from floor to rafter. Ample drainage should be provided, over which—to prevent the same getting choked—a few thin turves may be placed; on this soil to the depth of about 15 ins., composed of two parts good sound stiff loam, one part well-decayed cow-manure, a little sand, and a few pieces of charcoal. In this compost, when well mixed, the Smilax may be planted about 1 ft. apart, and a temperature maintained of 50° to 55° by night, with a rise of 10° or so by day. In this the plants will soon be on the move, and immediately this is observed, thin twine should be hung from the rafters overhead, and made secure by the aid of small pegs driven into the soil near the base of the plants, allowing several strings to each, more or less, according to the strength of the same, or the number of growths observed to be moving. Around these strings—kept always in a perpendicular position—the tender bine will firmly entwine itself, and as far as training is concerned, be of no further trouble. We usually allow about three growths to a string, and these, from a fairly strong and healthy plant, are amply sufficient to furnish the cultivator with "beautiful wreaths of greenery," which, when this climber is once established, he will seldom be without, as under these conditions growth is well-nigh

continuous. As I said before, it is a very accommodating plant, adapting itself to a variety of circumstances; but if there is one position in which it seems thoroughly at home, it is in the corner of a warm Fernery; the temperature necessary for the one seems equally suitable to the other. In such a position no difficulty is experienced in cutting these beautiful "strings of green" from 8 ft. to 10 ft. long, according to the height of the structure; and these, in late summer and early autumn, are objects of no mean beauty, and such will be found well-nigh indispensable for associating at this period with many varieties of ent flowers, relieving, as they do, the pressure on Maiden-hair Fern and kindred subjects—no slight advantage at the commencement of what may probably be a long and dreary winter.

Grown in 4-in. and 5-in. pots, trained to a few thin stakes, the Smilax will also be found useful; but the advantages accruing from its cultivation as a pot plant are as nothing compared with the returns given when planted out and treated as I have endeavoured, however feebly, to describe. Green fly and thrips will occasionally infest the plants; but the usual remedies—not the least effective are heavy and copious syringings—soon effect a clearance, and leave the cultivator in possession of one of the most beautiful and useful twining plants for the purposes mentioned it were possible to grow.—J. H. H.

THE VICAR'S GARDEN.

THE hardy Daffodils which are among the handsomest denizens of our gardens, are enjoying an amount of popularity at present, which they have never attained before. Being one of the earliest, most beautiful and lasting of spring flowers, a good selection will give a rich harvest of floral beauty for several months, and they require but little care and skill in their cultivation, accommodating themselves to all kinds of soils and situations. They are pre-eminently everybody's flower. You will find them almost everywhere, and as the newer and scarcer varieties become more plentiful, they will perchance supplant our old friends, or, at least, will often be found keeping them company, even in the gardens of the poorest. They should be largely used for naturalisation in woodland walks, and on the margins of shrubbery walks where they may be planted among the grass to remain undisturbed. Here, where a large space is devoted to dwarf Roses planted at a good distance apart, clumps of the most plentiful sorts are introduced, rendering what would be, till the queen of flowers shone forth in her glory, a bare unsightly piece of ground comparatively gay and interesting, while a margin of hardy Primroses gives a fitting finish to the picture. A few of the best in flower at the present time are *Narcissus bicolor* Empress, *N. lorifolius* Emperor, *N. bicolor* Horsfieldi, *N. b. J. B. M. Camm*, *N. b. grandis*, *N. Sir Watkin*, *N. incomparabilis sulphureus*, *N. cernuus*, and *N. c. plenus*, *N. c. pulcher*, *N. capax plenus*, *N. major luteus*, *N. Barrii conspicuus*, *N. Princess Mary*, *N. Mary Anderson*, *N. incomparabilis Leedsii*, *N. L. acis*, *N. odoros minor plena*, *N. obvallaris* and *N. poeticus ornatus*.

Among the many other good things to be seen in flower at the present time are *Sanguinaria canadensis*, *Trillium grandiflorum*, *Ranunculus acutifolius*, *Trollius asiaticus* and *T. americanus*, *Doronicum austriacum* and *D. Draytonensis*, *Ornithogalum nutans*, *Leucojum aestivum*, *Iberis coriacea*, *Primula Sieboldi* in variety, *Fritillaria meleagris* in variety and *F. pyrenaica*, *Gentiana acaulis* and *G. verna*. There are also to be seen some fine clumps of the St. Bridgid's strain of Anemones. Many more fine things are in flower, too; but these few will suffice to show what a wealth of floral beauty is available for the decoration of our gardens in the early months of the year, when too often there is little but the most common things to be seen in them.

I notice in your last week's issue a note on *Dracunculus vulgaris*; this is truly a singular and interesting plant, but is not its disgusting odour a sufficient reason for our not seeing it so often? If you want to offend a neighbour, present him with a few roots to plant near his sitting-room window. Happily we have comparatively few plants in cultivation which are remarkable for offensive odour, but of the few I know the plant in question is, I think, the worst.—W. B. G.

PHILODENDRON ANDREANUM.

THE subject of our illustration is the most ornamental and valuable species of Philodendron for decorative purposes ever introduced to this country. It was discovered in New Granada by M. André, of Paris, and introduced recently by Messrs. J. Veitch & Sons, Chelsea. Owing to its enormous lance-shaped leaves, with a cordate base, being suspended or deflected from the apex of the petiole in a similar manner to that of Anthurium Warocqueanum and A. Veitchii, it forms a suitable companion for those noble Aroids, and will, of course, succeed under the same treatment, although the habit will be slightly different, as the stem of the Philodendron elongates, bearing the great shield-like leaves alternately. Some idea of the imposing appearance produced by the foliage may be conceived from the statement that individual leaves obtain a length of 4 ft. or 5 ft. under good treatment; the mature leaves are of a rich velvety green enlivened with a white mid-rib and the principal nerves. As in various other fine-leaved Aroids, however, the young leaves present more vivid and striking colours, being in this case of a lively scarlet suffused with brown, becoming, when older, of a bronzy red colour, and finally as above described.

The plant was awarded a First Class Certificate at the Royal Horticultural Society's show at Liverpool last year, and a Certificate of Merit by the Royal Botanic Society, Regent's Park. In both these cases it was exhibited under the name of Philodendron grandidens.

The great sheaths surrounding the young leaves and the numerous fleshy roots given off from the nodes of this plant are very conspicuous, and suggest a humid atmosphere, at least, when making its young growth.

WE ARE THREE—GARDENERS!

WE have a natural antipathy to the Jubilee invasion, therefore refrain from employing the familiar adjective "Jubilee" to qualify our modest pursuits, although in our perambulations we anticipate running across a Jubilee gardener with a Jubilee horticultural implement, planting a Jubilee bed of some description, ere the season is over. Three scheming, contriving "ponikers" is perhaps a better designation of our prowess—a lady and two gentlemen. Of course the first-named is "boss of the shanty," and armed with a pair of shears

or a trowel (but more often the knitting needles), the workmanlike appearance presented is quite formidable. Roses receive tender attention from this quarter, our Auriculas and Pansies being ugly by the side of a Maréchal Niel or a Devoniensis; not that I wish to depreciate our head-gardener's knowledge of Rose culture, for it is that of no novice—rather contrariwise, for her instructions as to the *modus operandi* are very acceptable. I must add that the pet Persian "pussy," clothes line, pegs and props are very unnecessary adjuncts to gardening operations, and are strongly condemned; but we "can't do without 'em," so we must

mencing with the small fore-court in front, on one side of the window against the wall of the house is Clematis Jackmanni; on the other, Virginian Creeper and a Vine, parted from the adjacent house by some Persian Lilac, and a row of Sweet Peas just now above the ground. Against the wall under the window, Chrysanthemums, and the border planted principally with shrubs; they always look nice and green, and the light-fingered fraternity are not enraptured with them, the whole bordered with flint stones and the old fashioned London Pride. Later on we may put in a scarlet Pelargonium here and there, to lighten up the rather sombre effect. The window boxes (two upstairs and one down) are now gay with Tulips, Narcissus, and Wallflowers (Crocuses have done), the colour and odour from the "Walls" being very pleasing. The baker says, "How nice the Wallflowers smell!" the cat's-meat man, "They smell a treat," and we hear passers-by commenting on their gratifying appearance. Inside the parlour window (a bow) Hyacinths, Tulips, Narcissus, Cineraria, Spiræa, and Cytissus, while a couple of Dielytra spectabilis, with their graceful pink bell-shaped flowers and light green foliage, surmount the group, which seen from the outside foot-path, with the boxes furnished as before mentioned, has a very harmonious effect. Dielytra is our great favourite, it is a host in itself. It is certainly a very pretty thing in all its simplicity.

Worst of all, our small conservatory is only adapted to hardy Fern-growing, as Sol's rays do not penetrate its precincts until late in the afternoon.

This is a great drawback to our getting things to blossom, so we devote it mostly to Ferns. We have many specimens under the staging, in pots and baskets; in fact, my father believes in Fern-growing in baskets. We had the majority of our bulbs in baskets, likewise our Harrison's Musk and Mimulus. Not many weeks ago, one of your contributors wrote in THE GARDENING WORLD on the subject of plants adapted to be grown in baskets, and promising to give a further list. I am anxiously awaiting it, as it gains our concurrence from experience. The Ferns branch out and droop around in natural loveliness, and the blossoms of the Musk and Mimulus hang down diffusing a delightful perfume. We manufacture the baskets ourselves, and gather the turves wherewith to fill up the interstices to prevent the soil running out, so it is not a very costly method,



PHILODENDRON ANDREANUM.

put up with the pegs falling through the glass, "Dick" the Persian's many battles among the Pinks and Cloves, with props skewing up the paths, and put it all down as a necessity; and, as necessity is the mother of invention, we arrange our garden and its contents so as to facilitate matters relative to cats' concerts and water parties. I am bold enough to add that my father and self (forming the trio) know a little of plants and their cultivation, he having been connected with Flora's domains in the "hop country" for some twenty years, and I must have taken the initiative.

The main object of my notes is to show what can be done with very little expense and trouble. Although having a limited space allotted for operations, a mere apology for a garden, yet we manage to have a bit of bloom indoors and out all the year round. Com-

Our back garden is simple enough—a round bed in the centre, an oval at either end, and the outside borders describing a form in harmony with them and edged with flint stones throughout; all of which I have had up and relaid before planting the edgings. The ovals, one yellow and the other brown *Calceolarias*, are bordered with London Pride and *Dactylis glomerata*. For the centre we are trying as a substitute for the *Dactylis*, the white immortelles—a double row round, close together, which we intend to keep dwarf by pinching out the flowers. It is only a make-shift; but whether successful or not, remains to be seen. Forget-me-nots, *Silene pendula* and Pinks are contained in this bed at present, but it will wear a different aspect when furnished with *Pelargoniums*. One side fence is devoted to Tomatos; the other, *Chrysanthemums*; and the bottom, Scarlet Runners. In the borders, Sweet Peas, Sweet Williams, Roses, *Lilium auratum*, *Deutzias*, Auriculas, Pansies and *Nicotianas*. Our seeds are in boxes in a small frame—*Canariensis*, *Phlox Drummondii*, *Godetia*, Asters, Corn Flowers and *Convolvulus*, which will soon be transplanted into the borders, when we shall turn our attention to Cucumbers. Last, but not least, our Rhubarb and Herb beds—Mint, Thyme, Sage, &c.—are very acceptable. With such a collection, I think we utilise our small patch of ground to the greatest advantage, and this epitome may serve as a guide to others in the same predicament with regard to space. They are not costly, easily managed, and must satisfy the most fastidious.—*Albert George Hull, Forest Gate, Essex, May 9th, 1887.*

BOILERS.

I WAS glad to see, in your last issue (p. 566), Mr. J. Roberts' reply to my comment on his remarks respecting the "Gunnersbury" boiler, at p. 553. But I must own that I am disappointed with the absence of proof that his boiler possesses the qualities that he claims for it, viz., much greater durability than can be claimed for any other class of welded boiler. For, in regard to getting rid of the sediment, my contention is, that with a plug in each leg of the saddle form of boiler, it can be successfully dealt with if the trouble be taken to draw off the water and remove the plugs, say twice a year, because in that short time so solid a mass does not form that will prevent its removal by the means I stated. And, moreover, from the position and size of the plate on front of the "Gunnersbury" boiler—as shown in the illustration—it would appear that similar means must be resorted to in order to relieve that boiler of the sediment.

I am afraid that Mr. Roberts' proposal to "deal effectually" with the incrustation, viz., by having a plate 8 ins. in diameter fixed each side of the saddle form of boiler, only requires to be mentioned to meet with condemnation. These plates, as I understand, would be fixed as near to the bottom of the legs as possible, towards the centre of the boiler, but in that case, "uncovering the crown" would not be of much service, and it would really be necessary to strip the boiler of brickwork down to the level of the furnace bars to enable the plates to be removed and the incrustation to be dealt with, and in a cramped stove-hole the boiler would require to be disconnected from the mains and turned on its side. And who, I ask, would think of going to that expense and trouble twice in the year?

I quite agree with Mr. Roberts that the Trentham Cornish boiler requires a suitable chimney, so do all boilers, but whether it be a tall or short one, the length of boiler and the number of flues must determine that. And the same rule would also regulate the height of chimney required for the "Gunnersbury." I have not tried one of the latter, but from the description given of it, and the illustration, I am enabled to form something like a comparison between that and the Trentham Cornish, and am decidedly of opinion that the latter is much the better boiler of the two. I would also point out to Mr. Roberts that I consider the sockets on his boiler to be in the wrong position, which must tend somewhat to interfere with that efficiency he speaks so highly of.

The subject of cast-iron versus welded boilers is not new I am aware, but the proper value of the former over the latter is only now becoming more understood and appreciated; for the fact that a cast-iron boiler will last three times as long as one of the welded class, ought to be a sufficient inducement for a more general use. I understand that this boiler, in saddle form with

waterway end, as mentioned by me previously (p. 553), is now being largely used by nurserymen, and I am quite certain, if that is the case, that no one is better qualified than a nurseryman to form an opinion of a boiler, as to whether it is a durable one or not; but there is no doubt that for stoking this, as well as for one of the welded class, you do not want a "thoughtless" man, but one with ordinary intelligence will do.—*J. B. Sidney, Tunbridge.*

THE FOREST HILL NURSERIES.

IN visiting the Stanstead Park Nurseries of Messrs. John Laing & Co., Forest Hill, we can hardly refrain from admiring the world-famed and extensive collection of *Begonias*, which one can already see in all stages, from the germinating seedlings to some that are already well in flower—and such flowers! They are bursting into fresh beauty daily—one might almost say hourly—in all shades of colour, from the purest white to the deepest crimson, including all tints of yellow, pink, magenta, and delicate Picotee-edged. A houseful of the Jubilee doubles show flowers of great size and perfection, both as to colour, shape, and fullness; but we must refrain from saying anything further till they are in the height of their grandeur.

Another feature that has come into prominence comparatively recently is the collection of Orchids, consisting of the most popular, useful, and marketable stuff, suitable either as cut flowers or for house decoration. Conspicuous among these we noticed several lots of *Dendrobium Wardianum*, all flowering or just expanding. These, together with *D. Devonianum*, *D. Pierardi* and *Cattleyas*, figured conspicuously at recent exhibitions at the Crystal Palace and Regent's Park, in groups displayed to the best effect amongst Ferns, Palms, and *Aralias*. Fine pieces of *D. aggregatum majus*, *D. chrysotoxum*, *D. Jamesianum*, *D. primulium giganteum*, with dark sepals and petals; *D. macrophyllum giganteum*, *D. crassinode*, and the handsome golden-flowered evergreen *D. Cambridgeanum*, are all flowering freely. We noticed other fine kinds, whose season is now over. The curious and very distinct *Cœlogyne paudrata*, with its greenish sepals and petals, and warted labellum heavily stained with black, we seldom have the opportunity of seeing; and a gem amongst Orchids is the pretty *Leptotes bicolor*, with a large purple blotch on the otherwise white labellum.

Cattleyas are now represented by *C. Lawrenceana*, *C. Skinneri*, *C. Mossiae* and *C. intermedia*. The first mentioned is notable for its broad undulated petals and dark curiously curved labellum, with dark purple-stained pseudo-bulbs. The cool *Odontoglossums* are not neglected, but include the rose-scented *O. Roezli* and its variety *alba*, together with *O. Oerstedii majus*, *O. citrosum*, *O. vexillarium* and *O. Phalaenopsis*. Here, as elsewhere, *O. triumphans* exhibits a different shade of colour in almost every plant that expands a bloom, and we noted some of great substance, breadth of sepals and petals as well as depth of colour. *O. Cervantesi* exhibits a similar variability, and was accompanied by the prettily spotted *O. C. decorum*. *Masdevallias* were not wanting with their curiously tailed flowers of scarlet, crimson, flame, and magenta or violet colours. Some of the varieties of *M. Harryana* exhibited an intense shade of colour, and the same might be said of *M. ignea*, Dr. Paterson's variety, and *M. Veitchii grandiflora* measuring 6½ ins. from tip to tip of the sepals. *Lælia harpophylla* and *Ada aurantiaca* vied with each other in their scarlet garbs, offering a rich contrast to the more sober yet elegant *Oncidium cucullatum* with its spotted lip, and the quaint yet uncommon shades of *Cypripedium Boxalli*.

In a cool airy house, *Pæonies*—both of the herbaceous and shrubby Moutan section—are coming into flower. Amongst the latter we noted *P. M. rigida violacea* and *P. M. Impératrice Josephine*, with immense fully double flowers. Madame Stuart was not in full bloom, but in the half-burst bud the petals appeared of a peculiar metallic bronzy colour, similar to *Chrysanthemum Comte de Germiny*.

The greenhouse is now very gay with Heaths, such as the large yellow-flowered *Erica depressa*, *Pimelea spectabilis*, *Grevillea Thelemanniana*, with its graceful dense clusters of curiously-shaped flowers dangling at the end of slender twigs; *Lapagerias*, *Metrosideros*, various species of *Eriostemon*, with miniature flowers resembling Orange blossom; and *Acacia grandis*, with

graceful bipinnate leaves, and a profusion of golden balls of bloom. A double *Azalea*, named *Souvenir de Prince Albert*, was conspicuous for the number and fineness of its flowers, which were heavily flaked with rose on a white ground. The plant had been fed with fish-potash manure, and seemed to repay the attention. A great variety of finely-cut and beautifully-tinted Japanese Maples, distributed through the house, materially affected its general appearance.

Stove plants are well represented in various sections, including a great variety of the most brilliantly coloured *Crotons*. *Croton Laingi* belongs to the long slender drooping-foliaged class, and rejoices in crimson, yellow, and green—the latter colour occupying the upper portion of the leaf. *Medinilla magnifica*, with its pendent panicles supported by large rose-coloured bracts, well sustains the propriety of its specific name, while the utility of *Dracæna gracilis*, *D. Lindenii*, and *D. Massangeana* no one can deny. The latter differs from *D. Lindenii* in the creamy yellow variegation being confined to the centre instead of the margins of the leaf. The pitchers of *Nepenthes Mastersiana* varied in the intensity of their brownish crimson or port-wine colour. The magnificent *Impatiens Hawkeri* has already found its way here, and commands respect with its huge flattened deep rich carmine flowers flushed with blue, alongside of the more unpretending yet popular *I. Sultani*, *I. alba* and *I. flaccida*. A large number of plants of *Utricularia montana* in baskets are now on the point of bursting into beauty. The enormous size of the thong-shaped leaves of *Imantophyllum miniatum* Mrs. Laing were very conspicuous amongst others. A gem amongst hardy plants, by the way, was *Saxifraga sarmentosa tricolor*, whose leaves of rosy red, white and green, and slender pendent tendrils, wore a lively aspect.

The collection of *Caladiums* is a sight worth a long journey to see by anyone interested in that class of plants. Although thus early in the season, a houseful consisting of huge masses of foliage in all conceivable tints of red, pink, crimson, green, and, for want of a better term, porcelain colour, in innumerable streaks, spots, blotches, and reticulations, is enough to put exhibitors of those fine-foliaged plants into ecstasies. The collection is the largest and most complete in the country, including the newest and rarest varieties. The delicacy of the markings, and the small quantity of green in the porcelain-looking leaves of *Elsa*, are remarkable. It is also marked with red spots, and green veins and margin. *Comte de Germiny* is a brilliant red-leaved variety, with a golden under-side spotted with white. *Candidum* is also conspicuous for the size of its china-white leaves with green nerves. Raymond Lemoinier, Leopold Robert, Madame Lemonier, Madame Marjolin Scheffer, Anna de Condeixa, and *Souvenir de Madame Bernard* are all grand, distinct, and charming varieties, many of the colours of which are difficult to define.

GAZANIA SPLENDENS AND ITS TYPES.

I AM afraid this old and at one time popular bedding plant is in danger of going out of cultivation. Perhaps the fact that it closes its flowers in dull weather during the summer had something to do with its banishment from the flower garden; but singular to state, however dull the weather may be through the autumn months, its flowers are fully expanded, and are bold and showy up to the time frost comes to destroy their beauty. It is a plant that requires to be wintered in a greenhouse or warm frame, and it is easily propagated by means of cuttings in spring.

At the Liverpool Exhibition last year, Messrs. Backhouse & Son, of York, exhibited some fine and distinct sorts of *Gazania* that attracted considerable attention. They were *G. longiscapa*, with narrow arching deep glossy leaves, and large, clear, brilliant yellow flowers, inclining to orange in the centre; a variety of this, called *G. stellata*, with the flowers more starry; and another, *G. spiralis*, the leaves slightly spiral, and the growth a little taller; *G. pavonia*, a showy species with large golden yellow flowers; its variety *G. p. aurea*, with perfectly circular, well-formed, rich yellow blossoms; and a larger type named *G. major*, the flowers 3 ins. to 4 ins. in diameter, brilliant orange-yellow, with a dark ring in the centre; this plant is of a dwarf compact habit, and very showy. There are also two varieties of *G. splendens*, one with

golden variegated, the other with silvery variegated foliage.

A bed carpeted with *Gazania splendens*, and some taller and elegant plant growing out of it, makes a fine display when the *Gazanias* are thoroughly established and bloom freely. They are highly effective as isolated tufts for making patches on rockwork, among herbaceous plants in the mixed borders, and for edgings to large beds. It has fallen away into neglect now, but the *Gazania* will yet come to the fore, because it is one of those showy things that cannot fail to attract attention.—*R. D.*

VALERIANA PHU AUREA.

HARDY plant lovers will find in this golden-leaved variety a very telling and conspicuous object for planting in masses, especially where distant effect is desired. This is effected by the very decided and telling hue that extends to the whole surface of the leaf. This colour very much resembles that which pervades the golden Elder, and gives it considerable value in landscape scenery when seen at its best. The conditions, soil and surroundings, however, all seem to affect the plant in some unknown way, so that in many cases it reverts to the normal green colour without the cultivator being able to account for it. The beautiful yellow colour, however, may be retained even when the plant is healthy and growing vigorously. When this is the case a large bush affords a handsome contrast to white *Populus alba*, when its leaves are ruffled by the wind.

The golden Valerian being of herbaceous character cannot compete with such as the golden Elder, nor should it be planted where permanent effect is desired, as its leaves lose to a great extent the brilliancy of their hue towards midsummer, as the plant approaches its flowering period. For distant effect, however, nothing can compete with it in spring; and for this purpose it should be planted in clumps or broad patches on the margins of the shrubbery or herbaceous border. If the ground is sloping so that a full view of it is had from some opposite stand-point, the effect is striking. This is the more necessary since the spring leaves are all radical, and cover the ground with a yellow carpet 3 ins. to 6 ins. high.

The flowers of this Valerian are small but numerous, and not without merit amongst plants of its class; and the plant being perfectly hardy requires no protection, and, indeed, very little, if any, attention after being established. For this reason it would constitute a very suitable subject for naturalising on banks or semi-wild places where it might enjoy a tolerably good exposure to light, if a sunny position were not available. A certain degree of moisture in the soil, however, is desirable if not essential to its well-being, as its congeners are all, or mostly, moisture-loving plants. Given this exposure and moisture, the plant will thrive sufficiently well as to ensure the satisfaction of the grower, and afford a glow of colour in spring similar to what would be produced by a bank of flowers of the same colour and extent. In connection with this plant it may be observed that cats are very fond of it, and sometimes do it considerable damage by scraping and rolling upon it in a manner similar to the treatment they give *Nepeta Cataria*, so that where these quadrupeds exist in considerable numbers, and prove a nuisance in gardens, the growth of the Valerian may not be so satisfactory.—*B. B.*

GARDENING MISCELLANY.

The Gardeners' Royal Benevolent Institution.—I think that if a special letter could be addressed to the secretary of every provincial horticultural society of the kingdom by the chairman, treasurer and secretary of the G. R. B. I., asking each society, in commemoration of the Jubilee year of Her Majesty's reign, to subscribe a sum of money—where they can afford to do so—to augment the funds of the institution, there would be many responses. The committee have decided upon a noble project in the addition of a number of applicants, and I venture to think that many provincial societies would be willing to contribute from their funds if the matter was fairly brought before the committees through the medium of a direct application for aid from the

officials of the society. I am fully persuaded that the funds of the institution want augmenting very considerably, notwithstanding the large sum of money standing to its credit; for with the protracted depression in trade, the cutting down of gardening establishments, and so large a number of men being out of situations, and, unfortunately, employment, it will be found that there will be a greatly increasing number of applicants in the future, and making happier the last days of a long life in gardening of hundreds of men should be an object commanding the sympathies of all. I am connected with a few provincial horticultural societies, and in two or three cases I have mentioned to friends the suggestion contained in this letter, and I am sure that such an official application as I have suggested would have their support. The season for our horticultural exhibitions is just commencing, and many societies are in a position to render help by donations from their funds. I think that if Mr. Veitch, Mr. Sherwood, and their colleagues could see their way to do this at once, some good would come out of it.—*An Old Subscriber.*

The Gardeners' Orphan Fund.—Will you kindly allow me through your columns to urge upon gardeners the desirability of filling up and returning by Saturday the 21st inst., forms relative to the above, in order to enable the committee to decide upon future action in this important and interesting undertaking.—*Geo. Deal.*

Floral Committee Awards.—I suppose the members of the Floral Committee like to be thought consistent in their awards, but not a few provoke sharp comment; as, for instance, at the last April meeting that body gave a First Class Certificate to a Primrose from Weybridge. It had a bluish purple hue, but poor irregular form, and no material substance. Now of that hue I have had lots in past years, but have discarded them because it is a colour which will not stand, and is not at all effective as compared with other good Primroses; literally myriads are finer and better. On Tuesday last I put before the committee several Polyanthuses, and a remarkably good golden Primrose, the first genuine Primrose of its colour I ever had. The Polyanthuses were very fine, and whilst of fine form and substance, were admirable in colour even from a florist's point of view, and apart from their beautiful decorative qualities as garden plants, they were first-rate; yet not one got a certificate, whilst a white *Primula Sieboldi*, inferior to Geggie's and Allen's fine whites sent out in years past, secured one. If a record of the work of the Floral Committee for the past ten years were studied, I will undertake to say that it would show as many bad or useless things honoured, as good ones.—*Alex. Dean.*

Gros Colmar v. Lady Downes.—I must thank Mr. Udale for the lucid explanation of what his original ideas were, and I can assure him that I had not forgotten that the discussion did not originate with the four questions. My object in first writing was to give my opinion that the two Grapes being grown under the circumstances described by Mr. Udale was not a fair test as to the relative merits of their flavour. If such a method of heating is beneficial to Gros Colmar, then I should say it is detrimental to Lady Downes—hence the difference in flavour as experienced by Mr. Udale; but as I have had no practical experience with flue-heated vineries, I leave the discussion to those cultivators who have had such practice. Surely there are many readers who have grown these Grapes under the conditions named?—*James B. Riding.*

Stephanotis floribunda.—Having read with much interest the remarks of Mr. B. D. Knox, on p. 507, and "D. H.," on p. 538, on the cultivation of the *Stephanotis* in a greenhouse temperature, I quite corroborate the observation made by "W. G.," at p. 566. I am under the impression that the *Stephanotis* can be grown in the greenhouse during its resting season, but to flower it satisfactorily it requires a higher temperature than can be conveniently bestowed on it in a greenhouse. I enclose a truss of *Stephanotis* which has been grown in a low temperature from the month of November to the first of April. The heat of the stove during those months averaged 45° to 50°, and from the first of April to the present time, 75° to 80°. The plant I refer to was planted three years ago, and has at the present time 500 trusses, and shows every indication of yielding 500 more before its flowering period is over. I also enclose a few *Gardenia* blooms grown in the same

temperature, and will allow you, Mr. Editor, to be judge of the quality of their cultivation.—*M. Duff, Blackwood Cottage.* [Both very satisfactory.—*ED.*]

Green Spinach Beet.—This is unquestionably the most useful of the Spinach Beets. It produces an abundance of bright green leaves of a roundish sagittate form. They grow in close clusters on short foot-stalks, which are of the same colour as the leaves. The roots consist of a number of forked divisions, and are unfit for cooking. When used as Spinach, the young leaves of this Beet afford an excellent dish, though less delicate than the true round Spinach, and by no means to be preferred to that vegetable: but nevertheless it is worth cultivating, and especially to be valued because it is much hardier than the Prickly Spinach, thriving better in any kind of soil. The term perpetual, I think, is a misnomer, for the plant is a biennial, and when it attains a certain degree of maturity runs into seed. When it begins to throw up a stem, it ceases then to be of any further use except to supply seed. One sowing in March or April will suffice for supplying leaves from June until the month of May following, provided only there are plants enough to allow of frequent cropping. We have had some leaves of this since the early part of February, and shall continue to pick yet for some time; but a sowing should also be made in July for use in the following spring. If sown in a bed, the rows should be 18 ins. apart, and the plants 9 ins. asunder in the row.—*Andronicus.*

Celsia Arcturus.—Although the flowers of this species do not present the stately and massive appearance of *Celsia cretica*, the plant is more useful for decorative purposes as a pot plant in the conservatory. Whereas *C. cretica* is a hardy biennial, and may be cultivated in the open ground, where it bears considerable resemblance to a *Verbascum*, the plant under notice is a much dwarfer, more compact, and easily accommodated sub-shrubby plant that may be cut back after flowering and utilised again for several seasons. A nice lot of young stuff can be got up by striking cuttings which are easily grown, and flower readily in a young state. The flowers are bright yellow and produced in racemes, flowering continuously while the stem continues to elongate, and are furnished with curious velvety purple stamens that add greatly to their attractiveness. Specimens are now flowering in the gardens at Fretherne Court, Gloucester.

Sophora (Edwardsia) microphylla.—For garden purposes the name of *Edwardsia microphylla* may be retained for this handsome Pea-flowered plant. Being a native of New Zealand, cultivators will readily conclude what sort of treatment it requires, and give it a place in the cool conservatory. We have seen it planted on an open wall in the neighbourhood of London doing well, and the effect produced by the finely pinnated feathery foliage is very charming; but those conditions in this neighbourhood do not seem very favourable to its well-being, as it seldom flowers. Mr. W. R. Greenway, gardener to Sir Lionel Darrel, Bart., sends us flowering specimens of it from the Fretherne Court Gardens, Gloucester. The rich yellow of the irregular papilionaceous flowers contrasts with the beautiful foliage now rapidly expanding. They are produced in clusters or short racemes at the tip of the short lateral shoots of last year, and are therefore ready to expand with the approach of spring. Judging from the spray sent, the plant must now have a fine appearance at Fretherne Court. The flowers are very different from the ordinary run of papilionaceous flowers, and casual observers would not readily take them to belong to that family.

Paragon Rhubarb.—Some time ago one of your correspondents gave a list of several sorts of Rhubarb, with a very interesting description of each; but the new variety, Paragon, seems not to have come under his notice, as he makes no mention of it. After three years experience I consider it one of the best, with the exception of Prince Albert. With me it is one of the earliest of all those sorts named by your correspondent, and hardly, if ever, runs to seed, which is a great point in its favour. It is dark in colour, of excellent quality and flavour.—*John Downie, Edinburgh.*

High Price of Tuberous Begonias.—It is surprising how very expensive the roots of Tuberous Begonias are. I am not referring in particular to choice named sorts, but to ordinary tubers, such as any one would desire to plant in the flower garden. I know of many applications having been made to

nurserymen for them lately, and the quotation is from 6s. to 21s. per dozen. I have not heard of any being offered for less than 6s. and this, I am sure, will be generally regarded as a high price for tubers, which can be raised from seed this year, and become ready for flower garden decoration the next. It would require a hundred or more tubers to make a telling display in many flower gardens, but few would care to pay 50s. or 100s. for the tubers to secure it. Those who contemplate using them to any extent ought to sow seed freely at once; and I cannot help thinking that were I a nurseryman I would begin at once and raise them by the thousand, and offer them at 3d. a bulb or 20s. per 100, or something like that, next year; and I am sure the return would be both copious and handsome.—*J. Muir, Margam.*

Omphalodes verna.—Although so late in the season it is pleasant to note the brilliant blue flowers of the hardy spring Boragewort, *Omphalodes verna*, peeping from under a carpet of green leaves and creeping stems. The flowers individually are small, but produced in racemes, and attract attention by their lively colour. This is one of the numerous spring flowers now to be seen at Swarland Hall, Northumberland, the seat of H. Andrews, Esq., whose garden is now in the charge of Mr. G. Shotton.

Primula denticulata.—Amongst the many fine hardy plants now flowering at Swarland Hall, Northumberland, Mr. Shotton can reckon one of the most variable and beautiful of Himalayan Primroses. The atmosphere there is more suitable for many hardy plants, especially Alpines, than in the neighbourhood of London, from whence Mr. Shotton recently moved. The trusses of bloom are rather later than they are farther south, a statement that applies to several things now in flower, which might have been expected six weeks ago, many of them being in perfection in March. The moister atmosphere in those northern latitudes tells greatly in favour of *Anemone (Hepatica) triloba*, still flowering at Swarland Hall.

ORCHID NOTES AND GLEANINGS.

Orchids at The Woodlands.—There is, at the present time, a very rich and varied display of Orchids here—gems that excite the admiration and envy of many who are privileged to visit this charming place. Mr. R. H. Measures must find in this *bijou* possession of his immense pleasure and a real enjoyment—shut out, as he is, from the busy, noisy city, and surrounded with an almost boundless wealth of beauty, both in and out of doors.

The most charming and beautiful of the *Cattleyas* now in blossom is a variety of *C. Mendelii*, named Duchess of Marlborough. The broad, rosy, flesh-coloured petals are without the usual freckling, being uniform; while the labellum is of an intense violet-crimson, yellow and rose colour. The matchless specimens of *Cymbidium Lowianum* are making grand progress. One gigantic specimen is now a beautiful object, having eleven flower-spikes, and, collectively, about three hundred blossoms. Turning to the next division, there is a show in itself of the lovely *Odontoglossum vexillarium*, an Orchid which will be more and more sought after in the immediate future. For effect, nothing can excel a whole bench of well-grown plants in all the best varieties, from white through all the shades of rose, to deep purplish crimson. Many of the plants have three, and some four, spikes from one pseudo-bulb; and in many instances the spikes bear nine and ten flowers. For a complete blaze of blossom this Orchid is unrivalled. Another great favourite at The Woodlands is the pendulous sweet-scented *Odontoglossum citrosimum*. Of this there are certainly two hundred spikes—some pure white, some rose, others red, and many intermediate forms; it is, indeed, a variable plant without any absolutely poor varieties.

I was delighted to meet with the rare and quaint *Vanda cristata grandiflora*, now seldom seen. There were many *Cypripediums* in flower; indeed, this collection is one of the most famous, and possibly the most complete, collections to be found in our gardens. The rare *C. Wallisii* and the new *C. elegans* are striking kinds; but the hosts of others are too numerous to detail in this short notice. The excellence and splendid condition of the whole collection impressed me much, and there can be no doubt but that they are thoroughly

well handled by Mr. Fraser, and do him credit. I have never set my foot in any garden where everything is so scrupulously clean. The owner evidently has at heart the good old maxim that "Cleanliness is next to Godliness."—*Leo. Gordon.*

Orchids from Scotland.—A box containing a fine lot of Orchids has just reached us from Messrs. William Thomson & Sons, Clovenfords. A magnificent and well-coloured bloom of *C. Mendelii*, from Admiral Fairfax's collection at Ravenswood, which had been expanded for a month, measured about 7½ ins. across the petals. A twin-flowered peduncle of *C. citrina* exhibited blooms of fine size, and it came from a plant which bore three twin and three single-flowered peduncles. A magnificent spike of *Cymbidium Lowianum* was noticeable for the whiteness of its labellum, which accordingly showed off the maroon or brownish purple lamina to advantage by contrast; the labellum is more usually of a decided tinge of yellow. A flower of *Cattleya Acklandiae*, measuring 4½ ins. in diameter, was a grand sight; the rich rose-coloured labellum and deeper-tinted huge column contrasted with the buff-coloured sepals and petals heavily blotched with intense rich chocolate-brown. The elegance of the rosy-like sepals and petals of *C. amethystoglossa*, spotted with rosy purple, was also very notable; and the rich amethyst of the corrugated labellum offered a brilliant contrast to the delicacy of the other parts of the flower.

Double-lipped Dendrobium Wardianum.—At first sight the inner labellum (which is only about half the length of the primary and normal one) appeared to be exactly opposite the latter; but a closer inspection of this accessory one revealed the fact that it really consists of two organs united for the greater part of their length by their contiguous edges. The tips are free, and each has a small purple spot as usual, and a deep brownish purple one at the base of each computed organ, together with the usual large orange blotch. The explanation of this phenomenon is that the two lateral anthers of the outer series of three stamens have become separated from the column and petaloid, uniting to form one piece simulating a second labellum. The line of union is distinctly visible; while the rest of the flower is quite normal, and the tips of the sepals and petals are unusually high coloured for the species. It flowered in the collection of Messrs. John Laing & Co., Forest Hill.—*J. F.*

Masdevallia Veitchiana grandiflora.—The excellence of this fine variety is well exemplified in a specimen forwarded by Messrs. John Laing & Co., of Forest Hill. The flowers are perfect in form, 6 ins. in length, and 2 ins. in width; in colour bright orange, the upper segment and the upper halves of the lower ones being covered with mauve-coloured papillae.

Cattleya Mossiae, Sander's Early-flowering.—A fine example of the '85 importation of this is in flower in the collection of Sydney Courtauld, Esq., at Braintree, in the care of Mr. Alfred Wright. The flowers, which are 8 ins. across, have pearly white sepals margined with rose; petals also white marbled with rose, after the manner of *C. Trianae Massangeana*; lip white, marked with purple, stained with yellow in the throat, and crimped at the edge.

FLORICULTURE.

MESSRS. CARTER & CO.'S CINERARIAS. — Great activity is now being displayed at the seed-raising establishment at Forest Hill, and although Cinerarias are the chief feature at present in flower, we cannot forbear being interested in the Stocks, Asters, and Chinese Primulas that are being raised in large quantities to test the value of home-grown seeds. The latter are now ripening a fine lot of seeds which appeared plump, full and numerous in the capsules. All late flowers are sedulously picked off to induce perfect ripening of the first opened and carefully fertilized flowers. Tobacco seedlings are being raised in great numbers for another trial of Tobacco-growing this year; judging from the seed beds, the seeds sown must have been exceptionally good, and the desired number of seedlings have been pricked off into boxes and stood in the open air. Last, but not least, must be noticed the immense number of annuals sown in pots to be planted out presently. The Californian and other American annuals for the American Exhibition at Earl's Court, are to be supplied and planted out by Messrs. Carter & Co.

The Cinerarias, also grown for the production of seed, are now at their best, and exhibit a great variety of lively colours, which in mixture must form an excellent strain, calculated to give either amateur or professional satisfaction who grow them for decorative purposes. It is said that Cinerarias are unpopular for cutting purposes, but for the decoration of greenhouse or conservatory they are unrivalled amongst their kind, while they emit an odour which, if not very powerful, is certainly by no means to be despised, especially during sunshine.

As the collection consisted of unnamed seedlings, we cannot speak of varieties in that sense, but essay to describe some of the forms chiefly with regard to colour. The distribution and blending of two or more tints or colours make the colour description very often difficult to define; but these undefinable colours often impart that novelty which one desires to see in garden flowers. From a houseful we can only particularise a few of the leading types. A carmine-magenta form might have been termed a self, except for a narrow white band at the base of the rays. Another dark crimson-flowered plant was also characterised by a narrow white ring or eye encircling the disk. The width of this white band affords distinctive marks, as well as variation in the tint of the deeper and more conspicuous colour. A seedling, with violet-purple flowers, had about an equal breadth of white. Most of the plants were of compact dwarf habit, but this was noticeable in a plant having lilac-purple flowers with white eyes. The blue selfs are very desirable plants; and very often we noticed a violet tint in the flowers, which, moreover, seems to vary according to the standpoint of the beholder and the amount of sunlight on them. As a distinction to the latter, we noticed another coloured precisely similar, with the exception of a white eye. A deep magenta self was very conspicuous, as was a maroon-purple and a violet-purple of great substance with a white eye.

Besides the purple, crimson and maroon colours which prevail in a great variety of shades, diversified by the extent of the ray florets occupied by white, there is an interesting gradation amongst the blue-flowered forms both as to the intensity and richness of the tints of the self-coloured varieties and the relative proportion of white and blue. Whether generally liked by growers or not, we cannot say, but noted a charming light blue self, and when others have expressed an opinion, they invariably spoke of the lively and novel effect produced by these clear blue flowers amongst a general collection. A brilliant blue self, with very large heads, was intermediate between the latter and another self-coloured form, intensified to bluish purple. Altogether a very lively and brilliant display is produced by an intermixture of the selfs with the white-banded forms; but owing to the peculiar construction of the house and the high staging, visitors do not see the plants to advantage. This, however, is a matter of small importance, seeing that the plants are grown for seed and not for exhibition.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*May 10th.*—The large collection of Daffodils now cut from the open ground still constitute a leading feature of the meetings; and notwithstanding the penalty we are paying for their great popularity in the shape of numerous forms differing only in a shade of colour, there were some magnificent new forms certificated, that are recorded in another column. Roses and hardy flowers were also prominent; but a leading feature was the splendid collection of *Cypripediums* exhibited by R. J. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell. He was the successful competitor for the Veitch Memorial Medal and the prize of £5. His collection included such fine things as *Cypripedium caudatum* and its varieties *roseum* and *Warszewiczii*, *C. Druryi*, *C. Stonei*, *C. callosum*, *C. callurum superbum*, and *C. Dautheri*. The group contained over ninety plants in pots, and was arranged with *Pteris* and Maidenhair Ferns. F. G. Tautz, Esq., Studley House, Hammer-smith (gardener, Mr. Cowley), exhibited a much smaller collection, amongst which *C. Peteri*, *C. Lowi*, *C. ciliolare*, *C. Boxalli atratum*, and *C. Sedeni candidulum* were conspicuous. The very distinct yellow-flowered *C. Druryi*, and the fine-leaved *C. Lawrenceana*, added variety and interest to the collection. The same

exhibitor showed *Odontoglossum Schillerianum*, with the sepals and petals closely mottled with brown on a yellow ground. De B. Crawshay, Esq., Rosefield, Sevenoaks (gardener, Mr. Cooke), received the thanks of the committee for an exhibit of three plants of *Odontoglossum crispum* var. *Mrs. De B. Crawshay*, a variety with broad well-imbricated white sepals and petals, suffused with rose externally, and occasionally blotched with brown. Messrs. Shuttleworth, Carder & Co., 191, Park Road, Clapham, exhibited a fine plant of *Cymbidium tigrinum* in a basket. It is one of the dwarf forms, with comparatively large flowers borne singly, and rendered most conspicuous by the white labellum spotted with brown. They were accorded a vote of thanks for the exhibit. M. Laurent Masereel, Ghent, Belgium, forwarded a very distinct *Odontoglossum*, named *Odontoglossum Masereeli*, which, however, was late for the committee. The spike contained eight flowers of a clear shining yellow, while the petals were marked with a darker tint. It came from Ocaña, Colombia, amongst an importation of other species, and showed an affinity to *O. luteo-purpureum*, with the shining yellow colour of *O. triumphans*.

Messrs. Barr & Sons, 12 & 13, King Street, Covent Garden, were awarded a Silver Banksian Medal for an extensive collection of *Narcissi*, some of which were certificated, and noted in another column. Interspersed amongst these were various hardy spring-flowering plants, such as *Ornithogalum nutans*, *Fritillaria Moggridgei*, *Anemone nemorosa Robinsoniana* with blue flowers, and *A. n. bracteata alba plena* with double white flowers. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was awarded a Silver-Gilt Banksian Medal for a fine collection of *Narcissi* interspersed with *Orchis maculata*, *Fritillaria pallidiflora*, *F. lanceolata*, *F. Burnati* and *F. meleagris*. The same exhibitor staged a showy collection of hardy herbaceous plants, containing many fine forms of *Primula Sieboldi*, together with the grand white-flowered *Ornithogalum Arabicum* with a black eye, *Cypripedium montanum* and the dwarf, profusely-flowered *Polemonium Richardsoni*. Messrs. Collins Brothers and Gabriel, exhibited a collection of *Narcissi* studded here and there with *Fritillaria imperialis*, *F. i. lutea*, *Doronicum Harper Crewe*, and the fragrant *Polemonium Richardsoni*; a Bronze Banksian Medal was awarded the exhibit. A collection of fifty varieties of cut *Narcissi*, chiefly of *N. tazetta*, was forwarded by Messrs. E. H. Krelage & Son, Haarlem, Holland; they also sent twenty-five new and choice varieties of *Tulip* and *Fritillaria imperialis inodora purpurea*; the thanks of the committee were tendered for the exhibit.

Messrs. William Paul & Son, Waltham Cross, Herts, exhibited a fine group of dwarf or bush *Roses* in pots, and were granted a Silver-Gilt Banksian Medal. Hybrid Perpetuals predominated, and included *La France*, *Violette Bouyer*, *General Jacqueminot*, *Duke of Edinburgh* and *Countess of Rosebery*. Four boxes of cut *Roses* were exhibited by Mr. William Rumsey, Joynings Nurseries, Waltham Cross, and were awarded a Bronze Banksian Medal; one box was filled with *Souvenir d'un Ami* alone, which, as well as *Niphotos* and the dark *Charles Lefebvre*, were fine blooms. A mixed group of *Azaleas* was exhibited by Mr. Anthony Waterer, Knap Hill, Woking, Surrey, and contained, amongst others, a hybrid form of *A. mollis* and the double yellow-flowered *A. pontica narcissiflora*. Mr. R. Dean, the Seed Grounds, Bedford, Middlesex, received Cultural Commendation for five varieties of *Polyanthus*, and a large group of cut blooms, amongst which were *Firefly*, *Emperor*, *Crimson Beauty* and *Primrose Golden Ball*. *Spiraea aruncus* was forwarded by Mr. A. Moore, The Gardens, Cranmore Hall, Shepton Mallet. A vote of thanks was accorded Mr. G. Cragg, The Nurseries, Crouch End, Hove, for a group of *Alpine Auriculas*, and a similar award to Messrs. J. R. Pearson & Son, Chilwell Nurseries, for two boxes of cut blooms of *Pelargoniums* showing some range of variety. Some plants of *Pelargonium M. Christine* were forwarded by Mr. J. W. Thomson, Ferney Green, Westmoreland, and received the thanks of the committee, as did an exhibit of cut blooms of *Calceolarias*, of great size and merit, sent by Mr. J. James, Woodside, Farnham Royal; and a semi-double white, new *Regal Pelargonium* named *Pearl*, sent by Mr. Rupert Miller, Southdown Nursery, Shoreham. Messrs. T. Todman & Son, Rose Park Nursery, Upper Tooting, were granted a vote of thanks for an exhibit of *Rhododendron grandiflorum*, said to

be a seedling from *R. javanicum*, with deep apricot blooms and crimson stamens.

At a meeting of the fruit committee, Mr. Norman, The Gardens, Hatfield House, Herts, exhibited six bunches of *Lady Downes Seedling Grape* that had been ripened in September of last year, and received a Cultural Commendation. They were in excellent order, as were two bunches of *Black Hamburgh* forwarded by M. F. Hume Dick, Esq., Thames Ditton House, Thames Ditton; they received a similar award as the last. A vote of thanks was accorded the same exhibitor for a seedling *Melon*, Thames Ditton Hero. Another seedling *Melon* was exhibited by Mr. Richard Parker, Impney Gardens, Droitwich. The *Elvaston long-keeping Onion* was sent by Mr. Goodacre, Elvaston Gardens, Derby. A collection of *Rhubarb* came from the Gardens of the Royal Horticultural Society, Chiswick. It contained amongst other fine kinds, *Victoria*, *Linnaeus*, *Hawke's Champagne* and *Paragon*. The leaf-stalks have now attained great size, although not so highly coloured as in a young state.

Bath Floral Fete.—*May 10th.*—This took place as usual in the Sydney Gardens, that are just now putting on their best spring dress. It was said by habitués to be the best show ever held at Bath, and making allowances for the untoward season, things generally were in capital form. But the great surprise of the day was in the classes for *Orchids*, and the advance seen on what was staged last year was surprisingly marked. The Rev. E. Handley (gardener Mr. Kerslake), must be complimented upon his exhibits, and he carried everything before him; his six specimens, real, not manufactured ones, deserved, in addition to the First Prize, a Cultural Commendation of the highest order; they consisted of a fine example of *Cattleya Mossiæ*, with fifteen massive blooms, *Vanda suavis*, *Ærides Fieldingii*, *Lælia purpurata*, *Cattleya Skinneri* and *Odontoglossum vexillarium*; Messrs. W. Heath & Son, nurserymen, Cheltenham, were second, with made-up specimens of *Odontoglossum Pescatorei*, *O. Roezli*, *Lælia purpurata*, *Dendrobium nobile*, *Cattleya Mossiæ superba* and *Oncidium sphacelatum*. Mr. Handley was also first in the amateurs class for four. The best single specimen in the open class was a fine piece of *Lælia purpurata* from Mr. Handley; Mr. James Cypher, nurseryman, Cheltenham, being second, with *Cattleya intermedia*. In the amateur division, Mr. Handley had the best specimen again, staging *Oncidium ampliatum majus*. Then there was a class for a group of *Orchids* to fill a space of 72 ft., and here Mr. Handley was again first with a charming lot of small plants; Messrs. Heath & Son being second; and R. B. Cator, Esq., Bath (Mr. F. W. Fisher, gardener), third. Messrs. G. Cooling & Son, nurserymen, Bath, also put up, not for competition, an excellent collection that was greatly admired.

Azaleas were a striking feature, as some very large specimens are grown about Bath. The best twelve came from C. Gardiner, Esq., Birslington (Mr. W. Long, gardener), who had finely-bloomed examples of *Roi Leopold*, *Magnet*, *Criterion*, Mr. Turner, *Old Charmer* (very fine), *Iveryana*, *Duc de Nassau*, &c.; second, Col. Landon, Bath (Mr. C. H. Keal, gardener). In the classes for nine and six the plants were smaller. Mr. J. Cypher had the best nine, and Mr. Doherty, Bath, the best six.

Stove and greenhouse plants in twelves brought Mr. Cypher to the fore in excellent form, fresh, well-grown and flowered specimens being seen. As these will appear at the Regent's Park show, details can remain till then. Mr. H. James, nurseryman, Lower Norwood, came in a good second. There were groups of nine and six also, but space does not admit of details. The best new or rare plant was *Cattleya Lawrenciana*, from Mr. J. Cypher.

Other flowering plants comprised *Roses*, which are well done at Bath, the Rev. E. Handley having the best nine, and Mr. S. P. Budd the best six. *Pelargoniums*, *Calceolarias*, and *Cinerarias* made charming patches of colour intermingled with competing groups of foliage plants and Ferns. Mr. Cypher had the best four greenhouse plants, and the best specimen also.

Foliage plants were an imposing feature. Mr. Cypher had the best fifteen, closely followed by Mr. James; they were generally large and finely developed. There was a class for nine also, in which the plants were much smaller. Ferns were shown in groups of fifteen and nine, small, well-grown specimens generally.

Cut flowers included lovely *Roses* from Mr. S. P.

Budd, a well-known Bath amateur, and Mr. S. Tredwell. In the class for twenty-four blooms, Messrs. George Cooling & Son were first, and Mr. S. Tredwell, second. Fancy *Pansies* were a great feature, especially those shown by Messrs. Meddick and F. Hooper. Cut flowers in bunches of twenty-four were in good form, Mr. Perry, gardener to H. C. Miles, Esq., being first. Mr. Cypher had the best *Epergne*, and also the best bouquet.

Fruit consisted of *Strawberries* in pots, and also in single dishes, a fine dish of *James Veitch* being especially noticeable. Apples and Pears were in a good state of preservation, and especially some *Beurré Rance* Pears shown by Mr. J. H. Taylor, the treasurer of the Society.

Vegetables were numerous and very good, and thoroughly representative. Cottagers' vegetables were fine indeed; some *Giant Leeks* were truly wonderful in development.

Among miscellaneous contributions were a very fine lot of *Maréchal Niel Roses* from Messrs. Geo. Cooling & Sons; a delightful group of *Japanese Maples* and choice plants from Mr. R. T. Veitch, nurseryman, Exeter; a nice group of flowering plants from Mr. A. Walters, nurseryman, Bath; and some pretty hybrid *Primroses* from Mr. E. J. Lowe, of Swansea, formerly of Nottingham. To all these Certificates of Merit were awarded.

The weather threatened to be wet during the morning, but ultimately became fine, and a numerous company attended. The judges were, as usual, treated with marked kindness by the committee—an invariable characteristic of the Bath exhibition.

Nottingham Horticultural.—*May 4th.*—The annual general meeting of this Society was held in the Mechanics' Institute, when the secretary, Mr. E. Steward, presented the accounts for the past year. There was also a very good show of *Orchids*, cut flowers, &c., contributed by members. Unfortunately the accounts show a balance on the wrong side, although a very small one. This is not very encouraging to the committeemen, who have worked very hard during the last four years, endeavouring to keep the finances in a sound condition. The crack cricketing county does not appear to be sufficiently interested in a first-class flower show to ensure that undertaking by the Society being a success. The balance sheet shows that the summer exhibition at Mapperly Park cost the Society £300, and the takings at the gates were, on the first day, £32, and on the second day £69. It is a question much discussed by many of the members, whether it would not be better to drop the big fêtes altogether, and to concentrate the energies of the executive on to the monthly meetings held at the Mechanics' Institute, which, hitherto, have been very successful. At the present meeting, Mr. Thacker, of Ball Street, Nottingham, showed a small group of beautiful *Orchids*, among them being *Lælia purpurata* with five spikes, four flowers on each; some nice healthy plants of *Cattleya Sanderiana*, *Oncidium Marshallianum* and others. Mr. Mee, of Wollaton Hall Gardens, exhibited some beautiful things, among them being about three dozen *Gardenia* blooms arranged in a basket of moss; a splendid lot of *Lily of the Valley*, a collection of *Coleus* plants, &c. Messrs. Pearson, of the Chilwell Nurseries, showed a collection of *Narcissus*, among which we noticed *Sir Watkin*, *Emperor*, *Incomparabilis*, *Princeps*, *Horsfieldii*, &c. Mr. Thomas Hallam, florist, Peas Hill Road, Nottingham, showed a beautiful bouquet, and a spray composed chiefly of *Tea Roses*, which were much admired. From C. J. Cox, Esq., Rock House, Old Basford (Mr. Meadows gardener), came a collection of choice cut flowers of about twenty sorts. The society is not at all illiberal as regards the admission of visitors to their meetings, as when there is no discussion going on, the room is thrown open to all members of the Mechanics' Institute, and a goodly number avail themselves of the privilege.—*J. R. M.*

St. Ann's Amateur Floral and Horticultural, Nottingham.—The general monthly meeting of this society was held on the 3rd inst., and was one of the most successful meetings the society has had; there was an excellent display of plants and flowers, and some very fine specimens were also exhibited. Mr. G. Taylor exhibited a fine lot of outdoor blooms—some forty varieties—which did him great credit. Mr. W. H. Lee showed a good bouquet of *Roses* and a specimen *Pelargonium*, which was a mass of bloom. Mr. S. Thacker had some fine *Cattleyas* in

bloom; also a *Lælia purpurata*, with a very dark and large lip. Mr. G. Priestley, Sen., exhibited some very fine blooms of *Clematis Miss Bateman*, 10 ins. across; and Mr. T. B. Hallam, as usual, had some very fine ladies' sprays and a large quantity of plants. A vote of condolence was passed to the family of the late Mr. T. Wilson, one of the founders of the society, who has passed away. It was proposed to hold the annual show fourteen days later, on account of the hard winter and late spring.—*J. T. F.*

Obituary.

WITH deep regret we learn of the death, early on Tuesday morning last, of MR. PHILIP FROST, of Dropmore, at the ripe old age of 83 years. Thus has quietly passed away a man of mark among English gardeners, who was universally respected by his fellows, and admired by many outside the profession who have enjoyed a ramble with him among the arboreal celebrities which have made Dropmore for years past a famous place of pilgrimage for all tree lovers.

Philip Frost was born in Devonshire in July, 1804, and when about 13 years of age, his father being then gamekeeper to Lord Grenville, at Bocconoc, in Cornwall, commenced to work in the woods there under the Forester. About five years later he left Bocconoc for Lord Grenville's other estate at Dropmore, and after serving first in the flower garden, and subsequently in the frame ground, sought further improvement in a change, and accordingly in 1826 went to Ashted Park, near Epsom, but not finding his treatment here equal to what he thought he deserved, he returned to Dropmore, and the following year was promoted to the position of foreman. Still desiring to obtain wider experience, he left again in 1828, and went to Caen Wood, Highgate, and soon became foreman in that garden.

In June of the following year he went to the Chelsea Botanical Gardens, under the then curator, Mr. Anderson. Here his skill as a plant grower soon attracted the notice of his superiors; and on his former master, Mr. Baillie, leaving Dropmore, he again returned there, but this time as head-gardener, and held the post until his death—a period of nearly fifty-five years. Soon after taking charge of the place he commenced planting the Conifers, which in after years made Dropmore famous throughout the country. Of the splendid collection of fine specimens of these trees to be seen there now we need say but little, they are so well known; but any reference to Dropmore and Philip Frost would be sadly incomplete without mention being made of the two most idolised of his arboreal children, the famous *Araucaria imbricata* and the still more remarkable specimen of *Abies Douglasii*, than which the equals are not to be found in the country; they were the idol of his eye, he simply worshipped them, and would detail their history to visitors with an enthusiasm that never seemed to flag.

To a lover of trees, a walk through the pleasure grounds at Dropmore with Philip Frost was a most enjoyable treat, for he was a guide of no ordinary kind. Of a singularly robust and vigorous constitution, possessed of a stentorian voice, a good memory, and having at all times a forcible manner of expressing his sentiments, the old gardener would draw upon his rich store of tree lore, and mixing up historical facts associated with the trees, the sayings and doings of notable people in connection therewith, and his own practical experience on a thousand and one subjects, it was impossible not to enjoy his company, or fail to admire the man for his thoroughly John Bull character. Who that has been with him in the kitchen garden, and heard from his own lips how he improved the sterile gravelly soil he had to deal with, to the astonishment of his employer—and especially of his old friend and neighbour, the late John Fleming—can ever forget how he became dubbed by his brother gardeners "Chalky" Frost. The story was often told, and no one more thoroughly enjoyed it than Philip Frost himself.

In December, 1872, he was the recipient of a very sensible *souvenir* of the goodwill of his friends and admirers in the form of a Silver Cup (on which were engraved portraits of the two famous trees above alluded to), and an annuity purchased with the sum of about £200. Up to the past winter Mr. Frost enjoyed unusually good health for a man of his age, and who had been so hard a worker, yet the severe spring told its tale on even his iron constitution; but though the man himself has gone, he has left a name that will not soon be forgotten. The funeral will take place at Hitcham Church, near Burnham, this day (Saturday) at 3 p.m.

QUESTIONS & ANSWERS.

VINE LEAVES WARTED.—*W. Martin*: Instances of excrescences like what you send us occasionally occur on the underside of Vine leaves. They are a sign of ill health on the part of the Vines, and are generally caused by a too close moist atmosphere. We would advise you to ventilate more freely, and if they are not too badly affected they will get over it. Excrescences of the kind mentioned are injurious to Vines, inasmuch as they hinder respiration, transpiration and other functions. See *Barron's Vines and Vine Culture*.

BOMARIA CARDERI NOT FLOWERING.—*J. A. C.*: It is possible to keep the plant you mention alive in a 9-in. pot, but we are not at all surprised it does not flower, and, indeed, we think it cannot be flowered in such limited accommodation as to root-room. The fleshy roots, bearing also tubers, require a considerable amount of soil before they can develop flowering stems of 6 ft. to 12 ft. in length capable of supporting bloom. You might try it in a large pot or tub, but we would advise you to plant it out in a border of good fibrous loam mixed with a little peat and sand. The border, moreover, need not necessarily be a large one.

ARRANGEMENT OF COLOURS.—*Carpet Bedding*: If Iresine Wallisi is used for the centre of the design you sent us, we do not see that it would interfere or clash with *Oxalis corniculata rubra* in another bed, as the two plants in question appear to the eye of very different tints. We presume also that the two beds do not form part of one plan or design. If the beds are meant to match one another in a design, then not only the centres but the whole of them should be planted alike. Our distribution of the plants would then be as follows:—1, Iresine Wallisi; 2, *Alyssum maritimum variegatum* or *Mesembryanthemum cordifolium variegatum*, preferably the latter, as the colour is more decided; 3, *Sedum glaucum* or *Antennaria tomentosa*; 4, *Pyrethrum aureum selaginoides*; 5, *Sedum Lydium*.

PARAFFIN AND SCARLET RUNNERS.—*E. F. B.*: It was not necessary to steep the seeds for so long a time in the paraffin, but you will see in a few days whether it has injured the germs or not. Paraffin varies much in quality.

NAMES OF PLANTS.—*G. Shotton*: 1, *Oxalis acetosella*; 2, *Anemone (Hepatica) triloba*; 3, *Pulmonaria officinalis*; 4, *Pulmonaria officinalis alba*; 5, *Eranthis hyemalis* (with yellow flowers, not white as stated); 6, *Adiantum cuneatum grandiceps*; 7, *Primula denticulata*; 8, *Omphalodes verna*; 9, *Erica mediterranea* var.; 10, *Erica herbacea*. *W. R. Greenway*: The leguminous plant is *Sophora (Edwardsia) microphylla*; the Mullein-looking plant is *Celsia arcturus*. *Mrs. Leadbetter*: 1, *Saccobolium rubrum*; 2, *Narcissus moschatatus*; 3, *Narcissus bicolor* var.; 4, *Narcissus incomparabilis* var.; 5, unrecognised (we would be pleased to receive a truss with a full-sized leaf when more advanced); 6, *Begonia maculata*. *H. J. Ross*: A pale form of *Vanda tricolor insignis*.

COMMUNICATIONS RECEIVED.—*C. N.*—*A. W. D.*—*J. G.*—*J. S. F.*—*W. C.*—*A. F. L.*—*H. J.*—*O.* & *M.*—*W. G.*—*A. Kew Student* (you have not authenticated your letter in the usual way).—*J. W.* (many thanks).—*G. T. M.*—*A. Van Geert*.—*W. B.*—*J. H. H.*—*H. M.*

LONDON SEED TRADE.

May 11th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance at to-day's market, with but little demand for Agricultural Seeds, values all round remain unchanged, and finer grades of Red Clover are being sold for holding over. Bird Seeds are slow.

COVENT GARDEN MARKET.

May 12th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	20	50	Pine-apples, St.		
New Grapes . . per lb.	30	50	Michaels, each	16	60
Kent Cobbs . . 100 lbs.	60		Pine-apples, Eng., lb.	10	16
Peaches . . . per dozen	15	0 21 0	Strawberries, per lb.	30	60

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	20	30	Herbs, per bunch	02	04
Asparagus, per bdle.	20	50	Horse Radish, bundle	30	50
Beans, French, per lb.	20	26	Lettuces . . per dozen	16	20
Beet, per dozen	20	30	Mushrooms, p. basket	10	20
Brussel Sprouts, per lb.			Onions, per bushel	40	50
Cabbages . . . per doz.	20	26	Parsley, per bunch	06	
Carrots, per bunch	06		Radishes, per dozen	16	
Cauliflowers, English, per dozen	30	50	Sea Kale . . per basket	16	26
Celery, per bundle	20	26	Small salading, punnet	04	
Cucumbers, each	06	10	Spinach, per strike	20	
Endive, French, doz.	26	36	Tomatoes, per lb.	20	36
			Turnips . . . per bun.	06	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones . . . 12 bun.	20	40	Mignonette, 12 bun.	30	60
Arum Lilies, 12 blms.	30	50	Parma Violets (French), per bunch	26	40
Azalea, 12 sprays	06	10	Pelargoniums, 12 sprays	04	09
Bouvardias, per bun.	06	10	Pelargoniums, scarlet, 12 sprays	03	06
Camellias . . 12 blooms	10	30	Primula, double, bun.	09	16
Carnations, 12 blooms	10	30	— single . . . 12 bun.	10	40
Cut Tulips, 12 blooms	03	06	Roses (coloured) . . .	10	40
Daffodils, dble, 12 bun.	20	40	Roses, Tea per dozen	10	20
— single . . 12 bunches	10	20	Roses, (French), per doz.	10	20
Encharis, per dozen	30	60	— Saffrano (French), per doz.	06	09
Gardenias, 12 blooms	16	30	Spirea . . . 12 bunches	06	09
Heliotropes, 12 sprays	06	10	Tropæolums	10	20
Hyacinths, in boxes, from Holland . . box	16	40	Tuberose, per dozen	10	
Lapageria, red, 12 blms.			Violets . . 12 bunches	04	09
Lapageria, white, 12,,			Wallflowers . . 12 bun.	20	40
Lilies of the Valley, 12 sprays	06	10	White Jasmine, bun.	06	09
Lilium longiflorum, 12 blooms	40	60			
Marguerites, 12 bun.	30	60			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	60	180	Genista . . . per dozen	60	90
Arum Lilies, per doz.	90	120	Hydrangea . . per doz.	90	120
Azalea . . . per dozen	180	360	Lily of the Valley, 12 pots	120	180
Cineraria . . per dozen	60	90	Lilium longiflorum, per doz.	240	360
Cyclamen . . per dozen	100	180	Marguerites, per doz.	60	90
Cyperus, per dozen	40	120	Mignonette . . per doz.	60	90
Dracena term., doz.	30	60	Palm in variety, each	26	210
— viridis, per dozen	120	240	Pelargoniums . . . doz.	90	180
Epiphyllums, per doz.			Pelargoniums, scarlet, per dozen	40	80
Erica, various . . doz.	180	420	Rhodantha . . per doz.	60	90
Evergreens, in var., per dozen	60	240	Roses (various) . . doz.	180	300
Fairy Roses . . per doz.	80	120	Solanums		
Ferns, in var., do	40	180	Spirea . . . per dozen	90	120
Ficus elastica, each	16	76	Tulips . . per doz.		
Foliage Plants, various, each	20	106			
Fuchsia . . . per dozen	60	90			

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THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoas thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

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Compost and Small Peat
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Cocoa-fibre Refuse
Guano (best), Fish Potash
Manure
Manures and Bones, all kinds
Gishurst compound and Gishurstine
Tobacco Paper, Cloth, Powder, and Juice
Quassia Chips and Insecticides
Aphicides and Aphid Brushes
Fumigators, "Tebb's Universal"
Garden Pencils, Pot Brushes
Sticks, Stakes, and Labels, various
Teak Baskets, Rafts, Boats, &c.
Truck Baskets, Virgin Cork
Charcoal, large and small
Mats, Raffia, and Tanned Twine
Parcel Post Boxes and Tags
Pruning and Budding Knives and Scissors
Thermometers and Syringes
Wire Netting and Tanned Netting
Tiffanies, and other Shadings
Mushroom Spawn, Garden Brooms
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Our stock of Bedding Plants (quantity immense) and Annuals
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In Spring we have numerous applications for these,
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however, since the naming and arranging of our ex-
tensive Collection of Daffodils has been completed, we
are prepared to send, on application, during May, Cut
Specimens, correctly named, and carefully packed, at a
charge of 3s. 6d. per dozen flowers (not less than one
dozen). We estimate that this charge will cover all
expenses of postage, boxes, and labour, as we desire no
profit in sending these flowers to the public, but are
only desirous that these floral beauties should be more
widely known. The flowers cannot be sent in bud, as
this would prevent us proving our "Stocks," which is
done annually; but they will be fresh, and packed so
as to ensure their arriving in good condition.

**DESCRIPTIVE CATALOGUE of BARR'S
DAFFODILS free on application.****BARR & SON,**
12 & 13, King St., Covent Garden, W.C.**New Zonal Pelargonium.**

QUEEN OF WHITES IMPROVED.—It
is without doubt the best White Zonal ever offered. It
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Certificate Royal Botanic Society, May 19, 1886.
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men, Engineers, &c., wishing to introduce good things and
specialities into New Zealand, where an increasing demand for
such exists.—Apply to **OLIVER REVILL**, Fairwood, Spring-
field Road, Christchurch, New Zealand.

**ROYAL BOTANICAL and HORTICUL-
TURAL SOCIETY of MANCHESTER.**
The ANNUAL WHITSUNTIDE HORTICULTURAL EX-
HIBITION will open at Manchester on FRIDAY, the 27th inst.
For particulars apply to the undersigned. **BRUCE FINDLAY.**

Royal Botanic Gardens, Manchester.

**NATIONAL ROSE SOCIETY OF
ENGLAND'S**
GRAND EXHIBITION will be held in the WAVERLEY MARKET,
EDINBURGH, on WEDNESDAY, July 13th, 1887, in connection
with the SUMMER SHOW of the ROYAL CALEDONIAN HOR-
TICULTURAL SOCIETY.
For Schedules, &c., apply to SECRETARY, Royal Caledonian
Horticultural Society, 18, Waverley Market, Edinburgh.

**ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.**
NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m.,
in the Lindley Library, and Fruit and Floral, at 11 a.m., in the
Conservatory, on TUESDAY next, MAY 24th.
Admission free to Fellows at 12 o'clock; and to the Public at
1 o'clock, upon payment of One Shilling.
N.B.—Entrances, N.E. Orchard House, Exhibition Road; and
Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

MONDAY, May 23rd.—Special Sale of Flowering Orchids at
Protheroe & Morris's Rooms.
TUESDAY, May 24th.—Royal Horticultural Society: Meeting of
Fruit and Floral Committees at 11 a.m. Sale of Imported
Orchids at Protheroe & Morris's Rooms.
WEDNESDAY, May 25th.—Sale of Greenhouse and Bedding Plants
at Protheroe & Morris's Rooms.
THURSDAY, May 26th.—Horticultural Congress commences in
Paris. Sale of Imported Orchids at Stevens' Rooms.
FRIDAY, May 27th.—Annual Whitsuntide Horticultural Exhi-
bition opens at Manchester. Sale of Imported Orchids at
Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest
refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 21, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—Those
of our readers who are interested in the Chry-
santhemum societies will have learnt with
satisfaction of the intention of the Council
of the Royal Horticultural Society to with-
draw their proposed Chrysanthemum show in
November next. A more needless or useless
suggestion in relation to exhibitions could
hardly have been made, or, indeed, one more
mischievous; whilst it is absolutely certain
that no step taken by the Council could so little
conduce to the interest of the Society as that
one would have done. However, it is so far
satisfactory on this head to find the Council
wise in time. Had their proposal applied to a
fruit or vegetable exhibition in the autumn, or

specially to a Grape exhibition and conference,
as was once suggested, we should have been
only too pleased to have rendered such sug-
gestions very hearty support; but beyond
discretion—which we trust has, in this special
case, been the operating cause—it is, alas! too
well known that finance, with all its troubles,
sits like black care on the shoulders of the
Council, and that the Society's terribly-reduced
income is crippling the action of that body on
every hand.

When, in reply to the recent complaint of
a well-known Fellow, it was stated that there
were no funds for the promotion of exhibitions,
that was said which was but too true; yet still,
with the proposal to hold an autumn Chry-
santhemum show put forth at the moment, it
was difficult to understand the soundness of
the excuse. However, there is no question as
to its soundness now, and week by week sees
the Society shorn of its capacities for usefulness
through lack of means. It is with deep pain
we learn that not only has the staff at Chiswick
been materially reduced, but that the possibility
of those famous old gardens—associated as they
have been with all that is best in the history
of the Society—being given up altogether is by
no means a remote contingency. It need
hardly be said that such an act would be a
horticultural calamity, for Chiswick is, after all,
the only purely horticultural home of a public
kind which the country possesses. Still farther,
we feel that with the loss of Chiswick goes the
prestige of the Society and its reputation.
Somehow—and unhappily so—its association
with South Kensington seems to have always
been disastrous, and the longer it is continued
the greater the failure; hence, with only South
Kensington associations to rely upon, the
Society has no prospect but that of collapse.

The present Council have a most serious
responsibility resting upon their shoulders. If
they permit matters longer to drift, on the
Micawber principle that something may turn
up, they will soon bring their charge to absolute
grief. The ship is slowly but surely drifting
upon the breakers, and not long will it be ere
she is wrecked, unless some strong effort be
made to avert such a calamity. How is it to
be accomplished? The Council are in command,
and may not be disposed to take suggestions
from outsiders; but if they are really attached to
the Society, and are truly anxious for its welfare,
they will come down speedily from the high
and mighty dignity of Councilship, and call
together not Fellows only, but, as far as pos-
sible, the whole of the horticultural public, and
invite advice and support. The Fellows are
very fast becoming a diminishing body; the
South Kensington rats have scuttled off now
that they have nothing more to gain from the
Society; and beyond their money—which was,
of course, as useful as that from any other
source—their association with the Society and
the Society with them seems only to have been
disastrous.

It is no longer a question of retaining South
Kensington Fellows or support; there is but
one resource, and that is, the horticulturists of
England, and but one appeal, and that is to the
same body. Are the Council willing to make
it? But ere that is done, some tangible pro-
posals must be put before the country, which
shall command sympathy, and form a basis
upon which to build up future action and
confidence. The society is now absolutely
hampered by its Royal Charter, which sits
upon it like the old man of the sea upon
the shoulders of Sindbad, and there seems to be
no means of release from its burthen but
thorough dissolution, and of course, reconstruc-
tion. If the Council can show to the country
that its Royal Charter is advantageous, then
it will have good cause to ask for its retention,
but we must say that it seems utterly impossible

to detect its advantages. At the late annual general meeting of the society, a suggestion was made that because the society was so well favoured by the late Prince Consort, and formed in his day an integral part of the South Kensington scheme, that the Queen should be appealed to to grant the society special favour and encouragement in its difficulties. Her Majesty, we learn, does so far accord to the prayer made as to express a wish that the society should not leave South Kensington; but of what avail is that? Is it likely that the Commissioners for the 1851 Exhibition will do anything to benefit the Society? The experiment has proved a failure, and, probably, now some of the Council and Fellows are satisfied that the Royal favour is but a broken reed. It is of no use to shut our eyes to the fact that the only hope for the society lies in the people; and to the people, or, at least, the horticultural portion of the people must the Council appeal. We make these references with deep pain, but with a strong sense of responsibility, and if the Council will but make a stout effort on behalf of the society, we are sure that the whole of the gardening press and all true lovers of horticulture will render them cordial assistance and support.

THE RATING OF MARKET GARDENS.—The case of *Purser v. the Worthing District Local Board*, which has created so much interest among market growers throughout the country, having been carried into the High Court of Appeal, came on for hearing on Wednesday, before the Master of the Rolls, Lord Justice Fry and Lord Justice Lopes, who, after hearing the arguments of counsel on both sides, confirmed the decision of the Court below, which was in favour of the appellant with costs.

It will be remembered that in this case—which was tried in March last, before Mr. Justice Day—Mr. Purser, a market gardener, of Worthing, claimed, under the 211th section of the Public Health Act, to be rated on not more than one-fourth of the net annual value of the land used by him for the cultivation of fruits, flowers, and vegetables for market, and the learned judge decided in his favour; but as some misconception seems to have arisen through the facts of the case not having been clearly made public in the first instance, it is important it should be now stated that Mr. Purser's appeal was not against the full assessment for the poor rate, but only against a higher assessment than one-fourth for the local district rates levied by the Board. Having, however, got a decision in his favour in the one case, it may not be long before a test action is brought with a view to getting an authoritative decision on the question of poor-law rating.

A MEETING of the Committee of the GARDENERS' ORPHAN FUND will be held at South Kensington on Tuesday next, at 1.30 p.m.

WE learn from Mr. G. F. Wilson, of Weybridge, that as attention to his hardy and half-hardy plants absorbs all his available time, he has decided to dispose of his collection of Orchids, and the plants will, therefore, be sold at Stevens' Rooms on the 2nd of June.

MR. JAMES POWELL, brother of Mr. John Powell, who for so many years was foreman of the hardy fruit department at Frogmore, died on April 17th at New Centreville, near Philadelphia, U.S.A., aged seventy-three years. He went to Philadelphia many years ago as a nursery foreman to the late Mr. Robert Buist, and subsequently started in business for himself.

THE dispute between the KENTISH FRUIT-GROWERS AND THE RAILWAY COMPANIES has been amicably settled, the companies having agreed to a reduction of twenty per cent. in the railway rates for carriage of fruit. The necessity of conveying this class of goods by water instead of rail is thus averted, and fruit will

be forwarded to London direct by rail as before. We understand that the growers are now attempting to get better terms from the commission agents.

HORTICULTURE AT THE MANCHESTER EXHIBITION.

THE great Jubilee Exhibition of products of economic industry and the fine arts is declaring itself already as certain to be a magnificent success. The newspapers have told us that it was opened on Tuesday, the 3rd inst., by their Royal Highnesses the Prince and Princess of Wales, amid circumstances of befitting splendour; but little has yet been done in the way of description of the contents. It is refreshing to observe that among other illustrations of economic industry in its best form, the results of sound and sensible horticulture have had a fairly proportionate amount of space allotted to them—partly under cover, partly in the open air. To provide for the latter was easy, the ground in which the exhibition is held including the whole of the well-known Old Trafford Botanical Gardens, the scene of so many magnificent Whitsuntide flower shows—twenty for certain, if not more, without reckoning the grand annual Rose and Carnation shows. As soon as it was decided that horticulture should be represented, the greater portion of the immense lawn was placed at the command of any nurserymen who might care to come, and very capitally has the invitation been responded to.

To attempt to deal with the whole after only a single walk round would not be possible. We must content ourselves for the present with mention of the very beautiful display of conifers, Hollies, and other decorative evergreens, made by Messrs. Dickson, Brown, & Tait, of Corporation Street, Manchester. Their spacious plot of smooth turf is secured from all trampling upon by a light railing, strong enough for defence, but so neat in character as to be an improvement rather than otherwise. The interior of this pleasant green quadrangle—measuring about 100 ft. by 70 ft.—is laid out with beds eighteen in number, not so close together as to hinder easy access and inspection of the contents, yet so skilfully adjusted that not an inch of room is really lost. The man who planned these beds—we have not the remotest idea who it was—is very plainly a mathematician as well as one of good taste. The symmetrical balance and their proportions are all that could be desired, and might, in fifty places, be imitated to advantage. One of the special charms of the arrangement consists in the opposition of the plants. Four species, for instance, of *Pinus* are introduced: *Nordmanniana*, *magnifica*, *lasiocarpa* and *nobilis*. A couple of most beautiful *lasiocarpa*, 8 ft. high, well-developed gems of their kind, occupied respective centres; around these we find either *Cupressus Lawsoniana lutea*, *C. Fraseri*, the golden Irish Yew, *Thuja* in variety, *Thujopsis dolabrata*, *Retinosporas*, *Cryptomerias*, Hollies, especially Golden Queen and Waterer's Golden, or whatever else is needed in the particular spot where it has been deposited to give the best possible relief in respect alike of figure and hue.

That in a picture gallery every picture has an influence for either good or evil upon its immediate neighbours is well known; it is precisely the same with the position of decorative evergreen shrubs and small trees, when individuals, and, indeed, when small groups are placed side by side. If they do not exert upon one another a beneficial effect, the influence is detrimental. We could not help but feel how thoroughly well this great and momentous principle is understood by Messrs. Dickson, Brown & Tait, or whoever operated under their instructions, for to change the position of any one of their plants with the idea of improving the complexion of the aggregate, would not, we fancy, be practicable, while it would, most likely, be injurious. Plenty of dwarf *Rhododendrons* are interspersed, and as soon as their plentiful promise of bloom is fulfilled, the gaiety of the scene will be quite inviting. *Skimmias*, Hardy *Ericas* and similar addenda, go towards the completion of a display altogether praiseworthy. The introduction of these pretty and instructive horticultural bits, we regard as one of the most useful facts of the exhibition. It is not everyone who wants to buy pictures, even if he can afford to do so. Nor is it everyone who wants to begin manufacturing; but everyone who has a garden or pleasure ground, wants to be shown how to lay it out, and then to furnish it in the best manner.

MR. CYPHER'S NURSERY, CHELTENHAM.

THERE have been some fine things in bloom lately in the various houses devoted to this class of plants, a sight of which would now well repay a visit to anyone interested in Orchids. The plants are well grown, and those in flower are tastefully arranged so as to give the best effect. The heating arrangement is also perfect, to which I attribute a good deal of Mr. Cypher's success. When you enter the hottest houses there is no "fiery" smell from the hot-water pipes, but at the same time a genial growing temperature is maintained.

The large *Cattleya* house is filled with healthy specimens of the different varieties of *Cattleyas* and *Lælias*. Of the latter, *L. purpurata* is largely represented with numerous flower-sheaths, and one compact mass had twelve upon it. Of *Cattleya intermedia* there are some of the finest plants in the country, one of which bore thirteen flower-spikes, and one of the latter had nine buds upon it. *C. amethystoglossa* had fifteen buds upon a spike, and *C. Skinneri oculata* is showing flower. *C. Warneri* and *C. crispa* are also good, the latter with numerous sheaths.

The flowering Orchids in this house formed a large bank opposite the entrance doors. It would fail me to do the *Cattleya Trianae* justice if I attempted to describe them fully, so rich and so varied were the numerous forms, ranging in colour from the deepest magenta-crimson to almost pure white. One vigorous specimen was bearing, in addition to three large seed-pods, twenty-five flowers! Another variety is thought to be a near approach to *C. T. Leeana*, and another, yet to be described, hangs suspended on a block, and which carried three spikes of flowers, with sepals, petals, and lip nearly white, the latter having a few pale rose-coloured blotches upon it—a very distinct and delicate form, that puts one in mind of *C. Mendelii*; *C. L. rosea* is also very distinct and good. Mr. Cypher is to be congratulated upon having got together such a good collection of *C. Trianae*. There was one flower of *C. Percivaliana* still open, unusually dark and fine. Unfortunately, this *Cattleya* produces too many inferior flowers to become a general favourite, and if it does not flower before *C. Trianae* it is still less esteemed.

Dendrobium thrysiflorum, *D. Wardianum*, *D. nobile*, *D. crepidatum*, *D. Pierardi*, together with *Oncidium Cavendishianum* and *Cœlogyne cristata*, helped to enlarge and improve this grand floral bank; the whole mass of flower being relieved by an admixture of Ferns, Grasses, *Paucum variegatum*; and a piece of rockwork beneath, as a base, was planted with *Begonias*, *Feruss*, *Tradescantias*, *Ficus repens*, &c. A few other remarkable plants, not yet in flower, were in this house. *Calanthe veratrifolia*, in a small pot, was showing eight flower-spikes; masses of *Oncidium Jonesianum* were quite at home, one being in flower; *Dendrobium Parishii*, with monster bulbs; and *D. Falconeri*, suspended from the roof in small pans (baskets are very seldom used in this nursery), were there by the dozen, with fat well-ripened growths.

Another *Cattleya* house is filled chiefly with semi-established *Cattleyas* and *Lælias* in very promising condition, but the chief feature in this house is the well-grown *Vandas*—sturdy plants well feathered to the pot, some with fourteen pairs of leaves. Many were in flower, including an extra fine form of *V. tricolor*, known as Heyworth's var.; the Fox Brush *Aërides* were also at home in company with the *Vandas*, and a plant was showing three flower-spikes, one of which had three branches.

The Mexican house contained another showy group of flowering Orchids, consisting of specimen *Cœlogyne cristata*, Chatworth var. This is considered to be one and the same thing as the St. Albans var. or *C. c. maxima*; *Odontoglossum Rossi majus* had several very dark forms, and some very peculiar ones with pale rose sepals and petals and green spots; *O. Ruckerianum* and *O. Sanderianum* had three spikes each, one of which had thirty-four flowers upon it; *O. aspersum*, a natural hybrid between *O. Rossi* and *O. maculatum*, was very fine, and was accompanied by *Cypripedium villosum*, *C. Boxalli*, *C. violaceum punctatum*, &c. This house also contained a nice healthy batch of *Epidendrum Brassavola*, *E. vitellium majus* and white forms of *Lælia anceps*.

In the East Indian house the Orchids in flower are arranged on either side the whole length of the house, and very pretty they look associated with

the dark green healthy foliage of *Aërides*, *Saccolabiums* and *Cypripediums*. The old *Dendrobium nobile* and its varieties still hold their own as useful decorative plants. *D. n. pulcherrima* is a great favourite with Mr. John Cypher. The sepals and petals are almost white, slightly tipped with pale rose; the throat is of a rich port wine colour, and the more one knows of this particular variety, the more will he appreciate it. *D. aggregatum*, *D. Ainsworthii*, *D. albosanguineum*, *D. crassinode*, *D. Wardianum* and *D. rhodostoma* are well-grown, and *D. luteolum* with pale yellow or straw-coloured flowers is much sought after for bouquets and button-holes.

D. Dearei is well and largely grown in this house. *Odontoglossum Roezli*, *Phalenopsis Schilleriana*, *P. Stuartiana*, *P. grandiflora*, *Angraecum citratum*, *A. Ellisi*, *Cypripedium Lowianum*, *C. hirsutissimum*, are all represented by healthy plants quite at home. *C. bifolium* and *C. argus* complete the list of Orchids in flower. *Oncidium sarcodes* is generally considered an intermediate house plant, but here it thrives best in a warmer temperature, producing larger bulbs, leaves and spikes in proportion. At the coolest end of this house was a fine healthy lot of *Odontoglossum vexillarium*, which is found to do better here through the winter months than in a cooler house. One extra fine specimen had seven new very vigorous growths, forming an example good enough to remove any doubt there may be about the right temperature. Beneath the stages of this house, and just in front of the hot-water pipes, rockeries are made and planted with suitable creepers, Ferns and Grasses. This arrangement is pleasing to visitors, and counteracts the drying caused by the hot pipes.

The *Dendrobium* houses have not much in flower, but there is a wonderful promise of bloom; one novelty in bud is thought to be a cross between *D. Wardianum* and *D. crassinode*. I think by this time most of your readers are aware of the fame of Mr. John Cypher as a *Dendrobium* grower. I may just say he still maintains it, as evidenced by these large bulbs of *D. albosanguineum* in 3½-in. and 2½-in. pans—the former with five new growths, the latter with one 1 ft. long and thick in proportion. What a stock of *D. Ainsworthii*! I was shown some tiny pieces about ½-in. long that had produced growths varying in size from 3 ins. to 1 ft., and these are only a tithe of the instances of excellent culture that might be named. Mr. Cypher has just added to his stock the highly-coloured *D. nobile nobilior*, and I fully expect to hear of something sensational resulting from it.—*Thomas Simcoe*.

TRACHELOSPERMUM (RHYNCHOSPERMUM JASMINOIDES).

UNDER whatever name this may be grown, the fact remains that it is one of the most useful, free-flowering, and sweet-scented plants coming under the care of the gardener. It seems to flower with equal profusion in a stove or greenhouse temperature; but an intermediate house seems to be that most generally favourable to its well-being. In other words, a very high temperature is not necessary, but may be detrimental to its freedom of flowering; while a greenhouse, from which frost is merely excluded, would scarcely afford that stimulus necessary to induce a proper development of the flowers. A house kept sufficiently high for the maintenance of ordinary greenhouse plants in flower during winter will grow them to perfection.

One of the many good points of this species of *Trachelospermum* is its tractability, and the facility with which it may be grown under different conditions, and trained to suit the taste or convenience of individual growers. It will also flower with remarkable freedom, whether grown in a pot or planted out. It delights in a plentiful supply of water during the summer and growing periods, but must be kept on the dry side in winter during the cessation of growth. This will keep the roots in a healthy condition, and promote the development of flower-buds, which will expand freely after the resumption of growth. The accommodating character of this plant is further comparable to that of the Periwinkle, another member of the same family. The *Trachelospermum* differs in the more decidedly shrubby and longer stems, and the larger and more coriaceous leaves. The trusses of white flowers are hardly necessary to describe, as they are familiar to a wide circle of gardeners. The obliquity

of the segments is due to the manner of their folding in the bud. Their delicious and comparatively powerful odour is universally recognised and appreciated.

In mentioning some of the uses to which this plant may be applied, the covering of unsightly or objectionable naked pillars in greenhouse or conservatory may be noticed; above this it may still be allowed free scope to run up the rafters, where it may be confined to a few stems if desirable, so that plants beneath may not be unduly shaded. In a similar way the divisions of glasshouses may be covered by tying the shoots to wires or trellis-work. A large plant may be kept in a comparatively small space by training it balloon fashion and growing it in a pot. This system is adopted by growers who exhibit the plant, and by this means it may be moved from house to house to retard or press it forward as the case may be, or even stood out of doors in summer in a cool place. Another purpose to which the shrub is put may be seen at Gunnersbury Park, Acton, where numerous specimens are planted along the margin of a raised bed in a Rose house, where the shoots droop over the sides gracefully, more or less concealing the hot-water pipes. They have been flowering freely for many weeks, but one notable fact is, that whenever they do not immediately overhang the hot-water pipes, growth is very strikingly retarded and comparatively little or no bloom is produced. The want of favourable influence of the heating apparatus, and the unlimited root-room, no doubt is responsible for this state of matters.—*B. B.*

PHLOX SUBULATA NIVALIS.

ONE of the showiest and most interesting plants that can be used at the present time for either the



PHLOX SUBULATA NIVALIS.

rockwork or herbaceous border, is *Phlox subulata* and its numerous varieties, that produce a lively and varied glow of colour in gardens fortunate enough to possess them. The chief distinctions depend on the particular shade of colour, but several of them are also characterised by freer, more rambling stems, which are often regarded as forms of a distinct species, namely, *P. setacea*, but the two are indistinguishable by technical characters. *P. subulata nivalis*, the subject of our illustration, is pure white without the circle of small violet blotches round the eye of *P. s. Nelsoni*. This latter, and several other forms, may be seen flowering at the present time in the gardens of the Royal Horticultural Society, Chiswick. Good drainage should be secured for this trailing-evergreen *Phlox*, if its cultivation be attempted in the herbaceous border; but this difficulty is obviated by growing it on rockwork, where it trails over the ledges, clothing them with great beauty in the spring season. Propagation is easily effected by cutting off half-ripened young shoots inserted in sandy soil under a hand-glass or frame.

CURIOUS PLANTS.

(Concluded from p. 582).

A GIANT AROID.

Fossil remains inform us of the existence of giants—both in the animal and vegetable kingdoms—in the bygone ages of the world's history, but comparatively recent discoveries show us that giants still exist. For many years it was believed that the flower of *Rafflesia* was the largest in existence, but its rival has been discovered in western Sumatra, and imported to this

country as recently as 1879. This is the *Amorphophallus titanum*, a member of the same family as the plant of our woods and hedges, and known as *Lords and Ladies*. The latter is dwarfed to a pigmy beside the giant, which has a tuber 5 ft. in circumference, a leaf-stalk 10 ft. in height, with a much-divided blade, covering an area 45 ft. in circumference. The flower-spathe is 3 ft. in diameter, with a spadix equalling the height of a tall man, and both are of a blackish purple colour. A living specimen may be seen every summer at Kew, and a life-size painting in one of the museums, where the huge leaf towers above two men carrying a tuber with its fully-expanded flower-spathe on a pole.

INSECT-NESTING PLANTS.

One of the most remarkable and interesting of these is *Acacia sphærocephala*, a native of Mexico, with large, handsome, much and finely-divided leaves. It is sometimes, in popular language, known as the Bull's-horn *Acacia*, from the two large, formidable-looking, deep brown or black, hollow, spiny stipules at the base of the leaf. When young, the spines mentioned give no indication of being hollow; but as the tree attains some size and age, the tips get broken or simply decay, so that the cavity is exposed. During certain seasons ants take possession of these hollow spines in the native country of the tree, and find an agreeable food in the shape of small, yellow, fleshy nodules of nutritive matter growing attached to the tips of young leaflets. In return for this apparently gratuitous supply of rich and agreeable food, the ants act as a body-guard to the tree, and whenever a browsing animal attempts to devour the leaves, these courageous little ants swarm out in great numbers, and so annoy the intruder as to cause it to beat an ignominious retreat.

Other singular-habited plants, natives of the East Indies, become regularly, naturally, and habitually perforated, tunnelled, or galleried in all directions, so that ants find suitable accommodation, and take up their abode there. Both plants and animals seem perfectly adapted to each other's welfare, and live, as it were, in social fellowship. The plants themselves seem a tuberous fleshy mass, epiphytically on the stems of trees and other subjects, and become, in time, very singular objects. A number of these plants are members of the Coffee family, and are very unlike those of that family generally. Other plants of similar habit, however, belong to different natural orders, and inhabit various of the East Indian Islands. *Myrmecodia Beccari*, belonging to the first family mentioned, has been imported, successfully grown, and fruited in this country. Seedlings have been raised, and these, in their earliest stages, exhibit some exceedingly curious and grotesque outlines.

FLESH EATERS.

We are so accustomed to seeing animals eat plants or other animals, that the fact is liable to be overlooked of plants sometimes preying upon others or on animals. As far as our present knowledge goes, this faculty is possessed only by a few, and our curiosity is the more excited on account of this peculiar and exceptional character. Venus' Fly Trap (*Dionaea muscipula*) affords one of the most singular instances of this class of plants, where the margins of the leaves are produced into long finger-like tentacles, and the two halves are so constructed that they close instantly when one of the six bristles is touched by an object. The tentacles interlock like the teeth of a rat-trap, and the inventor of that machine might be excused if he borrowed the idea from this plant. The object of the long tentacles is to allow the small fry to escape, and from the behaviour of the leaf, we conclude that it lays itself out for one hearty meal. It will close over a small fly, but allows it to escape and soon opens again; but if a large fly or other small animal becomes venturesome, it is made a close prisoner. The leaf now remains closed for many days, and develops an acid secretion by which the animal is digested, as it would be in an ordinary stomach. The leaf ultimately opens again with an impaired digestion, and may devour a second meal, but gets killed with more. One experimenter gave the leaf indigestion by feeding it with an overdose of cheese.

Some of our native plants are endowed with the same faculty of digesting animal matter, but are less striking to the casual observer than the Fly-trap, because their movements are slower. The Sundew (*Drosera rotundifolia*) is an instance, and whereas the leaf of the former is dry before being acted upon by animal matter, the

latter is furnished with numerous tentacles, the tips of which are covered at all times by a viscid secretion that glistens like dewdrops in the hottest of weather. Flies or other small animals, should they venture on this treacherous and dangerous ground, are almost certain to meet their fate. The more they struggle the deeper they sink in the gluey mass, and soon pass beyond all further trouble or danger. The tentacles slowly infold, and now pour out an acid secretion on their victim, digesting it in the true sense of the word. The leaf is at this stage comparable to a temporary stomach, and as liable to be deranged as that of an animal. Too many flies will give it the dyspepsia, or even kill it. *Drosera* is, moreover, not only a beef-eater, but a vegetarian as well, and has no objection to a diet of Peas, Cabbage leaves, seeds or pollen, or, in fact, almost anything else containing nitrogenous matter. One good point in its favour, however, is that the leaf is wholly indifferent to alcohol, and we may therefore conclude it is strictly tea-total in habit. Milk on the other hand causes a most energetic action.

The Bladderworts (*Utricularia*) afford another instance of a group of predaceous plants, showing a striking departure from those already mentioned. The floating or submerged leaves, or much-divided branches as some botanists consider them, are furnished with bladders by which they entrap and devour minute crustaceous and small water insects. As far as numbers are concerned, they are, probably, far more destructive of animal life than the Fly-trap or the Sundew. The bladders are prison-houses, furnished at the mouth or opening with a trap-door that opens inwards, and miniature water animals in passing over this treacherous and insecure footing, drop inside with remarkable ease and certainty. It is difficult to determine what causes them to incur such peril, seeing that they may be in quest of food or shelter, or merely prying into those places out of curiosity. Moreover, there is neither let nor hindrance to regulate the number of victims so long as there is room inside. Neither can these bladders suffer from indigestion, as they do not possess a true digestive faculty. They secrete a fluid that hastens decay, and then absorb the products. There is no evidence to show that these unfortunate victims ever escape after being once immured, as the trap-door closes again immediately after an animal drops through.

The *Nepenthes* or Pitcher Plants may be regarded as the aristocracy of carnivorous plants. They may be considered so, either on account of their size, their showiness, or their capacity for suaring and destroying the lives of comparatively large animals, as well as insects of all kinds that may come within their influence. The pitchers, even before the lid opens, contain a liquid with a sweetish, not unpleasant, taste, which proves much more efficient in wetting an insect than water, so that we may regard the death of that animal as a case of drowning. The watery secretion is, therefore, perfectly independent of rain, and when the pitcher opens, small animals will get in and perish in considerable numbers. The allurements are manifold, and differ according to the kinds of animals that visit the pitchers. In their native wilds, many insects are, doubtless, attracted by the brilliant colours of the pitchers themselves, while carnivorous ones, such as ants, are allured by the smell of captured animals, and coming in quest of food, meet their own fate. To the credit of these intelligent insects, however, it may be stated that colonies, in the forests of Borneo, inhabit the withered and dry pitchers in the vicinity of living ones, which they pierce with holes, and despoil of their captured prey, without incurring the risk of their own lives. Birds are allured by the smell of decaying animal matter, and come in quest of food. If too hasty or indiscreet in their headlong eagerness to rob the pitchers, they often, owing to the structure of the latter, are unable to get out, but perish there. The rims of the pitchers are furnished with numerous teeth of greater or less length and sharpness, pointing downwards, so that birds are sometimes detained by these and perish there. In the hothouses of this country, cockroaches of great size fall an easy prey to the capacity and destroying power of the pitchers, although they are individually strong, and capable of doing much mischief amongst plants, and even the leather of boots, when at their liberty. Cases are also reported of rats being drowned in the pitchers.

Some pitchers, in their native homes, attain an enormous size, and those of *Nepenthes Rajah* are cal-

culated to contain a quart of water when full grown. The interior of a *Nepenthes* pitcher is lined with an enormous number of glands that secrete a clear watery fluid capable of digesting and absorbing animal matter. We have no reason to suppose that their capacity for digesting food of this kind is unlimited; but their appetite, from all appearance, is not easily destroyed. They may seem strange and singularly-habited plants in feeding upon the unsavoury and putrifying mass that is muddy with the decaying bodies of animals, and offensive to the nasal organs; but they find a parallel in their equivalents—the aristocracy of the human race, who will not condescend to use venison till it practically becomes endowed with, or changed into, fresh life. Nay, further, English travellers in foreign countries, under a broiling sun, have been constrained to drink liquid from these Pitcher Plants flavoured with the macerating bodies of insects. They took no harm by it, but might possibly have had their digestion assisted thereby.

PARASITIC PLANTS.

Truly parasitic plants amongst the British flora are represented by the Broom-rape and the Dodder. The most striking feature of these peculiar forms of vegetation is their strange and weird-looking colours. These may be yellow, red, brown, or some other lurid or livid hue, but never green. Chlorophyll or leaf-green is absent, a sure sign that plants of this nature are unable to collect and assimilate their own food from the elements of the earth and the air. They affix themselves to the roots or other parts of green plants, and abstracting nourishment from them, are thus able to live. In this respect, they may be looked upon as the idle lords of the vegetable kingdom, who live at the expense of the industrial population. The species of Broom-rape (*Orobancha*) fix themselves to the roots of their host. *O. minor* is not fastidious, but seems to take kindly and attach itself to a number of widely distinct families of plants. *O. Hederae* prefers the Ivy, and seldom, if ever, grows on anything else; while *O. ramosa* proves injurious in fields of Hemp. The leaves of all these are small, scale-like, brown or yellow when fresh, and functionless.

The Dodder (*Cuscuta*) has neither roots or leaves, and manages to subsist by twining round the leaves and stems of other plants into which it sends down sucker-like processes, abstracting the ready prepared food material. *C. epithymum* grows on Thyme, Firze, Heath, Lotus and others, while the variety *C. e. trifolii* is a destructive pest in Clover fields.

The most extraordinary parasite of any country is *Rafflesia Arnoldi*, named after Sir Stamford Raffles, Governor of the East Indian Company established in Sumatra, and Dr. Joseph Arnold, the naturalist who discovered it in that island in 1818. The whole plant is reduced to a single huge flower, a full yard in diameter, surrounded in a young state by a number of scale-like bracts that fall away as the flower expands. The parasite attaches itself to the slender stems of a species of *Vitis*, with the tissues of which it contracts an inseparable union for life, feeding on the substance of the host plant. In a young state it appears as a swelling or protuberance on the stems of its host, and gradually develops into a huge bud resembling a Cabbage. As this expands into full bloom, the flower attains a diameter as above stated, and is of a brick-red or dull orange colour, covered with creamy yellow protuberances. The central cup is calculated to hold twelve pints of water. The whole flower weighs about fifteen pounds, is of a fleshy consistency, and smells of tainted beef, causing carrion flies to lay their eggs there. The different parts of the flower range from $\frac{1}{4}$ in. to $\frac{3}{4}$ in. in thickness. The flower remains in perfection a few days only, and then rapidly putrifies in the tropical temperature of its native home. The flower bud, from its first appearance on the stem of its host plant till it expands, requires a period of three months, and this growing and flowering period occurs after the rainy season, once a year. The wax model exhibited at Kew was formerly the property of the Horticultural Society.—*J. F.*

AT THE BATH AND WEST OF ENGLAND ASSOCIATION'S EXHIBITION to be held at Dorechester, May 30th to June 3rd, the Horticultural department, as usual, will be under the superintendence of the Hon. and Rev. J. T. Boseawen. A cup (or money), value £10, is offered for the best group of Orchids, and £5 for the best specimen Orchid in the Show. Small prizes are also offered for collections of fruit, vegetables and Strawberries.

NEW PLANTS CERTIFICATED

By the Royal Botanic Society.

May 18th, 1887.

CHAMEDOREA EYNICHANTHUS.

This is one of the slender-stemmed Palms, and is covered in the younger stages with the green sheathing petioles of the leaves. The latter are long, arching and pinnate, with lanceolate or oblong segments tapering to the tip and becoming broader towards the top of the leaf; they are of a leathery texture and shining green. Botanical Certificate. Exhibited by Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway.

ODONTOGLOSSUM ANDERSONIANUM SPLENDENS.

The flowers of this fine variety are closely produced on an arching spike and are white, with a few large chestnut-brown blotches on the middle of the petals, with more numerous smaller ones on the outside of the petals. The labellum has one large blotch in front of the erect. Botanical Certificate. Exhibited by Mr. B. S. Williams, Upper Holloway.

LÆLIA GRANDIS.

In habit this resembles a small *Lælia purpurata*, but the colours are very different and distinct. The sepals and petals are buff-coloured, a very novel departure from the ordinary run of *Cattleyas*. The tube of the corolla is white externally, with rosy crimson veins all over a paler ground colour on the lamina of the labellum. Botanical Certificate. Exhibited by Mr. B. S. Williams, Upper Holloway.

LÆLIA PURPURATA CYPHERI.

The flowers of this are rather smaller than the type, or it may be owing to the small size of the specimen exhibited. The sepals and petals, together with the tube of the labellum externally, are pure white, which contrasts strongly with the intense purple or crimson-purple lamina, which has a small white blotch at the tip. Botanical Certificate. Exhibited by Mr. J. Cypher, Queen's Road, Cheltenham.

LÆLIA PURPURATA WYATTIANA.

The flowers of this are altogether paler than usual, which gives it a very distinct appearance. The sepals and petals are pure white, while the labellum has a pale rosy lamina, striated with darker veins. The yellow throat is also much paler than usual, striated with rosy lines. Botanical Certificate. Exhibited by Mr. J. Cypher, Queen's Road, Cheltenham.

CATTLEYA MENDELII GRANDIS.

The sepals and broad petals of this variety are white or faintly suffused with blush. Usually there is a great contrast between the large golden blotch in the throat and the white lateral lobes, but in this instance the blotch is very pale, while the blotch at the tip of the lamina is also small and pale purple. Botanical Certificate. Exhibited by Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham.

GLOXINIA ALFRED OUTRAM.

Although we seldom now find much novelty amongst seedling Gloxinias, that under notice must be reckoned one of them, with a white tube and margin of the lamina, while all the rest is of a rich rosy crimson shaded with violet in the throat. The flowers are moderately large, and belong to the erect type. Floricultural Certificate. Exhibited by Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway.

CATTLEYA MENDELII, MRS. HENRY LITTLE.

This is a handsome and attractive variety, with sepals and broad flat petals of the warmest delicate rose or rosy pink, a colour altogether different from that generally seen in this *Cattleya*. The usual dark purple blotch on the labellum is, in this instance, very bright, as well as the golden yellow one in the throat. Botanical Certificate. Exhibited by Mr. F. J. Hill, gardener to Henry Little, Esq., The Barons, Twickenham.

ODONTOGLOSSUM JACOMBIANA.

While, evidently, one of the *O. Andersonianum* type, this is very distinct with the white ground colour suffused with rose. There are numerous very bright brownish purple spots all over the sepals and petals, which give the whole flower a very handsome appearance. Botanical Certificate. Exhibited by Mr. W. May, gardener to F. C. Jacomb, Esq., Stamford Hill.

MOUTAN PEONIES.

ROSEA ODORATA.—The regular semi-globular outline of this flower must be a telling feature for it in the eyes of the florist; besides which, it was the most delicately-tinted variety in the exhibition. The outer petals are white, the middle ones pink, and the central ones rose.

TRIOMPHE DE MILAN.—The flowers of this variety are very large and irregular in outline—a feature produced by the jagged petals being of unequal lengths. This loose and irregular character would doubtless find acceptance with many on account of its being less formal. The central petals are pale rose, while those towards the margin of the flower are white.

ODORATA MARIA.—The flowers of this form are fully double, and more compact in outline than in the last case, with the shorter petals much less deeply cut. All are of a pale purple or flesh colour, and very effective when fully expanded. Floricultural Certificates. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

TROLLIUS FORTUNEI FLORE PLENO.

This is a hardy herbaceous plant of great merit, with deep palmately-divided and cut leaves, bearing considerable resemblance to those of the Aconite. The numerous incurved sepals are of a deep orange colour, forming a fine contrast to those of the common or European form. The many small petals are similarly coloured. Floricultural Certificate. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

PELARGONIUM MAGPIE.

For those who like light-coloured fancy Pelargoniums, the variety under notice would prove acceptable. The flowers are moderately large, nearly flat and white, with a deep purple, distinctly club-shaped blotch running down the centre of each petal. Floricultural Certificate. Exhibited by Mr. Chas. Turner, the Royal Nurseries, Slough.

BEGONIAS.

PRINCESS OF WALES.—The flowers of this variety, only a small plant of which was exhibited, were large, orbicular or nearly so, flat and of a rich rosy pink with a paler centre; the foliage is ample and dark green.

PRINCE OF WALES.—The leaves in this case are evidently much smaller and narrower than in the previous variety, but the size and regularity of the flowers are maintained, while they are of an intense scarlet, and wavy at the margin.

QUEEN VICTORIA.—Moderate-sized deep green hairy leaves were produced by the small or young specimen, but these might alter in character subsequently. The flowers, however, are large and fine, orbicular or nearly so, which might satisfy the florist; the sepals are scarlet, tinged with yellow at the base, and somewhat wavy or undulated at the margin. All three are flowers of no ordinary merit. Floricultural Certificates. Exhibited by Messrs. John Laing & Co., Forest Hill, London, S.E.

TEA ROSE MISS EDITH GIFFORD.

The flowers of this variety are compact and firm in bud, delicately flesh-coloured in the centre, often appearing tinted with yellow on the outer petals in the dim tent light where shown. The latter are, moreover, sometimes slightly marked with green, a character which may not be permanent. They are of good substance, and the outer ones closely revolute at the margin. Floricultural Certificate. Exhibited by Mr. Charles Turner, The Royal Nurseries, Slough.

GARDENING NOTES FROM SCOTLAND.

A Cabbage Show at Kelso.—Last summer Messrs. Stuart & Mein, of Kelso, announced their intention of offering a premium of £5 for the best samples of their No. 1 early Cabbage, and the competition came off last week. Fully 800 of the most prominent Cabbage growers intimated their intention of competing, but of that number only thirty-three came forward. These, however, represented a wide area, the counties from which the competitors came being Northumberland, Lincoln, Kent, Cornwall, Essex, Dorset, Somerset, Hereford, Norfolk, Sussex,

Herts, Surrey, Notts, Cheshire, Aberdeen, Devon, Wilts, Roxburgh, Berwick and Stirling. Each competitor showed two Cabbages, and the winner was Mr. D. Inglis, gardener to Earl Grey, Howick, Lesbury, Northumberland, whose exhibits weighed over 8 lbs.; the next best weight was 6 lbs., so that Mr. Inglis, who is well known as a skilful cultivator, had an easy victory. For shape and appearance, however, the best Cabbages were undoubtedly those shown by Mr. R. Gilbert, gardener to the Marquis of Exeter, Burghley, Stamford; these were greatly admired.

Orchids in Flower at Priorwood, Melrose.

—Mr. Curle is to be congratulated on being the possessor of a really choice collection. The plants are in a high state of cultivation, and reflect great credit on the management of Mr. James Sharp, the gardener. In the cool house the following were amongst the most prominent in flower: *Odontoglossum crispum*, *O. Pescatorei*, *O. Halli*, *O. triumphans*, *O. Andersonianum*, *O. Ruckerianum*, *O. nebulosum*, *O. nævium*, *Masdevallia Veitchiana*, *M. Harryana* "Bull's Blood," two fine pieces with about sixty spikes on each; *M. Dennisoniana* (seventy spikes), *M. Lindenii*, *M. macrura*, *M. rosea*, *Colax jugosus*, *Cattleya citrina*, *Cymbidium eburneum*, *Cypripedium barbatum* *Warnerianum*, *C. villosum*, *C. Lowii*, *C. argus*, *C. Harrisianum*, *Dendrobium Jamesianum*, *D. infundibulum*, *Epidendrum vitellinum majus*, and *Oncidium Marshallianum*. In a span-roofed house chiefly devoted to *Cattleyas*, *Vandas*, &c., the following were in bloom: *Cattleya Meudellii*, *C. Trianae Schroderii* (nothing very startling for a novelty), *C. Mossiae* (seven spikes), *C. Lawrenceana*, *C. Skinnerii*, *Aërides Fieldingii*, *Saccolabium guttatum*, *S. ampullaceum*, *Cypripedium Druryi*, *C. levigatum*, *C. Veitchii*, *C. hirsutissimum*, *Lælia elegans*, *L. elegans alba*, *Vanda suavis*, *Phalenopsis amabilis*, *P. grandiflora*, and *P. Parishii* (a choice example).—*D. P. L.*

Seasonable Notes.—It is often with much difficulty that one can purchase Globe Artichoke plants worth the trouble of growing. The reason is, they are so easily got from seed, and so seldom do they come true that we would advise growers of them to get good short suckers from a neighbouring garden, and such as have not been weakened by crowding, as is sometimes seen. Three times have we purchased stock as well as having raised seedlings during the last few years, and so poor were the kinds that we did not protect any of them last winter, and the result is they are dead, so we go to some friend to get suckers.

When these are properly cultivated by planting a few suckers every year on well-trenched ground, they are very different from the puny things one often sees, which have been grown for many years on the same ground, and allowed to take their chance—with neither thinning nor manuring allowed them. Good suckers planted now are likely to give a succession of heads during autumn, and the old plants may be freely reduced. Many have lost their plants this season, but we do not remember of any losses ever taking place where dry ashes were used as protection, and piled sharply round the collars of the plants. Damp is the worst enemy to deal with, and if the ground is badly drained, Globe Artichokes in such positions become tender plants. Jerusalem Artichokes are in much favour in the north. We suppose their perfect hardiness renders them a valuable vegetable during severe winters.—*Caledonian*.

Mushrooms in the Open Air.—There are few places where these cannot be easily grown, and though some make a difficulty of cultivating them in any position with ordinary means, they can be had by a minimum of attention in great quantity. Good fresh spawn, not old exhausted inert cakes as hard as iron, must be had; manure, mixed with litter and turf for outside use, should not be used dust dry as is often the case, but fairly moist, and if it is on the wet side, a little hay wrapped round each piece of spawn will save it from being destroyed by damp. For outdoor work, a ridge 3 ft. or more high, made quite firm, and of somewhat conical form, is a simple operation. The spawn placed under the surface of the manure, 6 ins. apart or so, and in pieces as large as hen's eggs; the whole surface made firm, and some loam laid over all, finishes the ridge. A good coating of dry litter, over which a mat is placed during boisterous weather, keeps all secure from drought.—*Caledonian*.

THE AMATEURS' GARDEN.

PEACHES.—These must not be neglected at this season, otherwise the owner or cultivator will have to suffer the evil effects accruing from bad management afterwards, when remedy is difficult or impossible. At the very least a season will be lost, which means much, whether we regard the well-being of the trees or the cultivator's remuneration for trouble. It may not be the fortune of many amateurs to possess Peach trees in the open air, but there is no reason why they should not, and be able also to obtain a good return from trees grown on the open wall, in the southern part of the country at least.

The flowering season is now over, and where trees have had the benefit of some kind of protection during the late severe frost, there is now great promise of a good fruit season. It is too early to attempt thinning the fruit, but disbudding must not be neglected; good cultivators will have gone over their trees once or twice ere now, pinching off the superfluous shoots with the finger and thumb, removing all breast wood or those shoots that grow perpendicularly away from the wall.

Such shoots can never be laid in neatly, and must not be tolerated, except where absolutely necessary to cover a bare part of the wall, or to hide some large and naked branch or some main stem of the tree. Besides this objectionable breast wood on wall specimens, healthy trees always produce a superfluity of shoots that can never be trained in without injuriously overcrowding the branches, thereby preventing proper ripening of the fruit and maturity of the wood which is to bear the crop next season. All these superfluous shoots should be removed immediately, before allowing them to rob the tree of its energy and substance, thereby inducing other resulting or concomitant evils.

Next to these things, the trees must not be allowed to suffer from drought at the roots while making their growth. Disease is often encouraged, and the trees ruined, by this form of neglect. Insects seem particularly numerous this season on the young leaves of various trees. Owing, probably, to the unusually low temperature, the early leaves of Peaches came somewhat curled; but in some cases insects may be accountable for it, and the garden-engine should be brought to play upon the trees at the earliest possible date.

FLOWER GARDEN.—Great activity will continue in this department from now onward till the end of our summer and autumn seasons. Not a week will pass without its duties, and these must be performed, if possible, in due season; otherwise, when work lags behind, it is difficult to overtake and give it that justice which is necessary in every well-ordered garden. Mowing of grass lawns will now constitute a heavy item of work, especially where it has to be done by men, which is always the case in small gardens. It is of great importance that the grass should be cut as low as possible from the first; but the knife of the machine should never be allowed to bite or cut into the turf, otherwise the uniform green carpet will be destroyed, in all probability, for the season. This is most likely to happen on an old lawn where there are inequalities in its surface, or where the roots of trees, by their growth in thickness, have produced the same result.

Where the surface is mossy, this is best remedied in winter. Should drought set in later on, a good watering should be given where the grass is not too extensive to render the operation impracticable. This will prevent it becoming unsightly.

FLOWER BEDS.—Many of these may now be planted without further delay, provided the material, where grown in heat, has been properly hardened off before subjecting it to full exposure. All danger of frost is not yet over; accordingly, such things as *Heliotropes*, *Dahlias*, *Pelargoniums* and *Lobelias* need not yet be hurried into their summer quarters. The latter, however, may be thoroughly exposed in the frames to harden them, excepting *Dahlias* that have not yet made much growth since they were struck. *Calceolarias*, *Pentstemons*, and many annuals that have been raised under glass, may be planted out with safety, and by so doing they get established before drought sets in, when, having covered the ground, they will occasion less watering afterwards. *Zinnias*, *Centaureas*, *Helichrysums*, *Waitzias* and *Chinese Pinks*, if well forward,

will stand out without injury, and leave more time for attention to the tenderest subjects. Stocks, Asters, *Saponaria calabrica* and similar things never lose by being planted in their flowering quarters as soon as large enough.—*F.*

DANGER IN DRAINING GREENHOUSE BORDERS.

IN the admirable paper upon "Rose Culture under Glass," by Mr. Clark, published at pp. 519 and 537, allusion is made to drainage being of the first importance, and I admit that it is so. But the essayist makes no reference to the dangers likely to ensue, in connecting borders in greenhouses with outside drains, whether of Roses, Vines, or any other borders or beds. These outside drains, especially in the neighbourhood of large towns, are in communication with larger or sewerage drains, and in these underground roadways rats establish themselves, and following up the tributary drains, easily get into our houses and plant borders, where they do an incalculable amount of mischief. Once their entrance is effected they are difficult to dislodge. I have yet a painful recollection of living at one place, where in making a new vinery border the drainage was connected with an outside drain, and a check to the ingress of rats, unfortunately, was not taken into consideration.

The years of bitter experience I had then to suffer, taught me a sad lesson, making me extremely cautious ever since. I have no doubt but that many of my fellow gardeners have had a similar experience. Every precaution and means taken afterwards were of no avail; the borders were honeycombed, and the rats getting into the flow and return flues from the boiler connecting the other houses, they bred all the year round. The fernery at one end was stripped of every vestige of green, and carried into the flues and rockwork to make their nests. It is anything but pleasant to see such work as this, and them scampering over the borders or rockwork as I have many times watched them, with a mouthful of *Adiantum cucuatum*, *A. gracillimum*, and a mixture of other fronds. They also had a taste for Grapes; but, unlike the fox, they can climb and reach. I actually set spring traps and caught them in the trellis-work, but the remedy was far worse than the disease, the brutes fairly gnawing the Vine plants in two. To give you an idea of their numbers, we caught ten in a wire trap in one single night, and as many as thirty-two in one week.

Communications with large drains will always lead to the filling of our houses and borders with these pests, so that all drains should accordingly be of earthenware piping with sockets for at least 20 yds. prior to their entrance to the houses. Inside this a few tight-fitting grates (rat-proof) should be fastened; this will be effective, so far as ingress by drains are concerned. Walled drains, unless well built of bricks and mortar, are of no use, as on encountering the grate they commence burrowing into the wall, getting out on the other side. This I have actually proved, over and over again, at the above place. Gardeners wishing to save themselves future trouble and mortification should take heed; a word to the wise is sufficient. I hope Mr. Clark will forgive me for referring to this missing link in his admirable paper; but this is a matter which cannot well be overlooked, as it concerns us all.

Need I say that at my present place a vinery has had to be disused because the drainage of the border was actually connected with the Hall drain, admitting rats, although not to the same extent as in the other place. The house in question is now tightly flagged, and made to do service as a fernery, fresh quarters being found for the Vines.—*B. L.*

FLOWERING TREES AND SHRUBS AT DEVONHURST.

THE visitor who can admire hardy trees and shrubs must be delighted with the great variety and charming tints of the expanding buds, whether of leaf or blossom. It cannot be denied that plants of this class have been much neglected in recent years, and except where gardens retain the features imparted to them by planters belonging to the old school of gardeners, we lose much of the pleasure a garden is capable of producing in the way of old-fashioned flowering trees and shrubs. This is to be regretted, and landscape is dull indeed when not diversified by flowering, and bold or hand-

somely tinted-leaved deciduous trees, as well as the more sombre hues of the evergreen Conifers now so popular at many places.

All the large trees, and many of the smaller ones at Devonhurst once constituted part of the collection of the Royal Horticultural Society, and are now preserved with great care by E. H. Watts, Esq. The golden tints of the expanding Maples are noticeable, not so much for their flowers as their leaves, and the white and red variegated form of the common Maple is particularly conspicuous just now. The fruit trees, particularly Pears and Cherries, are strikingly noticeable from the quantity of snow-white bloom, but the purely ornamental subjects are productive of greater interest to lovers, both of landscape and of those things that by judicious planting, may be made to adorn it.

At the present time, it is interesting to note that the bulk of the trees and shrubs producing conspicuous or showy flowers belong to the Rosaceae or closely allied orders. Besides the fruit trees already mentioned, *Prunus Persica flore pleno*, or the scarlet Peach planted about amongst dwarf evergreen shrubs constitutes a striking feature by the brilliancy of its semi-double flowers, rendered most conspicuous by their close arrangement on the still leafless branches. The colour of the blossom is much darker than that of the Almond, of which a double form has also long been known. A semi-double white variety also flowering is no less ornamental, and might be preferred by some on account of the purity of its flowers, produced in snowy masses on a low tree or large bush that seems more vigorous or free-growing than the scarlet form. Not only are the individual flowers noticeable for the multiplication of parts, but a great proportion of them bear twin ovaries which are free from one another in accordance with the characters of the order. Although a mere botanical curiosity, and in no way adding to the beauty of the flowers, they are not devoid of interest. The double rose-coloured form is also flowering here.

Cherries and varieties apparently of the common Plum carrying a great profusion of bloom, swell the list of plants belonging to this useful and ornamental family. A large bush of the Chinese *Prunus triloba* now laden with masses of delicate rosy pink blossoms, is a sight not to be despised nor soon forgotten. This is admissible in choice collections where the larger ones could not be accommodated, and the flowering sprays might be utilised amongst cut flowers to great advantage. *Prunus japonica multiplex*, suitable either for forcing or outdoor decoration, is also bursting into flower and will be gay in a short time, and would have been earlier had it been planted elsewhere than on a border with a northern exposure. *Ribes sanguineum* belonging to the allied Saxifraga family needs no comment.—*Taxus.*

MIGNONETTE.*

THE Mignonette is considered one of the most sweet-scented greenhouse annuals we have during the winter and spring months—namely, from November till May, and where there is a demand for cut flowers during these months there is nothing more attractive and beautiful. It is greatly admired in bouquets, wreaths, &c.; no matter in what position it is placed it always has a tendency to put its head perpendicular, and will outlive any cut flowers you like to mention. I have kept it in water for four and five weeks in a cool room. It also makes a fine plant for conservatory decoration, and its sweet fragrance scents the whole house.

With regard to the cultivation of this plant, the best plan is to get it by sowing seed the last week in April or the first week in May, using small pots, and placing them in a temperature of 50° to 55° on a shelf near the glass. In the course of a few days it will make its appearance, and when the plants are strong enough I select five of the best and strongest ones to grow on, and the others are cast away. Be careful they are not over-watered; but a slight damping over with a fine syringe is very beneficial to them, and their roots will soon find the bottom of the pots. Give a moderate amount of air, and they will be ready to be potted by the middle of June into 6-in. pots, using a compost of two-thirds yellow sandy loam and the other part manure from an old Mushroom-bed.

* A paper read at a meeting of the Sheffield and Hallamshire Gardeners' Mutual Improvement Society.

After fresh potting them keep them close for a few days in a cool frame or pit, and shade from hot sunshine in the middle of the day. Stopping is necessary, as well as removing all flowers that are showing. They will grow strong, and plenty of water must be given, never letting them get dry, or great damage will be done to the foliage by turning it yellow.

I give the final potting the third week in July into 9-in. or 10-in. pots, according to the desired size of the specimens. I use clinkers from the stoke-hole as crocks, covering them with a sod broken up, then a few ½-in. bones, filling up with the same compost as before mentioned. Staking is necessary and important, otherwise they would fall down on the sides of the pots, and by so doing they get brittle and liable to snap; so I prefer staking at once, leaving the sticks 2 ft. 10 ins. above the top of the pot. Use as many sticks as you like, but my plan is to make a ring of galvanised wire placed nearly to the top of the sticks; then you can put them in uniformly with one in the centre. I run fine raffia across and across and round till it resembles an inch mesh net one story above the other, and the plants grow straight up and no further trouble is occasioned, except stopping the plants all at one height till the third week in September. Remove them to a cool house, where light and air must be given abundantly. I then use manure-water twice a week, preferring drainings from a manure heap, and have found them far before guano, and by the middle of November the plants will be in full bloom.

I shall also say a few words on small pots for ourselves, or for market purposes, as in this part of the country Mignonette is not so easy to cultivate as southward. I make a practice of sowing the seed in small 60-size pots—not filling them quite full before sowing, but leaving a little space for water—the first week in August, and place the pots in the open air. The plants come strong with little trouble, and when ready for potting into 6-in. pots, I place them in a pit or on a shelf near the glass, where they will make bold specimens by November. By pinching them once they will be ready at Christmas, and by giving them an extra shift into 8-in. pots, you will have them up to the present time. The variety I grow for pots is Miles' Spiral, which is well known to be one of the best. For outdoor sowing, I recommend "Parsons' Tree," sown in the middle of April in well-trenched and manured ground on a south aspect.—*W. Redmill, gardener to J. G. Lowood, Esq., Five Oaks, Sheffield.*

PHRYNIUM VARIEGATUM.

THE variegation occurring on the leaves of this handsome Aroid is extremely variable in different specimens, as may be seen also in other Monocotyledons, such as *Alpinia vittata*. The habit of the plant under notice is, however, very different from that of *Alpinia*, and resembles some of the better known Calatheas. The leaves are borne in a horizontal or drooping position on erect petioles, which gives the plant character, and enables it to be used for decorative purposes, either as a single specimen or in groups of other plants. The leaves are of a cheerful green colour, variously striped or lined with a creamy white or ultimately white variegation. Frequently the entire leaf assumes this striking colour, and although the variegation on the whole is variable, there is always a sufficient amount to render the plant a striking and desirable subject for a collection of stove plants, with which it associates admirably. It was certificated in 1886 by the Royal Horticultural Society under the name of *Phrynium jucundum*, and is one of the new plants offered this season by Messrs. Veitch & Sons.

Few of the twenty known species are grown in gardens; but the cultivation of those few is simple. They delight in an abundance of moisture during the growing season; but must not be kept in a stagnant condition at the roots, otherwise they are liable to suffer. Peat, loam, and leaf-soil, in equal proportions, form a suitable compost for this plant and its allies; and the whole must be used in a lumpy state, with a quantity of sharp sand to keep it in an open and porous condition. Propagation is easily effected by division of the crowns, retaining a sufficient quantity of roots so that the pieces may start into fresh growth again directly. If not frequently pulled to pieces in this manner, the plants must often be re-potted, to encourage a free healthy development of the foliage, using larger pots where necessary.

A ROSE NURSERY AT BATH.

THAT Bath, the beautiful city of the west, nestling in the valley of the Avon, almost within a great natural amphitheatre of hills which nearly surrounds it—that this delightful part of the country should be one of the homes of the Rose, is not to be wondered at. Here lives Mr. S. P. Budd, an amateur Rose grower of considerable renown, almost invincible in his own district, who can show fine Roses in May from plants under glass, and, from the end of June onwards, from a rare Rose garden at Swainswick. Here, too, are the nurseries of Messrs. George Cooling & Sons, who are noted Rose cultivators and exhibitors in the West of England, and who deal largely in Roses, especially of the choicer varieties grown in pots. In walking through their Batheaston Nurseries, the visitor sees house after house of young Roses in pots, all worked on the seedling brier. The stocks are all potted up ten months or so before the grafts are put upon them, in order to become well established; and they are plunged in soil-beds up to their rims in the open until they are wanted. Here are to be seen large batches of young Roses worked in January, and now having strong shoots 2 ft. or so in length.

I made a note of a few free-growing and distinct Roses that are becoming very popular: Niphetos, always a favourite; Tea W. F. Bennett, with a colour similar to General Jacqueminot, and in all probability the finest red Rose for winter blooming yet introduced; N. Maréchal Niel; Tea William Allen Richardson, largely used as a climber for planting out; H. P. Her Majesty, a very strong grower and largely grown in this way (it is said this fine variety is very subject to mildew in the United States); Tea Madame Lombard, one of the very finest of Tea Roses; Tea The Bride, a charming white sport from Catherine Mermet; H. P. Clara Clochet, pale rose, charming in colour; H. P. American Beauty, very large, deep rose, exquisitely scented, a delightful pot-Rose; Duke of Connaught, deep velvety crimson; Perle d'Or, a pretty Polyantha Rose, having deep Apricot-coloured flowers, charming in the bud state; Comtesse de Frignewses, Comtesse Horace de Choiseul, Luciole (new of 1887), Madame Chauvry (new of 1887), Madame Etienne (new of 1887), Marquis de Vivens, Mons. Claude Levet, Vicomtesse Folkestone and Ye

Primrose Dame, among the Tea-scented; also such new and scarce H. P.'s. as Ali Pacha Cherif (new of 1887), Brilliant, Charles Dickens, Florence Paul, Longfellow, Luigi Jones, Madame Bois (new of 1887), Madame Ville, Madame Norman Neruda, Princess Amedec de Broglie, Souvenir de Victor Hugo, Madame Edouard Michel (new of 1887), Mons. Mat. Baron (new of 1887), and Vicomtesse de Terves (new of 1887).

The single Roses are becoming much in demand, and Mr. Cooling stated that it was difficult to get too many of them. Rugosa and Rugosa alba are much liked, not only on account of their producing such bold and

made of such size as will take a certain number of pots; this also greatly facilitates the work of packing. Cleanliness and vigour characterises all the plants.

At this time of the year there is a great demand for Roses for pillars. Well-established plants in pots put out now soon make a vigorous growth and get into bloom. It is now becoming the practice to plant Roses for pillars instead of the time-honoured scarlet zonal Pelargonium. The best plants for this purpose are those which are placed in 32-sized pots, then grown on all the summer in a cold frame; by the following spring they will have made very fine examples.

The visitor to the Batheaston Nursery should not fail to inspect the Maréchal Niel house. It is of considerable size—probably an old orchard house—the plants being all in the ground, and having grown up and covered the interior of the roof. Large quantities of very fine blooms are had here, as some artificial heat can be put on when required. I think Mr. Cooling colours Maréchal Niel as well as anyone I know. The management of this house is very simple. The branches are cut back hard after flowering, by doing which a vigorous growth is certain to result. Air is freely given during the summer, the house being thoroughly ventilated. Here also is Reine Marie Henriette, a grand house Rose, which is treated in just the same way as Maréchal Niel, and may be termed a coloured Niel. All the plants are on the seedling brier, and some of last year's shoots are fully $\frac{3}{4}$ in. in diameter. One house—a lean-to—has Roses planted out at the back for flower-buds in spring. The sorts grown for this purpose are Niphetos, Madame Falcot, Madame Lombard, Reine Marie



PHRYNUM VARIEGATUM.

showy flowers, but also because of their rich coral-red berries, so striking in winter; also the yellow Berberidifolia Hardii, the large single white Macartney simplex, the pretty white Polyantha, Paul's Single Crimson and Single White, both of which are perpetual flowerers, and the yellow Austrian Brier.

The young Roses at the Batheaston Nursery are all in pots—a kind of improved "Long Tom," $4\frac{1}{2}$ ins. in width, and scarcely wider at the top than at the bottom. These are made in Bath especially for the firm, and they are found to economise packing, as so many of these pots will go into an ordinary round basket; and it is found convenient to have the baskets

Henriette, Maréchal Niel, and Safrano. These are varieties that produce quantities of bloom and charming buds.

While Roses are a leading feature, it may be remarked that a general stock can be found in the Batheaston Nurseries. There are Orchids, stove and greenhouse plants; a house, a portion of which has Eucharis amazonica planted out, and three crops of flowers are had each year; Ferns, &c., and bedding plants in large quantities; in fact, so many representatives are here, that bedding out at Bath must still be followed to a very large extent.

Clematises are largely propagated, and in good

demand; the favourites appear to be Jackmanni, Lanuginosa, Lanuginosa nivea (the best white), Star of India, Otto Froebel, &c. Young plants grafted early in the year have grown into good blooming specimens, just ready for planting out.

Chrysanthemums are found to be in great demand also, and a good general collection is grown. There is difficulty in keeping pace with the influx of new varieties, for they are very numerous. One thing is quite certain, that all over the country the Chrysanthemum has become a very favourite flower with all classes of gardeners. Dahlias are here also, the Cactus forms being in brisk demand; and Mr. Cooling has a large batch of seedlings of this section to flower this season. Pansies—show, fancy and bedding, including the Violas—are grown in quantities; and all the best varieties being planted out, a good opportunity is afforded for comparison and selection. Here, too, are hardy plants of all kinds, forest and fruit trees, &c.

The Swainswick Nursery is almost entirely devoted to the outdoor growth of Roses, standards and dwarfs; and the strong loam appears well adapted for their culture. Cut-backs are coming up with wonderful vigour, promising well for exhibition blooms by-and-bye. One quarter is devoted to a collection of Moss Roses, which Mr. Cooling has been gathering together from all parts, and it is thoroughly representative. It will afford an interesting study when they are in bloom. The old-fashioned Roses are well represented, for they are being sought after by lovers of this popular flower. Here is a piece of the best standard Tea Roses I ever saw. A piece of ground is sown with seed of *Rosa rugosa* as an experiment.

A portion of this ground is devoted to the growth of such new and selected vegetable seeds as Mr. Cooling has sent out from time to time. Here is a piece of Cooling's Matchless Late White Broccoli, a fine form that is very hardy, well protected, and valuable as a late spring variety; also Cooling's Leviathan Cos Lettuce, a fine selection from the Bath Cos Black Seed, also Cooling's Omega, a good-keeping, rich-coloured variety; and a piece of a fine selected Carrot of the James's type planted out in April for seed.

In Northgate Street Messrs. Cooling & Sons have very fine seed warehouses and show rooms, together with other offices. A large seed trade is done, and a cut-flower trade also; for, as might naturally enough be supposed in a fashionable city like Bath, floral decorations of all kinds are in brisk demand.—*R. D.*

THE LATE PHILLIP FROST.

AND so Phillip Frost has gone at last. Dropmore, of course, still remains, but one of its great attractions in the eyes of many persons has passed away. Frost, nearly all through his later years, enjoyed the appellation of "Original"—not a desirable one, perhaps, for any man to possess, because originality in the estimation of the masses too often means the reverse of intelligence or gentleness. Frost was far from being unintelligent; indeed, he was peculiarly shrewd and observant; but he rather delighted in roughness or crudeness of demeanour than those elements of character which help to form a gentleman. His real tastes were well exemplified in a fancy to dwell in a mere garden shanty, that he might be at hand when visitors called, rather than in a good house, which he might have had years ago had he so cared.

Without doubt, there were many associations about Dropmore which were not of an elevating character. It had become a great show place, and visitors of all kinds flocked thither, and these, in too many cases, found pleasure in flattering an old man's feelings and encouraging his foibles. It is very probable that Phillip Frost was the last of his peculiar species. He had outlived the world which gave him birth, and a long life in the seclusion of Dropmore had not helped him towards that higher development of mind and conduct which was going on all round him. The gardener of Frost's school is now as great a *rara avis* as is the three-bottle squire; for the gardener of to-day has kept pace with his employer in progressiveness of demeanour and morality. The originality found in Frost was of a nature that was tolerated because of his age, but would have been intolerable in any younger man; and gardeners of to-day will do well to avoid all attempts at copying, in the hope that originality in their case will meet with the same recognition. When Frost repeated over and over again, as he would often do in an hour's stroll,

or rather trot, round the extensive arboretum at Dropmore, some of his choicest morceaux of Dropmoreana, it became painfully evident that in spite of the old man's native shrewdness, his mind had no great range of ideas. He was an excellent botanist, and a devoted lover of his trees, but beyond these things his mind seemed to be almost a blank. How he would roar with delight as he told some story of a battle with his lady employer of former days, or retail with gusto the late Mr. Fleming's application to him of the cognomen "Chalky," because he once utilised chalk to such good purpose at Dropmore. Probably even Fleming found reiterated doses of Dropmore chalk to be wearisome, and hence the appellation.—*A.*

GARDENING MISCELLANY.

Notes on Cabbages.—Of that little gem, Ellam's Early, we have for the last month been cutting capital compact heads. It is the first to come into use, and, better still, scarcely a single plant of it has bolted, which means much after the long and severe winter we have experienced. Early Eversham is our next earliest and best. Of this variety we have comparatively few bolters, but nearly all of them are turning in sharp after Ellam's Early. It grows somewhat larger, and is altogether an excellent, early and reliable sort. I have grown it for three seasons, and it has always served us well. Early Enfield is also turning in well, and not one plant in fifty will run to seed. Among those which have proved a failure are my old favourites, Cattell's Reliance, Wheeler's Imperial and Nonpareil. Out of several score plants of the last-named three very few will do any good, nearly every plant having bolted. They were all sown twice, our first sowing being made on July 24th, and the second about a fortnight later; but from the two sowings and different plantings all have served us alike. I may add that our best and most promising plants were planted on rich firm ground previously occupied by Onions, no special preparation having been made for their reception, except that the surface was broken up a little with the Canterbury hoe. I may here further mention that our ground is not of a heavy clayey texture, or possibly this system would not answer; but I do believe in a rich firm soil for the growing of Cabbages for spring use, as it helps to check rank growth, consequently they turn into use quicker.—*H. Markham, Mereworth Castle.*

Anthurium Veitchii.—This is one of the finest of the Anthuriums, the leaves of which grow from 4 ft. to 5 ft. in length. They are deep green, with a shining metallic surface, becoming paler by age. The principal nerves are arched or curved and deeply sunk, giving the surface a striking appearance. The spathe is creamy white to green, and the spadix about 3 ins. in length. It requires stove treatment, and will succeed well in peat and sphagnum moss. Abundance of moisture is essential to the successful culture of this Aroid. It should be shaded from the hot rays of the sun.—*F. R. S.*

A Seasonable Hint.—I sometimes see in cottage gardens clumps of Lilies, Tulips, Crown Imperials, Narcissus, Michaelmas Daisies, and many other good things that were planted years ago, and left alone, have gone to riot, grown into each other, and instead of an appearance of order the garden has a very confused appearance. Now this can be remedied, and it should be done in late autumn and early spring, and in this way. Let the clumps be lifted and laid by in a spare piece of ground, let the soil in which they are to be replanted be deeply dug and manured with something from the pigsty, or the best that can be obtained, and then replanted in something like order, keeping the tallest at the back, and putting dwarf things in front. Failing manure, some road-scrappings, and decaying leaves mixed together will be found of great service. I pass some cottage gardens that are a picture to look upon, because order and regularity prevails; in others there is the confusion and disorder I have alluded to above. In some localities the bestowal of prizes for the best-kept flower garden seems to answer well, but the time should be extended so that it might embrace the whole year. Some cottagers neglect their gardens in the autumn, winter and early spring, and only tidy it up fit for inspection during the summer months.—*R. D.*

Caltha palustris flore pleno.—Amongst the hardiest of our native wildings, few surpass the double form of the Marsh Marigold, or King Cnps, as it is sometimes and deservedly named. The rich golden flowers of the single form, as it grows in our marshes or on the banks of streams, is not to be despised in a garden where a moist position can be secured for it; but the double form possesses even better qualities for garden purposes. A fine piece of it may be seen on the new rockery at Devonhurst, Chiswick, where it grows with a dwarfer habit than it generally does in a state of nature. This, however, would apply generally to plants grown with a more stinted supply of water than is the case with those on the margins of lakes or the banks of streams.

Easter Beurré Pear.—It is gratifying to know that English-grown Pears can be had so late in the season. Although January to March is generally considered the season during which this variety may be had in good condition, it can—like flowers of many kinds—be so treated that it will ripen several weeks later. Even now—the third week of May—Mr. Beaton, gardener at Style Hall, Gunnersbury, can boast of several varieties of Pear, including the excellent dessert kind under notice. The cool condition of the temperature of the underground fruit room at that place must account for the late ripening of the fruit. It is a beautiful Pear, of large size, green, and closely spotted with russet markings, which give it the appearance of a moor-fowl's egg. The flesh is buttery, white and melting. As a late-ripening, free-fruited Pear, this should find a place in every collection.

Selaginella caulescens.—Considering the numerous forms at the command of the cultivator, the adaptability of this species to different kinds of treatment, and its ornamental character, we might expect to find it more frequently in collections of decorative plants than we do. The typical form is grown by Mr. Beaton at Style Hall, Gunnersbury. It enjoys a wide distribution in its native habitats, which accordingly permits of being grown either in a stove or greenhouse. The upright stems generally attain a length of about 10 ins. to 14 ins., and are finely branched in the upper part. The dwarf form, *S. c. minor*, seldom exceeds 6 ins. in height, and is very suitable for cultivation in a greenhouse or cool conservatory. This is frequently grown under the name of *S. involvens*, which, however, is a very different plant, and in no way to be confused with the present species or its varieties when both are seen together.

Strawberry-growing at Bath.—Time has been when this was a highly remunerative enterprise at Bath; but now that France, Jersey and other places have come into competition, prices do not rule so high, and the industry is less circumscribed than it formerly was. On the warm slopes Alice Maude comes very fine, and well flavoured also; it is said to be a great bearer. President and Sir Joseph Paxton are also in great demand; they are sorts that do well, and the former variety is this season promising flowers in great profusion. They are grown on warm slopes and valleys with a few standard fruit trees among them, and, as might be expected, the fruit ripens early.—*R. D.*

Hildebrandia sandurhensis.—A very interesting member of the Begonia family is now flowering in the Begonia house at Kew. Gardeners, and those having a fair knowledge of plants in general, would readily pronounce the subject in question a Begonia. The rotundly cordate broad shallowly-lobed leaves, which have over-lapping basal auricles, and the usual obliquity or unequal-sided form observable in the family all tend to confirm such a conclusion; but two striking botanical characteristics serve to distinguish this (the only species) from all the other members of the family. The apex of the ovary is free inside the flowers and open at the top like that of the Mignouette; while, in addition to the coloured sepals that form the conspicuous part of the flower of a Begonia, there are petals which the latter does not possess. This is an additional reason for including the order in the dichlamydeous division of flowering plants, because of possessing two envelopes or coverings to the flowers, which are produced in axillary peduncles, and are white.

Photinia japonica.—Such is the transmutability of names that those not actually acquainted with the object receiving the appellation, whatever it may be, are liable to be misled, bewildered or deceived

accordingly. The plant in question is generally known in gardens as *Eriobotrya japonica*, but it is inseparable from *Photinia*, except in a few minor particulars, such as the greater size of the fruit. English names are the Japan Medlar, Japan Quince and Loquat; and in Covent Garden these are supplemented by the Loquat or *Nespres japonica*. This is tame, however, to the advertisements of the costermongers in some of the principal streets of London, where large placards describe the fruit as the "Australian *japonica nespretos*, or the new Jubilee Fruit!" It may not be out of place to state that the *Photinia* is Japanese not Australian. Peaches were declared as nowhere with the fruits, or "not in it." This is quite true if taken in a literal sense, but we doubt the expression if taken figuratively. The fruit, however, has an uncommon appearance, and those who have not had the opportunity of seeing it before are taken by its novelty. The colour is deep yellow or inclined to orange, often with a reddish flush, resembling that of some of the Service trees, and the fruits are about the size of plums, and generally contain two very large seeds somewhat like Coffee Beans.

***Ixia crateroides*.**—This deserves a place in every garden. The flowers, produced on spikes, whether used for cut-flower purposes or for conservatory decoration, are very effective. The colour is a brilliant pink. The cultural details are very simple, the treatment of *Gladiolus*, *The Bride*, suiting it admirably. Amongst other varieties of the *Ixia* may be mentioned *I. Lady Slade*, soft pink, *I. aurantiaca major*, amber, tipped with rose; and *I. viridiflora*, almost like verdigrise.—*F. R. S.*

***Saxifraga granulata flore pleno*.**—This is only a double form of the common meadow Saxifrage, which is a native species; but it is such a charming plant, and so well deserving a place in the garden, that I wonder it is not more grown. It does well in the open border among low plants; it is of dwarf tufted growth, and throws up spikes or irregular trusses of double white flowers. When the foliage has died down some soil should be placed upon the small scaly bulbs, otherwise they are in danger of being washed out of the ground.—*R. D.*

***Primula Sieboldi (cortusoides amœna)*.**—This fine hardy species of *Primula* well deserves all the praise which has been so freely bestowed upon it. It is specially adapted for those who know its capabilities for cool greenhouse treatment, and likewise cool greenhouse decoration. Being the fortunate possessor of two 6-in. pots full of this charming spring flower, I am constrained to dwell upon the fact, and add a note upon it for the benefit of amateurs, like myself, readers, of *THE GARDENING WORLD*. The pots in question are brimful of the most delicate green foliage, surmounted by six and nine heads of bloom respectively, of the richest of rose colours. The individual pips average $1\frac{1}{2}$ ins. in diameter, and the trusses, which are well borne above the delicate green, contain from six to ten flowers, arranged in an umbel. My specimens are old-established plants, to which I attribute their freedom of flowering. I may here mention that the pots were wintered in a cold frame, and that on the appearance of the young leaves I top-dressed them with Clay's Fertiliser. With regard to their successful culture, I would add that their requirements are few; but those requirements must be attended to—namely, light rich sandy soil, good drainage, cool treatment, and severely let alone. The Japanese Primrose is a perfectly hardy herbaceous perennial, losing its foliage on the approach of autumn, when it goes to rest, breaking up again from the fleshy creeping roots on the return of more congenial weather, to be again and again admired as the season advances, when its lovely colours are once more displayed in all their pristine beauty.—*C. B. G., Acton, W.*

Seedling Pansies.—Mr. William Caudwell, The Ivies, Wantage, sends us a box containing a great number and variety of his strain of seedling Pansies. Most of them belong to the class called fancies, although a few of the selfs might figure as exhibition blooms. Notwithstanding the cold easterly winds to which they have been exposed for some time past, the flowers are large, flat, and of good substance, while the variation is endless, showing an intermixture of shades, tints, and colours that make description not only a difficult task but an impossibility. Descriptions of the pen are tame, while many of the flowers add fragrance to their other qualities. The deep velvety maroon

flowers are very telling in their sable and retiring colours, as if conscious of their worth. On the other hand, those having a ground-colour of yellow, fiery crimson or red, are bold and telling even at a distance; and all these colours mixed with brown, gold, cream and purple make them what they are—suitable for the tastes of the most fastidious. Some whose ground-colour is canary-yellow are notable for three magnificent violet-purple blotches on the three lower petals; while the dark ground-colour of others fades into a paler one at the margin, like an Alpine Auricula.

Annuals in Cottage Flower Gardens.—Occasionally one sees a cottage garden made gay by means of a few pretty annuals, but not so often as one can desire. Some cottagers who live in remote districts do, naturally enough, find great difficulty in getting a few flower seeds; those who live near market towns are better circumstanced. How wonderfully gay a few cheap showy annuals make a cottage garden when sown in some order, and with a view of making an attractive display! There are Sweet Peas, Lupins, Candytufts, Nemophilas, Eschscholtzias, Indian Pinks, dwarf Nasturtiums, Malope grandiflora, Godetia, dwarf and climbing Convolvulus, &c., that can be bought cheap, and a pennyworth or two of each goes a long way. Sometimes a friendly gardener lends a helping hand by bestowing a few seeds out of his store of plenty. I wish sometimes the clergyman and squire would help the cottager with a present of a few pretty flower seeds—things that he would find great difficulty in getting were it not for this timely assistance. The clergyman, if he is anything of a gardener, is generally a specialist, and grows and exhibits Roses or some such popular flower; and when he does this he has scarcely an eye for anything else. A little active sympathy goes a long way with the working classes.—*R. D.*

***Stephanotis floribunda*.**—Having read the remarks of your correspondents respecting the proper temperature for growing this plant in, I may say, as the result of a number of years' experience, that it does not grow kindly in the cool temperature of a greenhouse proper; but while at rest, and kept dry at the roots, it is quite in its place in a house of that description. I have one plant which all the year round is grown at the cool end of our stove, and is now (May 14th) about to open its blooms. Another plant, which has been required for a special purpose at a certain date, has been wintered at the warm end of the greenhouse, where the temperature certainly has not fallen below 40°, and about a week ago was cut back as required and placed in the stove. It had not the least signs of fresh growth about it.—*J. R. Meadows.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

STOVES.—Cold north-easterly winds still prevail, therefore the ventilating of the stoves must be carefully performed; cold gusts will seriously damage the young fronds of many of the more tender Ferns, likewise the tender growths of the Anthuriums, and other plants of a like nature, causing the disfigurement of the specimen plants for the whole of the season. If the houses containing these plants are in a range, let the intervening doors be thrown open as much as possible, so as to allow of a freer circulation of air for the necessary hardening of wood and foliage—so requisite to ensure satisfactory results, both in the case of flowering and foliage stove plants. Where blinds are used for shading they must not be allowed to remain down continually; the sun has been very fitful of late, and in case of the weather remaining dull for any length of time the blinds must be drawn up; damp down very frequently throughout the day, and syringe copiously morning and evening, always preferring to use the jet instead of the rose for the purpose.

DRACENAS may need attention; they are extremely liable to the attack of thrips, and unless a sharp look is kept upon them, are completely spoiled in a few days. A free use of the syringe will help to ward off this pest, but should there be any trace of it, have the whole of the plants sponged with soft-soap and water. At the same time it may be advisable to examine the plants at the roots, and see that the drainage is good; defect in this respect producing stagnation, is a frequent source of failure with this plant. We have potted up the whole of the Gesnerias and Tydeas,

placing them on shelves where they will be out of the way of drip or the syringe until growth has fairly commenced, afterwards they will be liberally treated, remembering that the more luxuriant the growth the better the show of flower later on. We never use beyond an 8-in. pot for these plants: really good and useful plants may be grown in 32's, particularly of the Gesnerias; in fact, *G. exoniensis* succeeds much better if grown in this size. Frequently if grown in a larger size it will refuse to flower. Always bear in mind that plants of this class require a free open soil, they will never succeed in a soil of a retentive nature; a liberal use should always be made of charcoal in the mixing of the compost.

POINSETTIAS are now quite ready for potting, and must without further delay be shook out, previously giving a good soaking of water, that the roots may be damaged as little as possible by the removal of the old soil. Where the stools are getting old, it will be advisable to shorten most of the principal old roots, so that they may be potted into smaller pots to allow of a further shift being given later on. Where the breaks are numerous, some of them with a slice of heel should be taken off and inserted singly in 60-pots; these will make good plants, and give much finer heads of bracts than the old stools.

THE FORCING HOUSES.

THE LADY DOWNES VINES are now in full flower, and, as advised, a Muscat temperature is maintained. This is not by any means a free setting variety, so that extra care should be bestowed just at this period, or it may result in a serious loss in the crop by having to remove many of the clusters. We have been giving our borders heavy dampings of warm water lately, freely sprinkling the inside borders with Clay's Fertiliser, and all the Vines are in most vigorous health; the water applied to the outer borders has been warmer than that given to the inside. It will be advisable to give a slight shading to the Gros Colmar Vines now, or scorching will take place, the foliage being so soft and tender; and should any sign of red spider make its appearance in any of the vineries which are approaching the ripening stage, a slight shading over the affected part greatly helps in the saving of the foliage; red spider and sun together make short work of the foliage, no matter how good it may be, with the result that well-coloured fruit is entirely out of the question. At the same time the sulphuring of the pipes, as advised in a previous calendar, should at once be resorted to; to be repeated in about ten days' time.

THE BORDERS OF THE PEACH HOUSES being light enough, have been filled with Tomatos in fruiting-sized pots; they are trained on twine made secure to stakes fastened to the trellis-work overhead. Be careful that frequent sowings of Melons are made, so that healthy plants may always be ready for planting out as required.

THE KITCHEN GARDEN.

GENERAL WORK.—Here, work is most abundant. We have planted out our earliest batch of Celery, the spring-sown Cauliflower, Brussels Sprouts and Lettuce, giving a watering afterwards to thoroughly settle the soil about the roots. The spring-sown Spinach being now fit to pick, the winter patch has been dug in, and as soon as settled, the ground will be planted with French Beans; the first sowing are growing away finely, and we now hope they may escape frosts. The earliest sowing of Runner Beans are just bursting through the soil; the sticks will be placed to them, and so assist to protect in case of frosts, as they are rather exposed.

ASPARAGUS is coming on better now, but so much time has been lost that a full cut is out of the question this season; so many of the earliest and best heads were killed by the frosts which prevailed towards the end of April. We have to-day (16th) made another sowing of Peas, which included Telephone, Dr. McLean and Ne Plus Ultra, the last-named by far the best late Pea with us; another breadth of Turnips has been sown; the earlier sowings make but little progress, and drawings will be late with us this season. We have also made another sowing of French Beans, this also on a warm south border. We have run the Dutch hoe through the beds of Parsnips, Carrots, Onions, and other small seeds, to keep down the weeds, which no matter how much attention has been previously paid to hoeing, will persist in making their appearance with the advent of spring.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Pescatorea cerina.—In a house devoted to the more select of Mr. R. H. Measures' Orchid pets at the Woodlands, Streatham, is a handsome and healthy flowering specimen of this rare species. According to the newer system of classification, the species of *Pescatorea*, *Bollea*, *Promenaea* and *Warscewiczella* are all included under *Zygopetalum*, but the above mentioned *Pescatorea* is strikingly distinct from the racemose types of *Zygopetalum*, with widely expanded or flattened flowers. The specific name is very appropriate, from the wax-like, fleshy consistency of the flowers, which have a bold and uncommon appearance about them. The broad sepals and petals are somewhat incurved and white, while the labellum is more decidedly of a soft yellow, with a large and fleshy longitudinally ridged crest, striated with brown. The latter structure may not inaptly be compared with the jaws of some animal.

The Heaton House Collection.—The Phæloxopsis here are now well known for their excellence and quite exceptional development. Having seen them in the dull winter bearing a profusion of gigantic inflorescences of white and richly-coloured blossoms, I was anxious to see them when making their new growth; but I was not prepared to see such rapid progress. They are now developing leaves and roots in quite an astonishing manner. It would be immensely gratifying if our best collections of Orchids could add a houseful of such wonderful examples of this grand winter-flowering genus. I have no doubt but that Mr. Searing, the gardener, is favoured by the suitability of the house in which these plants are grown, and I feel equally positive that he has a method of culture not generally known, but certainly worth knowing. If all Orchid growers could succeed as he does these beautiful plants would become immensely popular. Some exceptional varieties of *Masdevallias*, of the "Comet" and "cærulescens" section, were full of blossom in the cool house. The *Odontoglossums* were also very fine, one specimen producing three enormous spikes from a single pseudo-bulb, and many with two spikes, several of which were branching, so full of vigour are they.

In the *Cattleya* house is a grand display of *C. Mossiae*, *C. Mendelii*, *C. Skinnerii* and *C. Warnerii* in great variety, and a fine example of *C. Schilleriana*, bearing five of its handsome and superbly-coloured blossoms on one spike. In a corner of the *Masdevallia* house are some of the best grown plants of *Epidendrum vitellinum majus* I have ever seen; no more useful or beautiful Orchid exists than this, of the same colour, and its lasting properties are second to none. Mr. Partington must be congratulated on the success he has achieved in Orchid growing; many reputably difficult species being superbly cultivated.—*J. G.*

Cœlogyne Massangeana.—A specimen grown in a basket suspended from the roof of one of the Orchid houses at the Woodlands, Streatham, was recently a very conspicuous object, bearing twenty flowers on a pendent raceme. The sepals and petals are of a pale ochre colour, while the beautifully maroon-brown labellum, marked with yellow streaks, and fringed at the margin, affords a striking contrast to the other parts of the flower. These characters, along with the broad Stanhopea-like leaves, constitute this one of the most distinct species grown. Mr. Measures, who is in a position to know, says that this is the only Orchid in his collection which he has observed to suffer from the vapour of the Thanatophore used in the destruction of insect life.

Hybrid Odontoglossums.—The so-called natural hybrids are now becoming very familiar to those who grow cool Orchids or frequently have the opportunity of seeing them. Endless forms of these *Odontoglossums* appear in the collection of H. M. Pollett, Esq., Fernside, Bickley. A very dark form of *O. Mulus* had the tips of its sepals and petals yellow, with a few scattered streaks; the flower was also notable for its size. *O. polyanthum* is somewhat variable as to colour, but may be recognised by the great size of the cinnamon-brown blotches and its comparatively short labellum and small-bilobed crest. The labellum in Mr. Pollett's specimen seemed to be flatter than usual. There are various forms of *O. Andersonianum* in the same collection, and some which are difficult of classification under any named form.

Coryanthes macrantha.—From F. W. Moore, Esq., curator of the Botanic Gardens, Glasnevin, comes a very fine and highly-coloured form of the most singular of all Orchids. As it hangs in its natural position, the flower, when observed from the back of the labellum, presents the appearance of the skeleton of a man. The upper cup protecting the horn-like distilling organs resembles the skull, the fleshy corrugations under this the vertebral bones of the neck, and below this the smooth part corresponds to the chest-bones. Singularly enough, part of the skull is furnished with short adpressed shining hair. The mesochile is of a beautiful deep brownish purple, while the interior of the great pitcher is magnificently spotted with purple on a creamy white or, in some parts, a yellow ground. Accompanying this were some flowers of a *Vanda* intermediate between a typical *V. suavis* with a white ground, and a typical *V. tricolor* with a yellow ground. The sepals and petals were notable for a flush of rose on them, and the labellum a rich crimson-purple.

Monstrous Cattleya Mendelii.—Last year, in the collection of R. H. Measures, Esq., the Woodlands, Streatham, a plant of the above *Cattleya* produced two lips. The same plant has flowered again quite recently, showing a very abnormal state of matters in a flower of singular aspect. There are only two sepals present posteriorly and anteriorly, and from the median position of the latter underneath the labellum, it is evident that two normally lateral sepals have become fused together by their contiguous edges. Half of the labellum is wanting, as if it had been sliced through the middle longitudinally. At the same time, half of a petal developed in a similar manner has become united with the half of the labellum present. The latter organ thus presents a very curious appearance, inasmuch as its own half proper is coloured as in the typical *C. Mendelii*, while the other half, which corresponds to a petal, is coloured like that organ. The second petal is normal and free. Altogether, then, one sepal seems absent, half of a petal and half of the lip.—*J. F.*

Lælia purpurata.—Messrs. F. Sander & Co. send us a magnificent spike of the above *Lælia* bearing three immense flowers, and two had been removed. It is from an importation of Messrs. Sander, and is the largest and darkest form they have ever seen. The sepals and petals are of a warm rose with darker lines, and resemble in that respect a good form of the *L. purpurata* Brysiana type. The labellum is large, bold, and of a deep rich magenta-crimson, a colour which extends nearly to the base of the tube externally, where it fades to rose. Internally the tube is yellow, with the usual crimson or purple lines, but this part is unusually short, and altogether concealed in the tube, while all round the orifice the most intense crimson pervades the lamina, the pale blotch at the being tip unusually small. It was received from the collection of R. B. White, Esq., of Arddaroch.

Odontoglossum Andersonianum.—While this is reckoned as one of the supposed natural hybrids, it is enumerated by leading authorities as one of the forms of *O. crispum*. There are numerous forms in the collection of Messrs. Shuttleworth, Carder & Co., of 191, Park Road, Clapham, and at present several fine varieties are flowering with great freedom. As to form, it seems intermediate between *O. crispum* and *O. gloriosum*, with greatly elongated sepals and petals of a pale yellow colour, spotted and streaked with chestnut-brown; the lip is narrower than in *O. crispum*, and pandurate or fiddle-shaped.

Lycaste pubescens.—A notable feature in Mr. Peacock's collection of Orchids at Sudbury House, Hammersmith, is the number of different species of *Lycaste* that flower from time to time. That under notice, although not comparable to *L. Skinnerii* or *L. jugosa*, is still a very distinct Orchid. The leaves are very broad, elliptic and ribbed, accompanying the flowers. The latter are solitary on the scapes, and droop much in the way of *Maxillaria veuusta*. The sepals and petals are dull yellow or buff-coloured, while the labellum is of a deeper and clearer yellow, and fringed at the margin.

Dendrobium pulchellum.—The specific name of this *Dendrobe* is rightly applied, for amongst the smaller forms—including *D. rhodocentrum*, *D. transparens*, and similar species—this is, indeed, a gem of very small stature, requiring to be grown in a basket and hung up near the glass. From its habit of growth

it requires little house-room, and as it comes from Northern India will succeed in a lower temperature than that generally given to the East Indian species. The flowers are freely produced in lateral clusters from the slender stems or pseudo-bulbs of last year. The sepals and petals are pink, the latter being finely toothed or fringed at the margin. The labellum is beautifully and more deeply fringed; but not so much as in *D. Devonianum*, to a small form of which the flower may be compared. The latter organ is also deeper tinted than the sepals and petals, with a large golden blotch at the base. It has been flowering for some time in the Orchid house at Devonhurst, Chiswick.

Epidendrum falcatum.—This Mexican Orchid, which flowers freely in the collection at Sudbury House, Hammersmith, is synonymous with *E. Parkinsonianum*, and said also to be synonymous with *E. aloifolium*, although we have seen a form with much narrower fleshy leaves, that might, with propriety, be considered a variety of the type, and should accordingly call it *E. f. aloifolium*. The form at Sudbury House seemed to have its large and conspicuous flowers of a purer white than is generally the case. The most noticeable feature of the flower is its large deeply three-lobed halbert-shaped labellum. This species requires the temperature of an intermediate house, and should be grown in a basket or pot hung up close to the glass.

HORTICULTURAL SOCIETIES.

Royal Botanic.—*May 18th.*—The first summer exhibition was held on the above date in the large tent, where the plants were very effectively arranged on the grassy banks and terraces. Owing to the great bulk of the plants consisting of flowering stuff, a lively and brilliant display was the result. Azaleas, Roscs, Orchids, Pelargoniums and New Holland Plants constituted the chief feature of the show, and of these some excellent examples of cultivation were staged.

Mr. James Cypher, Queen's Road, Cheltenham, was first for stove and greenhouse plants, both in the collections of twelve and six. *Franciscea eximia*, *Erica depressa*, *Pimelia spectabilis* and *Acrophyllum venosum*, were some of his best plants. Mr. Henry James followed in both classes, showing *Dracophyllum gracile*, *Boronia pinnata*, *Bougainvillea glabra* and others. Mr. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, received the first award for both the collection of ten and six stove and greenhouse plants respectively in the amateurs' class. Mr. George Wheeler, gardener to Lonisa Lady Goldsmid, St. John's Lodge, Regent's Park, was second for ten plants in the same section, while Mr. A. Offer, gardener to J. Warren, Esq., was second for six plants.

In the amateurs' class for twelve exotic Orchids, Mr. F. J. Hill, gardener to H. Little, Esq., received the first award, while Mr. James Douglas, gardener to F. Whitbourn, Esq., was a good second. Mr. James Cypher was first in the nurserymen's class for twelve exotic Orchids, showing some fine *Lælia purpurata*, while Mr. H. James, Castle Nursery, Norwood, was second, showing *Cattleya Mendelii*, *Oncidium Marshallianum* and others. Mr. J. Douglas was the only exhibitor in the amateurs' class for twelve exotic Orchids, consisting of one plant in a pot. In the nurserymen's class for the same, Mr. J. Cypher was first, and Mr. H. James second.

For nine Roses in pots, nurserymen, Messrs. George Jackman & Son, Woking, received the first award, showing some fine specimens of *Celine Forestier* and *La France*; Messrs. Paul & Son, The Old Nurseries, Cheshunt, were second. In the amateurs' class for six, Mr. T. Lockie, gardener to The Hon. G. O. Fitzgerald, Oakley Court, Windsor, was awarded the first prize, while Mr. P. Perry, gardener to W. G. Rowlett, Esq., The Woodlands, Cheshunt, was second. Mr. C. Turner, Slough, received the first award for twenty Roses in 10-in. pots, while Messrs. Paul & Son, Cheshunt, received second.

For six greenhouse Azaleas, in the amateurs' class, Mr. George Wheeler was first; while Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, was second. In the nurserymen's class for the same, Mr. C. Turner was awarded first prize for magnificent examples; and Messrs. T. Jackson & Son, Kingston-on-Thames, second. For six plants in the amateurs' class Mr. T. Lockie received the first award; and Mr. H. Eason the second. Mr. J. Cypher was awarded the

first place in the open competition for six Heaths ; and Mr. James the second.

Mr. D. Phillip, gardener, Langley Broom, Slough, secured first prize for six Pelargoniums in 8-in. pots ; and Mr. F. G. Hill, gardener to H. Little, Esq., The Barons, Twickenham, second. In the nurserymen's class for the same, Mr. C. Turner gained first, showing fine plants of Amethyst, Kingston Beauty and Claribel. Mr. J. Cypher was second, showing, amongst others, the dark Emperor of Russia. Mr. C. Turner was first and Mr. Phillip second in the open competition for fancies.

For twelve hardy herbaceous plants Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was first, and Messrs. Paul and Son, Cheshunt, second. Messrs. Collins Bros. & Gabriel obtained the first place for Alpine plants, and Messrs. Paul & Son, second.

Mr. J. Douglas exhibited some fine Dicksonias and Gleichenias, securing first prize for six exotic Ferns ; while Mr. R. Butler, gardener to H. H. Gibbs, Esq., St. Dunstan's, Regent's Park, was second. Mr. R. Butler was also second in the amateurs' class for six fine-foliaged plants ; while Mr. A. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, was first. In the nurserymen's class for the same, Mr. J. Cypher received the first award and Mr. H. James the second. Mr. H. Eason was the only competitor in the class for twenty-four Gloxinias (open), showing a well-flowered lot.

The exhibits ranged under the miscellaneous class, and which were arranged in the middle, and some other parts of the tent, contributed materially to the appearance of the show. Mr. B. S. Williams, Upper Holloway, exhibited a large group of various stove and greenhouse plants, including several new ones, recorded on another page. A fine plant of *Lomaria discolor bipinnatifida* was noticeable amongst other things. A large Silver Medal was awarded for the group. A similar award was made to Messrs. John Laing & Co., of Forest Hill, for a very effective group of *Caladiums*, *Begonias*, single and double, *Crotons*, *Cattleyas*, *Dendrobium Wardianum*, *Odontoglossum vexillarium*, and a great variety of stove and greenhouse plants. A Silver Medal was awarded to Messrs. Cutbush & Son, Highgate, London, for a group of *Azaleas*, *Palms*, *Ferns*, *Boronia elatior*, *Hypocalymna robusta*, and similar things. Silver Medals were awarded Messrs. William Paul & Son, Paul's Nurseries, Waltham Cross, and Mr. William Rumsey, Waltham Cross. A large Bronze Medal was awarded Mr. T. S. Ware for a miscellaneous group of various herbaceous plants, including tree *Pæonies*, and many fine varieties of *Primula Sieboldi*. Messrs. Paul & Son, The Old Nurseries, Cheshunt, received a similar award for a group of herbaceous and Alpine plants, including several *Saxifragas*. Messrs. Barr & Son exhibited a collection of cut *Narcissi* and *Tulips*, including *Tulipa elegans*, *T. cornuta* and *T. viridifolia præcox*. A Bronze Medal was awarded them for the group. Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, staged an attractive group of *Ferns*, *Calceolarias* in 48-sized pots, *Mignonette*, and other things. Two new *Ferns*—*Pteris serrulata gloriosa* and *Pteris regina*—were shown, a Bronze Medal being awarded the exhibit. Large Bronze Medals were given to Messrs. J. Standish & Co. for a group of large finely-coloured *Japan Maples* ; and to Mr. H. James, Castle Nursery, Norwood, for a collection of *Dracænas*, &c. A similar award was made to Mr. W. May, gardener to F. C. Jacomb, Esq., Amherst Park, Stamford Hill, for a group of *Odontoglossums*, *Masdevallias*, and other *Orchids*. A fine group of *Calceolarias* was exhibited by Mr. J. James, Woodside, Farnham Royal, Slough ; a collection of cut blooms of *Maréchal Niel* and other *Roses* by Mr. J. Walker, Thame, Oxon ; and two well-flowered baskets of plants of *Leschenaultia biloba* major, with intensely blue flowers, were shown by Mr. W. Balchin, Hassocks Gate, Sussex. A very fine group of *Orchids* was exhibited by Messrs. Hugh Low & Co., Clapton Nurseries, London, including fine forms of *Cattleya Mossiæ*, *C. Mendelli*, and a large very dark-lipped form of *Lælia purpurata*.

County of Gloucester and Cheltenham Horticultural.—The first show in connection with this society was held on the 13th inst., in the Montpellier Gardens—a situation admirably suited to the purpose, added to which the grounds are so well kept. There is a permanent grand stand, which was occupied on this occasion by the band of the Scots Guards.

Most unfortunately, the weather was too cold for the splendid music to be attentively listened to. The numerous plant exhibits were arranged in two huge tents ; while a smaller one was devoted entirely to vegetables and salads. The exhibits we did not think so numerous as usual, several competitors whom we have formerly noted as prize-takers being absent on this occasion, so that in some instances the staging was decidedly bare. In the collections of *Orchids* (nurserymen), the first prize was most deservedly awarded to Mr. J. Cypher, of Cheltenham, for a very creditable lot, consisting of *Cattleya Skinnerii*, *Dendrobium thyrseiflorum*, *Lælia purpurata Brysiana*, splendidly flowered, and of a beautiful depth of colour ; *Calanthe veratrifolia*, *Odontoglossum vexillarium*, *Vanda suavis*, *Cattleya Mossiæ*, a grand variety ; *Lælia purpurata splendens*, a beautiful piece, well flowered ; and a finely-bloomed *Dendrobium nobile*. The second prize was taken by Messrs. Heath & Son, also of Cheltenham, whose exhibits were likewise good ; but, in our opinion, the group was spoiled by staging as the centre plant a mass of *Oncidium sphacelatum*, at any time much too common for exhibition purposes. Had this been replaced by a more suitable plant, the collection would have been improved. Amongst the plants a profusely-flowered *Odontoglossum Pescatorei*, a grand plant of *Cattleya Mossiæ superbum*, and a well-flowered *Dendrobium nobile* and *Odontoglossum Roezlii*.

In the collection of *Orchids* (amateurs), the first prize was easily taken by G. N. Wyatt, Esq. (Mr. Sincoe, gardener), with, amongst others, a good *Cattleya Skinnerii*, a well-flowered *Odontoglossum vexillarium*, a fresh *Masdevallia Lindenii* and the bright *Ada aurantiaca*, &c. The second prize was taken by Sir A. Ramsay, Bart., amongst whose set was a nice *Cattleya Mossiæ* and a fairly well-flowered *Dendrobium nobile*. In stove or greenhouse plants (collection of twelve), as usual, Mr. J. Cypher was easily first, staging, amongst other good things, a grandly spathed plant of *Anthurium Scherzerianum Cypherii* (a magnificent variety), a well-flowered *Erica ventricosa magnifica*, *Dracophyllum gracile*, a huge but still healthy plant of *Hedera tulipifera*, a grandly-flowered *Pimelia spectabilis* and *Erica depressa*. The second prize was taken by G. N. Wyatt, Esq. In collections of ten *Azaleas*, the first prize was taken by G. N. Wyatt, Esq., who rather easily beat Mr. Cypher. The plants were trained in the old narrow pyramidal style, but were well flowered and of good variety. Some of the second prize lot were evidently past their best, but it contained a grandly-flowered bush of *A. magnifica*, a pure white variety. In this tent were also staged collections of *Cinerarias*, *Pansies*, herbaceous *Calceolarias* and herbaceous plants, but contained nothing worthy of comment. In collections of *Strawberries*, in pots, there were only two competitors, but the exhibits were quite worthy of the prizes, which were taken by Mr. J. Holder, Senr., and the Rev. G. Coventry, in the order named. In *Gloxinias* there were only two collections, those staged by R. M. Lingwood, Esq., which took the first prize, being the best. For eighteen blooms of cut *Roses*, Messrs. Heath & Son were easily first, their blooms being very clean and bright, and included some good flowers of *Maréchal Niel* and *La France*.

In the class for twelve bunches of cut-flowers, the first prize was taken by G. N. Wyatt, Esq., closely followed by Messrs. Heath & Son, but neither were good. In this tent, next to the pot *Strawberries*, was staged a collection of fruit by Mr. W. G. Siddall, one of the leading market growers of the district, and which contained, amongst other good things, an excellent *Melon*. In the other large tent were staged the collections of foliage and other plants (nurserymen); here Mr. Cypher was again to the fore, his collection containing, amongst other fine things, good plants of *Kentia Australis*, *K. Fosteriana*, another grand plant of *Pimelia spectabilis*, *Gleichenia Mendelii*, and the chaste *Cycas Normanbyana*. *Crotons* as a rule were not so highly coloured, although in good health. Messrs. Heath & Son were a fairly good second, with *Palms* and other foliage plants generally seen in such collections. For six varieties of *Show Pelargoniums*, the prizes were taken by Mr. Cypher, Mrs. Pilgrim, and H. Chapman, Esq. ; while for fancies, Mrs. Pilgrim, P. H. Osborne, Esq., and H. Chapman, Esq., took the prizes in the order named. In both these classes the plants were of medium size, but well flowered and healthy. We next come to the pot *Roses*, and which, barring the first prize lot, were very poor.

For six *Azaleas* there were three competitors, the first prize being well taken by Sir A. Ramsay, Bart., the second by H. Hamilton, Esq., the third by Mrs. Pilgrim. For six *Azaleas*, pots not to exceed 8 ins. diameter, the prizes were taken by Messrs. Heath & Son and Mr. J. Cypher ; these contained some very bright and distinct varieties, and all were densely flowered. For a basket of plants there was only one entry, that of Mr. Cypher, which was awarded the prize. In this tent was also staged a useful collection of decorative plants by Mr. G. Phillips, florist, High Street, Cheltenham.

We now come to the vegetable tent, which, for the season, contained some excellent dishes, notably those staged by Mr. Arkell, gardener to A. J. Skinner, Esq., and which did him the greatest credit. Particularly I would name a grand dish of *Peas*, and another of different-coloured *Capsicums*, *Tomatos*, with some of the finest *Asparagus* I have ever seen. I need hardly say he easily won the first prize for a collection of six dishes ; in addition he took first for the following single dishes, *Mushrooms*, *Asparagus*, *Peas*, *Tomatos*, and *Rhubarb*. In the class for four dishes of vegetables, the first prize was taken by the Rev. G. Coventry, and contained some good *Peas* and *French Beans*. Excellent *Cucumbers* were shown by Mr. J. Holder, Senr., which easily took the first prize ; in fact, taken altogether, the contents of this tent were highly creditable.—*W. C. C.*

Preston and Fulwood Horticultural.—

The members of this society met together on Saturday evening last, the 14th inst., at the "Old Legs of Man Hotel," when Mr. J. Atherton (hon. sec.) presented the ninth annual report, which was of a very satisfactory character ; the balance sheet of the treasurer, Mr. J. B. Dixon, also showed that the finances were in a thoroughly sound condition. The year commenced with a balance of £8 7s. 9½d. ; subscriptions for the year, £95 13s. 6d. ; entrance to the exhibition (two days), £45 1s. 1d. ; these amounts, with the sundries, making the total receipts £156 19s. 2½d. The expenditure amounted to £142 4s. 11d., which included £71 17s. 9d. prize money, and £12 2s. 0d. for the Gloucestershire regimental band. The report and balance sheet were adopted.

At the close of the business some discussion took place on several objects that were placed on the table. The hon. secretary had brought some small plants of *Hydrangea* with immense heads of bloom, which were much admired. A few *Orchids* were also named and some comments offered on them. The most important exhibit, however, was that of Mr. A. Waters, gardener to J. Eccles, Esq., Farington House, Preston, who staged two bunches of black *Grapes* ; one being a bunch of *Lady Downes* that was perfectly ripe, with many other such bunches, last October. A number of the bunches were used during the winter cut direct from the canes ; but in the third week of January the whole were taken off, placed in bottles, and stood in a moderately cool fruit-room. Here they have kept plump, sound, and of capital colour, the result being that now, in the middle of May, the few remaining ones are perfectly fit for the table, pleasing to the eye, and sweet to the taste. By the side of this long-ripened bunch was a capital cluster of *Black Hamburgs*, just now matured and fit for use. This bunch was also good in form, the berries being large, round, and withal of a capital colour. It is a sign of good culture to get *Grapes* fit for use thus early ; and when presented, as this was, with a bunch of the late-keeping sort—*Lady Downes*—certainly deserves recognition. Mr. Waters, who replied to a hearty vote of thanks accorded him, gave a short *resumé* of his culture and methods adopted, again stating that he had followed, as closely as possible, the advice and instruction he had himself given when he read a paper on *Vine culture* to the members of the society last autumn. He believed one should not only write theoretically, but also carry out our ideas in practice, and be willing to submit their successes to the criticism of those who have listened to our advice and instruction.

Walkley Amateur Floral.—At a general meeting of this society held on the 13th inst., there was a good attendance of members, who brought together a very nice display of plants in flower, *Ferns*, vegetables and cut flowers. Conspicuous amongst the exhibits was a well-flowered piece of *Dendrobium Cambridgeanum* exhibited by Mr. Barber, who obtained

the highest number of marks from the judges. No prizes are given, but each exhibit is judged and marks given according to merit. Mr. Barber having obtained the maximum number, which is six, was asked by the president to explain his management of the specimen in question, and in reply Mr. Barber said that the plant had been in his possession about a year, and was newly imported when he got it. There were a few short growths made last summer, after which the plant was subjected to a very low temperature; and last winter, during the severe frost, owing to his defective heating apparatus, the temperature went down to 35° on several occasions. He attributed his success in a great measure to having tested it in such a low temperature, and to keeping it close to the glass during its growing period. I have no doubt but that many cultivators of this beautiful Orchid fail to flower it through too much coddling in a strong heat. Mr. Woodcock exhibited a dozen of Ellam's Early Cabbages as hard as cricket balls, and which created much comment amongst the members.—*J. Walker.*

FLORICULTURE.

SOME GOOD POT-ROSES.—The collection of Roses in pots shown at the last meeting of the Royal Horticultural Society, was useful in that it indicated certain varieties as well adapted for pot culture. I made a note of H.P. Duchess of Edinburgh, a charming pale pink Rose; Souvenir d'un Ami, a fine old Tea-scented variety, which was grandly shown in a cut state by Mr. W. Rumsey, of Waltham Cross; H.P. Duke of Albany, rich crimson; Tea Camoens, bright pinkish rose, very showy; H.P. Magna Charta, bright pink and carmine, one of the very best of pot-Roses, because so free and yet producing such fine blooms; H.P. Countess of Rosebery, brilliant crimson-rose; and Crown Prince, bright purple and crimson. It is gratifying to find from the foregoing list, that some of our English-raised Roses can hold their own against the Continental varieties. It would be a rather novel feature at a Rose show to see cut blooms of English Roses competing against those obtained from abroad. A class for a dozen cut blooms of distinct varieties would instruct as well as interest; and if the competition were also extended to varieties grown in pots, it would extend the interest felt in such a test. I respectfully submit this suggestion to the Committee of the National Rose Society.—*R. D.*

SINGLE DAHLIAS.—It is said that plants of these are not in such brisk demand this season as in former years. This appears to prove that they are declining in public favour. It is further said that the Pompon and Cactus Dahlias are becoming much more popular, and that they are surely taking the place of the single varieties. I think one cause of the decline in the single Dahlias is the fact that so many new varieties have been produced of tall gross habit, bearing larger flowers far beyond a nice medium size for decorating purposes. I think that if nine-tenths of the named varieties were thrown away, no one would greatly regret the sacrifice. To my mind, if any section of the single Dahlias is to remain in our gardens, it is that known as the stellate varieties. They are all of neat, dwarf, bushy habit, and produce myriads of small starry flowers in many and attractive shades of colour. Being of dwarf growth, they can be used for bedding purposes; and the flowers being small, and produced on wiry stems, they are valuable for cutting. A few good varieties in this group are Alma, white and mauve; Bedding Gem, orange-scarlet; Gustave, deep shaded lemon; Ingomar, magenta; Little Bob, deep crimson-maroon; Magpie, cerise tipped white; Mrs. Langtry, pale orange-buff; and Pauline, mauve.—*R. D.*

ALPINE AURICULA CONSPICUA.—I wonder who raised this fine old-fashioned variety. As a white-centred flower it can still hold its own; and as far as I know there is only one other variety I would put before it, and that is Tenniel. We have very few really good white-centred flowers. Conspicua is one of those that stands well; and the white centre does not quickly die off to a cold, dead ivory-white, as is the case with some. I had Conspicua given to me last year, and I shall certainly contrive to grow it until I can surpass it with something better.—*R. D.*

QUESTIONS & ANSWERS.

* * Special attention is paid in the columns of THE GARDENING WORLD to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

LAPAGERIAS AND AZALEAS.—*T. H. C.*: There does not seem to be a fungus of any sort on the leaves you send, even when examined under the microscope. The cells on the underside of the leaf, or their contents, appear dead or deranged, but no doubt you have observed, as we have done, that the old leaves of the plant only are affected, while the younger ones on the same plant are quite healthy and fresh. We suspect that thrips may have had to do with it, and if so, washing with soft soap, Gishurst compound, or fumigation should be resorted to, or what is advisable, vapourising by the Thanatophore. The vesicular protusions on the under side of the second leaf sent are caused in all probability by the puncture of some insect, we should say thrips, judging from the rusty appearance.

PLANTING VINES.—*Omicron*: You cannot do better than plant them early in June, when the soil has become warmed to some extent by solar heat. If you plant them carefully without disturbing the roots much, and treat them generously as regards heat and moisture in the house, it is astonishing what fine canes they will make the first season.

THE THANATOPHORE.—Will those who have used the Thanatophore kindly inform me through these columns their experience of it. Is it successful, and is it cheaper than using Tobacco paper? I am anxious to satisfy my employer before purchasing one.—*J. M.*

RED LEAD.—*Omicron*: Add sufficient water to make a thin liquid, and shake or stir up the seeds well in this. A small quantity of paraffin poured on the seeds in a glazed vessel, and the whole well shaken up, would answer the same purpose.

BOOKS.—*Ireland*: Mr. B. S. Williams' *Choice Stove and Greenhouse Plants*, in two volumes—one treating of flowering plants, the other on ornamental-foliaged plants, published by the author at the Victoria and Paradise Nurseries, Upper Holloway, N., or *Greenhouse and Stove Plants*, by Mr. T. Baines (John Murray, Albemarle Street, W.C.), gives the information you require.

ORCHID BLOOMS.—*A. Chalmers*: The Dendrobium you send is an ordinary form of *D. Dalhousianum*, of the usual size and form. The other is a good variety or form of *Odontoglossum Pescatorei*, with a few violet-purple spots on the middle of the sepals, petals, and likewise on the labellum. It is otherwise worth cultivating on account of the size of the flower, and the breadth of its imbricating segments.

NAMES OF PLANTS.—*W. G.*: *Dendrobium dixanthum*. *E. J. H. Churcher*: *Abutilon vexillarium variegatum*.

COMMUNICATIONS RECEIVED.—*J. G. S.*—*C. P.*—*F. R. S.*—*W. P.* (anticipated by another correspondent).—*U. H. P.*—*E. J.*—*W. P.*—*J. A.*—*W. G.*—*M. McL.*—*D. P. L.*—*W. C.*

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, Royal Exotic Nursery, 544, King's Road Chelsea.—Catalogue of Plants, including Novelties for 1887; also Soft-wooded and Bedding Plants, &c.

WILLIAM BULL, King's Road, Chelsea, London, S.W.—Catalogue of New, Beautiful and Rare Plants and Orchids.

JAMES CARTER & Co., 237 and 238, High Holborn, London.—May and June on the Farm and in the Garden.

LONDON SEED TRADE.

May 18th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a few small orders are still received for Clovers and Grass Seeds, but the season may now be considered as over. Values remain unchanged, with little speculative enquiry. Rape and Mustard firm.

COVENT GARDEN MARKET.

May 19th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	20	50	Pine-apples, St.		
New Grapes . . per lb.	30	50	Michaels, each	60	160
Kent Cobbs . . 100 lbs.	60	0	Pine-apples, Eng., lb.	10	16
Peaches . . . per dozen	15	0 21	Strawberries, per lb.	30	60

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	20	30	Herbs, per bunch	02	04
Asparagus, per bble.	20	50	Horse Radish, bundle	30	50
Beans, French, per lb.	20	26	Lettuces . . per dozen	16	20
Beet, per dozen	20	30	Mushrooms, p. basket	10	20
Brussels Sprouts, per lb.			Onions, per bushel	40	50
Cabbages . . . per doz.	20	26	Parsley, per bunch	06	
Carrots, per bunch	06		Radishes, per dozen	16	
Cauliflowers, English, per dozen	30	50	Sea Kale . . per basket	16	26
Celery, per bundle	20	26	Smallsalading, punnet	04	
Cucumbers, each	06	10	Spinach, per strike	20	
Endive, French, doz.	26	36	Tomatoes, per lb.	20	36
			Turnips . . . per bun.	06	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones . . . 12 bun.	20	40	Parma Violets (French), per bunch	26	40
Arum Lilies, 12 blms.	30	50	Pelargoniums, scarlet, 12 sprays	04	06
Azalea, 12 sprays	06	10	Polyanthus, 12 buns.	20	50
Blue Bells, 12 bunchs.	10	20	Primroses, 12 bunches	03	06
Bouvardias, per bun.	06	10	Primula, double, bun.	09	16
Camellias . . 12 blooms	10	30	— single . . . 12 bun.		
Carnations, 12 blooms	10	30	Roses (coloured) . . .	10	40
Cut Tulips, 12 blooms	02	04	Roses, Tea, per dozen	10	20
Daffodils, dble., 12 bun.	20	40	Roses, mixed, per doz.	10	20
Eucharis, per dozen	30	60	— Safrano (French), per doz.	06	09
Gardenias, 12 blooms	10	30	Spiraea . . . 12 bunches	60	90
Heliotropes, 12 sprays	06	10	Stephanotis, dozen sprays	20	40
Hyacinths			Tropaeolums	10	20
Lapageria, red, 12 blms.			Tuberose, per dozen	10	
Lilies of the Valley, 12 sprays	06	10	Violets . . 12 bunches	04	09
			Wallflowers . . 12 bun.	20	40
			Pelargoniums, 12 sprays	06	09

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	60	180	Genista . . . per dozen	60	90
Arum Lilies, per doz.	90	120	Hydrangea . . per doz.	90	120
Azalea . . . per dozen	180	360	Lily of the Valley, 12 pots	120	180
Cineraria . . per dozen	60	90	Lilium longiflorum, per doz.	180	300
Cyclamen . . per dozen			Marguerites, per doz.	60	90
Cyperus, per dozen	40	120	Mignonette . . per doz.	40	90
Dracena term., doz.	30	60	Musk, per dozen	30	60
— viridis, per dozen	120	240	Palms in variety, each	26	210
Epiphyllums, per doz.			Pelargoniums . . . doz.	60	180
Erica, various . . doz.	180	420	Pelargoniums, scarlet, per dozen	40	80
Evergreens, in var., per dozen	60	240	Rhodanthe . . per doz.	60	90
Fairy Roses . . per doz.	80	120	Roses (various) . doz.	180	300
Ferns, in var., do	40	180	Solanums		
Ficus elastica, each	16	76	Spiraea . . . per dozen	90	120
Foliage Plants, various, each	20	106	Tulips . . per doz. pots		
Fuchsia . . . per dozen	60	90			

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For descriptions and illustrations see NEW AND GENERAL PLANT CATALOGUE for 1887, which is now published, and will be forwarded, gratis and post free, to all applicants.

The GRAND JUBILEE EXHIBITION of ORCHIDS, &c., in these Nurseries is now on view.

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- NAMED KINDS, specially adapted for bedding, Louis Bouchet and Rosamonde, 9s. per doz.

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RATING OF NURSERIES.

A PUBLIC MEETING of Nurserymen will be held under the auspices of the Nursery and Seed Trade Association, Limited, on Tuesday, 28th June, 1887, at the Horticultural Club, Henrietta Street, Covent Garden, London (by kind permission of the Committee), to take into consideration the excessive rating of Nurseries, and to agree on a combined course of action with a view to the reduction of assessments. The chair will be taken by J. WOOD INGRAM, Esq., of the firm of Messrs. Wood & Ingram, The Nurseries, Huntingdon, at 4 p.m. Nurserymen will oblige by early intimating to the Secretary their intention to be present and also by forwarding to him, in strict confidence (if the amount of the assessment is in excess of the rent), either the amounts of their rents and assessments or the proportion which the difference between the rent and the assessment bears to the rent itself.

Mr. F. G. GOODCHILD, Secretary, Nursery and Seed Trade Association, 25, OLD JEWRY, LONDON, E.C.

CRYSTAL PALACE.—GREAT ROSE SHOW OF SEASON, Saturday, July 9th. For schedules and entry forms apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

Next Week's Engagements.

MONDAY, May 30th.—Continuation of the Great National Horticultural Exhibition at Manchester.

WEDNESDAY, June 1st.—Sale of Bedding Plants at Child's Hill Nursery by Protheroe & Morris.

THURSDAY, June 2nd.—Sale of Established Orchids and Orchids in Flower at Stevens' Rooms.

FRIDAY, June 3rd.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, June 4th.—Royal National Tulip Show at Mauchester.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 28, 1887.

OUR FRUIT PROSPECTS.—Notwithstanding the hurricanes of last week, which, in exposed places, terribly whipped and beat the fruit trees, literally denuding numbers of every vestige of bloom and materially injuring the foliage, there is every reason to believe that we shall have a good fruit season. In escaping frost, to be beaten by storms, we have but illustrated an old classical proverb; but there is good reason to believe that the alternative realised has not been so great an evil as the other. Frost is insidious and far-reaching, it kills everywhere, whilst winds spare some, and especially where favoured by breaks and shelter. Happily, too, our misfortune, such as it is, by no means reaches to that experienced a few years since, when a May hurricane did such infinite harm to our trees generally that it is as worthy of remembrance as is that terrible January snowstorm which we still remember with a shudder.

An examination of exposed and now bloomless Pear and Plum trees, shows that the fruit germs remain apparently unhurt; but whether so or not must for the present remain problematical. The probability is, that having

regard to the comparatively unstable nature of these fruits, and of Cherries also, there will be a crop sufficiently large to be remunerative and profitable. In sheltered places, it is quite probable that the crop will prove a large one. Bush fruits promise to yield heavy crops. Gooseberries certainly are so now, and Currants are full of bloom, whilst Strawberries also are blooming profusely; so that there is every reason to believe that we shall have of all the lesser fruits an abundant produce. The crop of the year, however, will be found in Apples if the grand bloom now seen on the trees, and which seems generally to have passed unscathed through the storms, is to be taken as indicative of the crop of fruit; not only is the bloom abundant, indeed, marvelously abundant, but it is fine and exceptionally clean and healthy. There is no fruit crop so important to us as is that of the Apple; none which we should more fully utilise, none so likely to render profit to those engaged in its production. But long before the time of ingathering is reached, we shall learn of crowded markets, of low prices, of profits too small to render marketing desirable; indeed, the almost inevitable result of a grand crop of fruit, which should be to us a blessing, will be that it has been productive of disappointment.

Generally, we may say that a big fruit year is in prospect, and upon that fruit crop tens of thousands are depending for life and for solvency. A good season will put many growers—just now trembling in the balance—on their legs, whilst it will find ample bread and renewed life to thousands of workers in every branch of the fruit trade. The prospects of the fruit crop, which we may regard now as fairly assured, trouble us less than its ultimate disposal, that being the chief element of interest to growers. In past years how many proposals have been made for the more profitable sale of our home fruit, how many suggestions have been offered which have never got beyond their appearance in print, how much good advice has been offered and never acted upon, and, to-day, find our market trade, and especially our home-fruit trade in a worse plight than it was years ago! It is not only now that we have a fierce competition with other producers on the Continent and in America; railway and steamboat facilities having brought the products of other and very remote climes to our doors at wondrously low prices, we find now that either our enormous population is comparatively indifferent to our home fruit, or else that we are growing far too much, when a good season interposes, for our requirements.

We may find fault, and properly so, with our limited system of public markets, with our costly methods of dispersion through dealers and shops; we may cavil at railway and other carrying charges, at salesmen's commission, &c., but still it is a fact that fruit of all kinds, and good fruit too, finds its way to the people pretty cheap. The middle class section, perhaps, who patronise the greengrocer, and will have their goods delivered to them, pay the dearest; but they must pay something for their pride. Too probably, were local markets started for their benefit they would fail to make use of them for the reason given. Then we have little hope just now from the great jam makers, these being pretty full already, and the price of good jam is so low that the poorest can obtain it freely. It will not pay to make good fruit into jam which is afterwards disposed of at a little above cost price only; and when there is a good supply of fresh fruit, everywhere jam is in much less request.

It is to be feared that this year, at least, the jam manufacturers will not offer to growers any great hope. Then, the more fruit the

more there is of it boiled down in the private house, so that for another year the public demand for jam is decreased. This year, with the prospect of enjoying a great Apple crop, our energies should be bent as far as possible on its profitable utilisation. In the home districts chiefly early prolific kinds are grown, and these soon glut the market at low prices. Later ones show a less fine sample usually, and come from remoter districts, where care in gathering, storing, and selecting is too little exercised. We need complete change in our Apple market methods to enable us to grapple with a difficulty which this season promises to be specially emphasised.

THE Council of the ROYAL HORTICULTURAL SOCIETY have decided to call a special meeting of the Fellows, to be held at South Kensington shortly, to take into consideration the present position of the Society with a view to future arrangements.

At a meeting of the provisional committee of THE GARDENERS' ORPHAN FUND, held on Tuesday, the result of the appeal that has been made to gardeners and nurserymen was considered sufficiently satisfactory to warrant the committee in calling a public meeting to establish the fund, and it was decided that such meeting shall be held on July 12th.

By the kind permission of Mr. A. H. Smee, "MY GARDEN," The Grange, Hackbridge, near Carshalton, will be thrown open to the inspection of visitors every day next week. The garden is only seven minutes walk from Hackbridge Station, and contains many features of interest, not least of which, at the present time, is the good display of varieties of *Cattleya Mossiæ*.

THE ROYAL GRAND NATIONAL TULIP SHOW is announced to be held at Manchester next Saturday, June 4th.

At a meeting of the HAWARDEN HORTICULTURAL SOCIETY held recently, it was resolved to wind up the affairs of the Society in consequence of a difference with Mrs. Gladstone as to the terms on which Hawarden Castle grounds are granted for the annual show. The funds, after discharging liabilities, will be given to local charities.

THE important question of the RATING OF NURSERIES is to be fully discussed at a public meeting announced to be held at the Horticultural Club, Henrietta Street, Covent Garden, on June 28th, under the auspices of the Nursery and Seed Trade Association. The chair will be taken at 4 p.m. by Mr. J. Wood Ingram, of Huntingdon. Further particulars will be found in our advertising columns.

THE Richmond Vestry declared by resolution on Tuesday night that the EARLIER OPENING in the day OF KEW GARDENS and the use by the public of one of the existing closed gates between Cumberland-gate and Lion-gate would be of great public advantage. A committee was formed to draw up a memorial to the First Commissioner of Works, to be presented by a deputation which Sir J. Whittaker Ellis, M.P., will be asked to introduce.

ON Tuesday afternoon the ninety-ninth anniversary meeting of THE LINNEAN SOCIETY was held at Burlington House, when Professor Allman moved: "That a humble address be presented to Her Majesty the Queen on the occasion of the completion of the fiftieth year of her reign, and that the Council be requested to prepare the same." He (Professor Allman) observed that they lived in the fiftieth year of their gracious Sovereign's reign, while this year completed the hundredth year of that society. That institution obtained its charter from George III., and Her Majesty the Queen was its patron. He thought that—in accordance with all their feelings of patriotism, and out of regard for the best interests of the nation, to the furtherance of which the learned and scientific societies had contributed an important part—the present was a fitting occasion for the adoption of such a resolution. Mr. Jenner Weir seconded the resolution, which was passed with enthusiasm. A motion was also adopted requesting the Council to arrange for a special general meeting in celebration of the hundredth anniversary of the founding of the society.

STRAWBERRIES AT HOUNSLOW

I KEPT last week a promise long made that I would call in at Messrs. W. & E. Well's gardens, and see what Mr. Thompson is doing with pot Strawberries. I found several thousands doing wonderfully well, the late ones blooming profusely, the earlier ones fruiting finely; in fact, a grand crop, the kinds chiefly Napiers, but some were Paxtous and President, and a few of Viscomtesse Hericart de Thury, had been forced early. This latter here fails to give more than one picking of really fine fruit, the rest being below par. Several long span houses are devoted to Strawberries, as also are shelves in Tomato houses; on top shelves where there is abundant light and air, the plants stand fairly close in single file, but on the broadside stages beneath they stand thinly, each plant having at least a foot area to itself. It is so important to admit between the plants ample light and air, not only to enable the fruit to colour well, but also to prevent mildew—the chief curse of Strawberries. President and Paxton seem peculiarly amenable to that affection when grown in bulk, whilst Napier is far less liable, and if evidence of the mildew is seen, it is the sooner checked. In every case the fruit stems are supported by a tie of matting held up by two or three small sticks, the fruit being thus kept out of the soil and from contact with water, and are always clean.

Fruit is gathered every other day now, but later every day; the sun so far has not been forcing, and fruits have come on slowly. Now it is found that as a rule a better sale is experienced in the month of June than in April; thus early work is not encouraged, and the plants coming on gradually under glass often prove the most profitable. In one of the later houses, a big batch of very strong plants in pots have been lifted from the open ground and potted this spring. The plants were layered into small pots as usual, and in the autumn transferred to some good soil, on a warm border in the open ground, about 9 ins. apart; then in March lifted with good roots attached and potted; they do not seem to have felt the lifting, and are as fine as the best kept plants in pots could be.

In frames a fine lot of similar plants are planted out a foot apart, and as near the glass as possible. These, when I saw them, had just had the blooms thinned, and the soil was white with the flowers. There are but some seven or eight houses here, all are long and good ones, and what is done is done well; and private gardeners would often pick up wrinkles if they visited places devoted specially to the production of market stuff. One long lean-to is devoted to Grapes, chiefly Madresfield Court; the berries are now just colouring, the bunches of good size, just such as suit the market work, and will, when ready, be finely finished. Mr. Thompson always does this really grand market Grape well, and also without being appreciably troubled with cracking. He attributes that trouble chiefly to lack of ventilation, or a damp atmosphere. Another long lean-to is devoted to Peaches—three huge trees covering the trellis right up to the top, and are laden with fruit; two of these are Violet Hâtive, and one Gros Mignonne. The wood is a bit too densely crowded, as is so often the case, but fine highly-coloured fruits always result.

Two long lean-to houses—one east and one west, or back to back—are devoted almost entirely to Tomatos. The east house, 100 ft. long by 10 ft. wide, has Strawberry plants on two front shelves; then, on the ground, three rows of Tomatos planted out, the plants averaging 3 ft. in height, being wondrously stout, sturdy, and just throwing out large trusses of bloom. Behind the alley is a row of Tomatos in pots, to run up the back wall. In the west house there is a row of Tomatos, put out close in the front to train up the roof-trellis, as Vines are. About the middle run two rows of other plants in 12-in. pots; and on the wall behind are permanent Alicante Vines, to run up along the top; while below are Vines in pots, run along horizontally, meeting each other, and showing fruit admirably. The house is fully utilised, and will produce an enormous crop of fruit during the season.

The Tomatos chiefly are a fine, selected, smooth form of the old Market Red, which produces large clusters of excellent fruit, setting well; also some of Trophy and Sutton's Perfection, the latter kind not having been grown previously. There may be plenty of Tomato plants as good as these are at Hounslow; but none could be finer or more promising. In the garden

orchard Apples and Pears are blooming finely, Lord Suffield of the former, and Souvenir du Congrès of the latter, showing garlands of bloom. Evidently there will be fruit as fine outdoors as that being grown within.—A. D.

MR. KIMBALL'S ORCHIDS, ROCHESTER, NEW YORK.

It is only a year or two ago since Mr. Kimball commenced to form a collection of Orchids, but the satisfactory progress he has made during that period must indeed be very gratifying to him. The credit for the good cultivation of the plants is due to Mr. George Savage, whose English training and practical experience of the culture of plants in America, stamp him as one of the very best gardeners in the United States; and Mr. Kimball must consider himself most fortunate in securing the services of such a gardener, for where satisfaction is given on the one hand, and liberal encouragement is forthcoming on the other, success is the certain result. Mr. Kimball is a thorough lover of plants, and derives great pleasure from his collection himself, as well as in seeing others enjoy them, for he very kindly throws open his houses to the public, and many hundreds of visitors take advantage of the privilege, which is greatly appreciated; for it is such a treat as can only be seen at a very few places in the United States.

The houses are all good examples of the horticultural builder's skill, and were erected according to designs prepared by Mr. Kimball and his gardener. They are well adapted to the purpose for which they were intended, ample proof of which can be seen at a glance in the number of fine healthy examples which they contain. I will endeavour to enumerate the principal houses and their contents. No. 1 is 60 ft. long, 24 ft. wide, with a circular roof. The centre stage is filled with Vandas, Aërides, and Saccolabiums of all the leading sorts in grand specimens, among which a fine example of *Vanda Lowii* is very conspicuous, as also are healthy specimens of the grand *Angræcum sesquipedalis*. The side stage contains the most unique collection of *Cypripediums* in the United States, most of the species and varieties in commerce, including all the novelties up to date, and the most rare ones too, being represented. These are favourites of the enthusiastic owner, and he spares no pains or expense to secure everything in the *Cypripedium* way. I need not enumerate them, but must add that the plants vary in size from fine specimens 3 ft. through to the smallest plants imaginable, and all are in grand condition. From the roof of the house fine well-pitched *Nepenthes* are suspended in baskets, including *N. Morganæ*, *N. Mastersii*, with very fine pitchers; *N. lanata*, and many others are represented by plants, many of which are carrying as many as fifty fine pitchers.

No. 2 is the *Cattleya* house, and it contains a magnificent collection of healthy plants, including a huge mass of *C. Skinnerii* with over 300 flowers, which was very attractive; many *C. Trianae* and *C. Mendelii* of good form, also met the eye; while *C. intermedia*, *C. elegans*, *C. Forbesii*, *C. Loddigesii*, *C. Mossiæ*, and *Lælias* in many forms of the most popular sorts were in flower, making a grand display. No. 3 is the *Dendrobium* house, and here *D. suavisimum*, *D. Wardianum*, *D. Jamesianum*, *D. eburneum*, *D. densiflorum*, *D. thyrsoiflorum*, *D. albo-sanguineum*, *D. lituiflorum* (the grandest variety I have ever met with), *D. crassinode*, *D. nobile* (many varieties), *D. transparens*, *D. Devonianum*, *D. Pierardi* and a host of others were flowering well. In this house, too, I noted a fine collection of *Epidendrums*, among which *E. rhizophorum*, *E. Wallisii* and *E. evictum* were well in flower, and grand things they are when seen as grown here! *Catasetums* and *Cynoches* are also well cared for, and an interesting collection has been got together.

Then comes the cool Orchid house, and at the time of my visit, April 29th, it contained a fine display of flowers. It was said when I first visited the States, eleven years ago, that cool Orchids could not be grown in America, but thanks to the enterprising spirit of lovers of these handsome plants, any difficulties there may have been are now overcome. The house contained hundreds of *Odontoglossum Alexandræ* and *O. Pescatorei* spikes in fine forms; and *O. Hallii*, *O. Rossii* (many grand types), *O. membranaceum*, *O. triumphans*, *O. Andersonianum*, *O. cirrhosum*, *O.*

gloriosum, *O. Sanderiana*, *O. hebraicum*, *O. citrosum* were all in flower, and represented by many and various forms. *Lycaste Skinneri* alba and many fine forms of *L. Skinneri* were here in perfection, showing that cool Orchids can be grown and grown well in the States, for a finer lot of healthier plants one could not wish for.

No. 4 is a kind of show-house leading from the office, in which Orchids, mixed with fine-foliaged and various soft-wooded plants, were very attractive. *Cattleya citrina*, suspended from the roof on a raft, bore fourteen fine bright yellow flowers; *Odontoglossum Rossii* had fifty fine flowers; and a grand plant, with a magnificent spike, of a good variety of *Oncidium varicosum* was most conspicuous, suspended from the roof. *Cinerarias*, *Calceolarias*, *Cyclamen*, and *Aquilegias* were the soft-wooded plants. These being well in flower, and nicely arranged with Palms, *Dracenas*, and Ferns, one can imagine what it was like. No. 5 leads from the last, and contains a collection of stove flowering and fine-foliaged plants, such as *Anthurium Scherzerianum*, in many fine specimens and good forms; with the gigantic spathes of *Andreanum* and the peculiar *Rothschildianum* to create variation. A grand lot of *Nepenthes* adorn the roof, and these also have an abundance of pitchers.

Leading from the stove last mentioned is the house devoted to the culture of the *Phalænopses*, many dozens of which were in flower, representing all the leading kinds. They are grown here very extensively, and there is always something in flower. Many fine forms of *P. grandiflora*, *P. amabilis*, *P. Stuartiana*, *P. Schilleriana*, *P. Luddemanniana*, *P. violacea*, *P. rosea*, &c., were nicely in flower. Fine plants of *Saccolabium curvifolium* and *S. premorsum* were here in flower; and at the back of the house, hanging against the partition, some gigantic specimens of the curious *Scuticaria Steelii* were in flower.

No. 6 is a large span-roofed house, in which gigantic specimen *Laelias* are grown. Some good forms of *L. majalis* were in flower, also more of *L. citrina*. *Epidendrum vitellinum* was growing freely and flowering nicely. Hundreds of *Lycastes* were in flower, many fine distinct forms being noticeable. *Odontoglossum grande*, *O. vexillarium*, and *O. Roezlii* are well grown, the plants being pictures of health.

Other houses are devoted to the culture of Roses and other soft-wooded flowering plants. The Roses are planted out, and hundreds of flowers are cut daily through the winter. Another structure which attracts much attention is the aquatic house, 80 ft. long and 24 ft. broad, with a fine span roof. Here, in the summer, the *Victoria Regia* is grown, hundreds flocking to see it. In the same tank all the leading *Nymphæas*, *Lotus*, *Papyrus*, &c., are grown. Baskets are suspended from the roof, and up the rafters *Allamandas* and *Hibiscus* grow and flower magnificently. Some fine specimen *Imantophyllums* and *Strelitzias* are also grown here, and specimen Palms, *Pandanads*, &c., are raised up from the water, giving the house a rich tropical appearance.

The entire collection of plants is in the best possible condition, and a good representative collection has been got together in a short space of time. All the most popular Orchids are well cared for, and in addition to these Mr. Kimball has got together a collection of miniature Orchids of purely botanical interest, many of which, I must admit, were entire strangers to me.

The inhabitants of Rochester owe much to Mr. Kimball for his kindness in admitting them at all seasons of the year to enjoy the wonders of plant life, which affords himself so much enjoyment. I have not enumerated one half of what there was in flower, as a few days before my visit Mr. Kimball had forwarded, not for competition, over one hundred varieties of Orchids to the New York Exhibition, consequently he had cut a great many fine flowers and grand spikes; most of those sent were represented by many flowers and spikes of each variety, and I learn that they were greatly admired.

It is to me at all times a great pleasure to meet such an enthusiastic gentleman as the owner of this grand collection, and especially when I see that he is supported by such an able man as Mr. Savage. Both are true plant lovers, and I trust their united efforts may be rewarded to their entire satisfaction.—*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway.*

HYACINTHUS CANDICANS.

THE cultivation of this stately Cape Lilywort has not reached its climax in this country. The more we become acquainted with it the more pliable it appears to be, and a subject of this nature always becomes a favourite with the million. It is essentially a plant for the people, and will flourish equally as well in the peasant's or cottager's garden as in that of the nobleman. It can be, and is, grown with great vigour, whether in the open air or in pots in the cold frame, greenhouse or conservatory, and varies accordingly in its season of flowering.

It varies in height—according to the size, vigour and cultural treatment the bulb receives—from 2½ ft. to 4 ft. or more, and the pendent white flowers are tubular at the base and bell-shaped upwards. The great sub-fleshy or succulent leaves are a measure or guide also of the treatment the plant receives, and although they can by no means be reckoned as a striking feature of the plant, they, nevertheless, add much to its general appearance when in flower. The slender upright stems should receive some support under all conditions where they have grown vigorously, to prevent their stateliness and beauty from suffering by twisting or falling about.

In the absence of bulbs, plants may easily be raised from seeds when obtainable. They should be raised in heat and afterwards planted out in a soil ameliorated with peat and sand if at all of a heavy nature. By planting them out in this way the bulbs attain flowering size in two or three years. They are perfectly hardy in a well-drained soil that is moderately dry in



HYACINTHUS (GALTONIA) CANDICANS.

winter. An abundant supply of moisture, however, is necessary during the growing season to ensure a strong development of the leaves and flower stems. As they die down in winter no protection is necessary unless to throw off wet. To enable them to pass the winter safely, a perfect ripening of the bulbs should be encouraged; in pots this is easily done, by withholding water and standing them in a dry or sheltered place. If planted out in rich, light soil and kept well watered during the growing season, they will last in good condition for many years, requiring little or no attention beyond staking and keeping the beds clear of weeds.

The Cape Hyacinth is also very amenable to pot culture, requiring comparatively little pot room, and will flower strongly in rich soil. This is applicable to plants grown in a cool frame or in a warm house. In the former case they flower in the course of the summer; but, taking kindly to forcing, they may be had early in the season. An instance of this may be seen at Carville Hall, Brentford, where Mr. Morrison has some very tall plants, well furnished with foliage, and now coming into bloom. A 9-in. pot, in one instance, contains seven good bulbs, all of which have thrown up strong-flowering stems. The pots have been plunged in a bed in a warm or intermediate house, and will be put in the conservatory, where they will form a very conspicuous ornament, and last a long time in the cooler atmosphere of that house. The accompanying illustration, though small, shows the natural habit of the plant; together with a detached flower, and a piece of the stem with its attendant bracts.—*B. B.*

DEEP CULTIVATION.*

CURIOSITY led me, a few years ago, to weigh a small patch of the Banbury Onion, forming exactly the fifteenth part of an acre. The weight of this lot was 3,960 lbs., which being multiplied by 15 (the one-fifteenth of an acre), gives 59,400 lbs., or 530 cwt. per acre, which at 8s. per cwt. amounts to the fabulous price of £212 per acre, that is calculating at the rate of about ¾d. per lb. Many of the specimens weighed from 1 lb. to 22 ozs. On the same piece of ground grew also a patch of the Newnham Park Onion, which, although a beautiful crop, did not weigh quite so heavy as the Banbury. A few also of the Bedfordshire Champion were grown, which gave heavier specimens, but they were not generally so satisfactory as the first two mentioned varieties. Hearing of the fame of these Onions, many people from the neighbourhood called to look at the crop as they grew, and again as they lay upon the ground to dry, remarking that no one could believe that such Onions could be grown outside of the Onion-growing districts, and felt inclined to admit that after all there might be something attributable to "deep cultivation" which might also be applied with advantage on a more extensive scale on some of their strong land. To the piece of ground on which those Onions were grown, is attached a little bit of history, which in these transitional times, affecting farmers more especially, might perhaps prove interesting, and especially so to those who wish to philosophise on the merits or demerits of "deep cultivation" of clay land on the one part, and shallow cultivation of the same or any other description of land on the other.

The history referred to is as follows: Some years ago, and for a purpose which I need not here explain, the whole of the surface of old garden loam was bodily wheeled away, leaving nothing but the sub-soil consisting of a stiffish clay, subsequently to be reduced to the form of a nice cultivable Onion bed, or bed for any other garden production. This bed of clay was roughly dug over, and exposed to the disintegrating influences of heat and rain, frosts and thaws; plenty of farm-yard manure was mixed with it; we also gave it a dressing or two of disused potting earth, always more or less sandy in its composition. We turned this over after every crop, persistently going deeper each time, but never bringing the bottom spit directly to the top, merely turning it over in the bottom, and leaving it there until next turning time, when it was mixed up with the strata forming under this mechanical operation. We have now by this treatment obtained a cultivable bed of over 2 ft., and mean to persevere until the bed arrives at a depth of 3 ft. or more. Such is the history of the piece of ground on which our Onions of a few years ago were grown.

To what agency then, allow me to ask, are we indebted for the success of this Onion bed. There are several agencies, the principal of which may be said to be (1) the necessity, (2) the spade, (3) deep cultivation, (4) the weather, (5) manure. Some practical farmers say—Don't disturb the subsoil, it is bad, and is best left where it is; the practical gardener says—Disturb your subsoil and "deepen" your cultivable bed; and this has not only formed his argument but also his practice from the commencement of time: and his practice proves in this case that "deep cultivation," if persevered in, will lead to a successful issue. In this simple, but successful instance of "deep cultivation," and which is only one of many continually passing under the observation of every intelligent gardener, is a practical lesson which might, I think, be read with advantage by the practical farmer. If deep cultivation acts beneficially in gardening, why not also in farming? If an acre of prepared clay land will produce, say, £200 in one place, why not in another? It is not necessary to enclose land with high walls to grow Onions. According to my experiment, ten acres of such Onions would realize in money something like £2,000; less, of course, labour and manure. And, admitting this to be an approximate estimate, it points to something radically wrong in farm management, leading to the belief, if not also to the conclusion, that our farms may be too large. There is no use closing our eyes to the fact that things generally throughout the country are at this moment undergoing very extraordinary changes over which we appear to have no control—changes effected by a combination of

* Extracts from a paper read before the Monks Kirby Farmers' Club, on April 19th, by Mr. Wm. Miller, of Combe Abbey Gardens, Coventry.

circumstances, and these find the point of the indicator steadily fixed upon the culture of the land, signifying with unmistakable precision that there is something amiss here.

It might be asked why do gardeners advocate so persistently the necessity of deep cultivation? The answer is obvious. Confined to a certain limited space, they had no other alternative, necessity compelled them to adopt the system—the want of which system appears so completely to have thrown our modern farmer on his beam ends; and it appears that some special act of legislative protection is absolutely necessary to meet his case. But before such remedial legislation can be brought to bear, there must be many a long speech made for and against “deep cultivation,” for we have always amongst us our shallow diggers, ready with their block to scotch the most willing wheel of progressive improvement for either their own or their country’s good. Many a tedious examination before some Lords Committee on some land improvement scheme before this question can be settled, rent, of course, arranged—and before their inexorable judgment is given, for come it must; and there can be no other than “Go forth, drain, deepen, and improve your system of cultivation;” which trouble might, in a great measure, have been saved had the Lords Committee only taken a quiet turn through some well-managed kitchen garden, and had a gossip with the gardener. After all, it will amount to that in the end, and the shortest way to that end is the point at issue.

The piece of ground on which these Onions were grown has been enclosed as a garden for more than 100 years, with the exception that lately we have stirred the subsoil. In addition to the maiden clay which grew these Onions, I had almost forgotten to speak of yet another element called rain, which, perhaps, had quite as much to do with the success of our Onion bed as to any treatment I have yet mentioned. Many farmers—but I am glad to say not all of them—throw their land into narrow ridges and furrows, with a view to carry off surface or rainwater; but gardeners do not believe in losing a drop of rain-water. All the rain which falls upon our garden ground passes down through the body of the soil into the system of drainage underneath, leaving behind, for the benefit of the plant, those recuperative influences we can never over-estimate, but which the farmer, from, perhaps, his greater breadth of surface to deal with, has so much more difficulty in disposing of. We can never over-estimate the vital and nourishing effect upon our crops of the 30 ins. or 40 ins. of rain which is supposed to fall annually upon the surface of the British Islands. Land deeply cultivated, thoroughly drained, manured and prepared for the absorption of rain-water, cannot fail to be remunerative.

ODONTOGLOSSUM BLANDUM.

WHILE it ranks among the prettiest of the small-growing species, it is comparatively rare in this country, and must remain so, because never found very plentiful in its native woods, near Ocaña, Columbia. *O. nevium* is its nearest ally. The inflorescence is a raceme, usually, if not always, exceeded in length by the long linear leaves. The sepals and petals are narrow, pure white or yellowish white, spotted with brown blotches of varying intensity, according to the fineness of individual forms. The basal lobes of the labellum are small, yellow and spotted, while the medium lobe is comparatively large and white, spotted with violet stripes or blotches and finely crisped at the margin.—*Reichenbachia*, t. 24.

HYBRID AZALEAS.

I THINK that the forms of these produced at the meeting of the Royal Horticultural Society on Tuesday last, were of a very interesting character, and they served to illustrate what remarkable and valuable decorative plants they make at this time of the year. There were, first of all, Messrs. Veitch & Son’s hybrids from *A. mollis* and *A. occidentalis*, an American species in the way of *A. nudiflora*, or the Ghent Azalea. These form a remarkably pretty break, as we get, in combination with the large flowers and bold trusses of *A. mollis*, the pretty markings found in the hardy American varieties, Maiden’s Blush, blush, flushed with

pale pink, and with blotches of orange on the upper segments; and Beauty, having a leading tint of rose instead of pink. Whether this break is perfectly hardy remains to be seen; but as conservatory plants they should take a high position, being so marvellously free and beautiful. Next came Mr. Anthony Waterer’s hybrids between *A. mollis* and the orange-yellow *A. sinensis*. Here the distinct character of the cross did not appear to be so apparent, but the flowers appeared to have taken a stouter and more rounded form; none of the peculiar colour of *A. sinensis* was in them, and the trusses were large, bold, and freely produced. Probably this break must be intended, and Mr. Waterer, no doubt, intends it also to be the precursor of something yet more valuable to be produced from it.

The chief interest, however, clustered round the handsome and distinct form of *A. nudiflora*, with double flowers. It is somewhat remarkable to note, that though the deciduous American Azaleas came to this country as far back as 1734, little was done to improve them, and any additions were the result, perhaps, in a few cases of sports, but, no doubt, more particularly of natural seedlings. Until about forty years ago, the Belgian growers systematically crossed them, and thus obtained a batch of new varieties; known, subsequently, as Ghent Azaleas. Mr. Waterer states that for a long time there has been in cultivation a semi-double variety, known as Maiden’s Blush; and it is, perhaps, from this the double varieties have proceeded. I remember visiting Mr. Waterer about ten years ago, and in a large bed of American Azaleas I noticed several double varieties. Since then they have been increased, and now he has them at Knap Hill in many colours—from pure white up to scarlet. Strange to say, he has not troubled to name them; and the two certificated by the Floral Committee, on Tuesday, were named by that body. They were Snowflake and Peach Blossom.

These double varieties produced but little seed, and the seedlings are in many cases single-flowered. But that they will become considerably increased in course of time there can be no doubt. One great quality they possess over the single varieties—the flower being double are much more persistent, and they last longer in a cut state. The same holds good when they are growing in the open air, and there is no loss of hardiness of character.

Finally, for the reason above stated, any particular variety must be propagated in some fashion other than by seedlings. Layering is the method that finds most favour at the Knap Hill Nursery; they can also be propagated by grafting, and, probably, by cuttings made of the young wood. They are deserving of a wide recognition, for they are a most valuable class of plants.—*R. D.*

NEW PLANTS CERTIFICATED

At the Crystal Palace,
May 21st, 1887.

CATTLEYA MENDELII VAR. MRS. HENRY LITTLE.

For description, see p. 598. Exhibited by Mr. F. Hill, gardener to Henry Little, Esq., The Barons, Twickenham.

BEGONIAS.

MR. HARDY.—The leaves of this Begonia are of a deep blackish purple or metallic hue, and both by this and their shape show that it belongs to, or has an affinity with, *B. incarnata*. The stems are shrubby, not tuberous, and the leaves are very much larger than in the type; not only so, but the flowers themselves are very much enlarged, and of a soft rosy pink hue, while the fruits are crimson. Altogether the improvement is very marked.

PRINCESS VICTORIA.—This and the succeeding one belong to the tuberous-rooted section. The plants exhibited being yet in their early stages, one can only guess at the effect produced by large specimens. As it is, however, the flowers are of great size, flat, and of a rosy colour flushed with scarlet. The leaves are of a deep green.

DUKE OF EDINBURGH.—The flowers of this variety, whether accidental or not, were undulated at the margin, but of great size, orbicular in outline, and of a rich intense crimson. Not only size, but substance is imparted to these new productions, which are yearly being improved by the hybridist. Exhibited by Messrs. John Laing & Co., Forest Hill, London.

AZALEA SOUVENIR DE FRANÇOIS VERVÈNE.

The great size of the flowers of this form shows it to be a plant of considerable value for decorative or cut-flower purposes. They are white, with the exception of a pale yellow blotch in the throat, but being fully double, this is concealed. The segments of the corolla are finely undulated at the margin. Exhibited by Messrs. John Laing & Co., Forest Hill, London.

MOUTAN PEONIES.

VAN RINZII.—The flowers of this variety are large, and of a fine, deep, uniform rose colour. The outer petals are broad and rounded, the inner ones being much narrower and slightly cut at the apex.

URANIE.—Another fine form, with large almost globose flowers of a deep uniform rose colour; but the petals are decidedly more cut into lobes, especially towards the centre of the flower, which gives it a characteristic appearance. The centre is also very full.

ODORATA MARIA.—For description, see p. 599.

LOUISE MOUCHELET.—The flowers are large and of a delicate pink or pale carnation colour, but deeper towards the centre. The petals are rather distinctly crimped and cut. A very distinct variety. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

SHOW PELARGONIUM HENRY DAUKES.

In this we have a seedling of great merit, producing trusses of large richly-coloured flowers. They are flat and well-formed, with the three lower petals of a rich crimson colour. The two upper ones are many shades darker, approaching a velvety black. Exhibited by Mr. J. Wiggins, gardener to W. Clay, Esq., Grove Road, Kingston.

By the Floral Committee of the R. H. S.
May 24th, 1887.

ODONTOGLOSSUM PESCATOREI, POLLETT’S VARIETY.

The flowers of this form are large, with well-imbricated segments; the sepals are white, with a violet-purple lobed blotch on the middle of each. A smaller orbicular blotch occupies the centre of one petal; while the other one is usually or always unspotted white. There is a blotch in front of the crest on the lip. A fine variety, exhibited by H. M. Pollett, Esq., Fernside, Bickley.

PHALÉNOPSIS SPECIOSA.

The leaves of this distinct-looking species are of a uniform light green colour, as in *P. grandiflora*. The flowers, however—six of which were borne by the plant shown on a pendent spike—are of a peculiar shade of violet-purple. The labellum is heavily bearded with white hairs on the fleshy ridge of the terminal lobe; the lateral lobes are small, erect, and yellow. A rare species, exhibited by Major-General E. S. Berkeley, Sibbertoft, Market Harborough.

MOUTAN PEONIES.

ODORATA MARIA.—For description see p. 599.

LACTEA.—Flowers large, full, double, and white. There is a purple blotch at the base of each petal, but owing to their great number the blotch is unobservable at a casual glance. Exhibited by Mr. T. S. Ware.

ZENOBIÆ.—In this we have a departure from the usual variation of colours seen in *P. Moutan*, and being of an intense red, the flowers recall those of the old-fashioned double *Pæony*—namely, *P. officinalis* fl. pl. They are in this instance semi-double or open in the centre when fully expanded, and the petals are flushed with rose and white at the very base externally. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

BANIERII.—The flowers of this variety are large, but not full in the centre, of a soft rose colour, and distinct in appearance. There are numerous dark lines at the base of the petals radiating from a dark-coloured base; and the petals are crenate or bluntly toothed at the apex. Exhibited by Messrs. James Veitch & Sons, Chelsea.

ABIES EXCELSA MUTABILIS.

This appears to be a very singular form of the type, with the young developing shoots and leaves of a soft canary-yellow colour. Judging from the name, the yellow colour gives place to green as the growth for the season matures, so that the effect would be best in spring, or only during that time. At present it is very striking. Exhibited by Messrs. James Veitch & Sons.

ISRS.—This is a semi-double flower with broad obovate petals, jagged at the apex, and of a brilliant or lively carmine, slightly suffused with rose at the base. The plant staged was dwarf, but this character may not be constant in an old-established plant. Exhibited by Messrs. James Veitch & Sons.

MIMULUS JUBILEE QUEEN'S PRIZE.

The enormous size of the flowers of this *Mimulus* is no less striking than the rich crimson of the lobes of the corolla. The margins and throat are yellow, the latter spotted with crimson. The whole plant, of which many specimens were exhibited, was very dwarf; and we understand, comes true from seed. Exhibited by Messrs. Carter & Co., 237 & 238, High Holborn, London.

RANUNCULUS CORTUSEFOLIUS.

In this we have a strong-growing, bold-looking buttercup, with large shining yellow flowers borne profusely in terminal panicles, on stems about 2½ ft. high in the specimen exhibited. The leaves are mostly radical or confined to the lower part of the stem, and are broadly orbicular, shallowly lobed and toothed, and 6 ins. to 8 ins. in diameter; they are also of good substance and somewhat rigid. Exhibited by E. G. Loder, Esq., Floore, Weedon.

HYBRID AZALEAS.

BEAUTY.—The flowers of this variety are large, funnel-shaped and widely spreading at the mouth, and of a pleasing shade of soft rosy pink, suffused and blotched with yellow on the middle of the upper segment of the corolla. The leaves are pretty well advanced during the time of flowering. This and the following are hybrids between *A. mollis* and *A. occidentalis*. Exhibited by Messrs. James Veitch & Sons.

MAIDEN'S BLUSH.—In this case the flowers are equally large and of a very delicate blush colour, almost white, and blotched faintly with pale yellow on the upper segment of the corolla. The foliage is also equally good. Exhibited by Messrs. James Veitch & Sons.

PEACH BLOSSOM.—The flowers of this *Azalea* are rather small, but each truss bears a considerable number, and the plants producing the latter in great profusion, a good effect is obtained. They are double, and of a delicate soft pink colour, flushed with yellow on the upper segment. Exhibited by Mr. Anthony Waterer.

SNOWFLAKE.—The habit, leafage and general appearance of this plant is similar to the last, and both are acquisitions to our list of hardy *Azaleas*. The flowers are double, with the segments arranged in a stellate manner. Exhibited by Mr. Anthony Waterer.

GARDENING NOTES FROM SCOTLAND.

Forced Leeks.—These have become quite general throughout many northern localities, and some of our provincial nursery friends have adopted the raising of early Leek plants, to supply amateur growers and others, as a part of their trade. Now is a good time to plant out the well-nourished young Leeks; and as good a plan as any I have seen for growing the large well-blanching produce so often seen in the north is to take out a ridge in the old-fashioned style, the same as for Celery—say, 3 ft. to 4 ft. wide—digging in an abundance of well-rotted manure, in which the plants are placed in the usual manner. Earthing is done piece-meal as the plants advance in growth. The large quantities of manure-water which they will take without injury is astounding. Plenty of room for the huge foliage to develop itself is an important item of management, and careful manipulation to avoid breakage is of moment. How well some cottagers succeed in Leek-growing is often puzzling to practical men.—*Caledonian*.

Swede Turnips.—This vegetable is of great value in the north, and when properly treated forms a very pleasant and agreeable change among culinary vegetables. The sowing of them on rich land renders the bulbs very coarse in flavour, and on dry, poor and gravelly soils they become so tough and stringy that it is out of reason to attempt the eating of them, especially if one be a novice in the culinary department.

From now onward for a week or so is a good time to sow seed, which should be covered evenly and made firm. We suppose the cool nights in summer and absence of broiling sun being so favourable to the production of grand bulbs causes so many northern agriculturists to grow them so extensively. They certainly do them well, as they do all their Turnip-growing; and the care which is taken to select the seed by leading seedsmen is very commendable.

We noticed in the nurseries of Messrs. Drummond, Stirling, last season, heaps of perfect-shaped bulbs of immense size and beautiful form; one of the members of the firm had been to the fields selecting them. In northern gardens yellow Turnips are valued most, and along with others are grown for general use. We have fortunately kept up a supply of old ones till the present time along with Parsnips; the latter were, a week ago, still at their best, by burying them in the soil after they were lifted at the end of March, so it is no achievement now with Early Milan, as we have the former season's sowings in use at the same time. At present early Turnips should be sown every ten days in small portions and have soot scattered over the seed.—*Caledonian*.

Royal Horticultural Society of Aberdeen.—A meeting of the acting directors of this society was held in Aberdeen on Friday evening, 20th inst., Councillor Lyon presiding. It was resolved that the summer exhibition should be held in the Duthie Public Park, Aberdeen, the use of which has been kindly granted by the town council, on the 29th and 30th of July. It is expected that the summer show will prove one of the best ever held in the north of Scotland, several large money prizes being offered, in addition to the usual prizes in honour of Her Majesty's Jubilee.

North of Scotland Horticultural Association.—At a meeting of this association held in Aberdeen on Friday evening, 21st inst., Mr. Henderson, Wellwood, Cults, submitted the report of the committee in reference to the "Jubilee Prizes." It stated that in commemoration of H.M. Jubilee, the North of Scotland Horticultural Association have decided to offer the following prizes, to be competed for by members of the association, viz.:—A Gold Medal for the best essay on "The Principal Points to be considered in Judging Fruits, Flowers, Plants and Vegetables." (2) A Gold Medal to the member who shall produce a plan for the best arrangement of a kitchen garden not to exceed one acre in extent, with a list of the trees and small fruit bushes best suited to the various exposures, and a brief description of their mode of arrangement.

THE AMATEURS' GARDEN.

MULCHING STRAWBERRIES.—If the Strawberry beds, borders, plots, or squares have been thoroughly cleansed and made loose on the surface (which ought to have been done during the dry weather before the recent rains), they should now receive a good mulching of rank or littery stable-manure. This may be used fresh from the stables without any previous preparation. The finer material gets well washed down by the rains of early summer, greatly benefiting the swelling of the fruit, especially should a spell of dry weather set in during that period. The littery part will get washed clean and sweet by rain, keeping the fruit from being spoiled by contact with the soil or from being splashed with heavy thunder-showers in summer, which render fruit of this kind useless with sand and grit. The supply of manure in many cases, however, is limited, so that gardeners are often unable to use the best and most suitable mulching for Strawberries. In such a case recourse may be had to straw, which one may buy of dealers in that class of goods. A third, and not the least valuable mulching is the mowings of Grass lawns, which may be laid all over the ground between the lines of plants to some considerable depth; this is necessary on account of the great reduction that takes place in the bulk of the material, by the drying of the soft watery young grass. Mulching not only prevents undue evaporation, but helps to keep down the weeds.

FORCED LEEKS.—These are within the reach of any one possessed of a hot-house, or even a frame placed over a hot-bed of leaves, stable dung, fermenting tan, hop refuse, or other materials, some of which are obtainable in most neighbourhoods. The success attained by some amateurs with this wholesome vegetable,

whether growing for home use or for exhibition, should encourage others to adopt the same or similar lines of culture. Professionals, in many cases, come off second best in the competition. Deep tilth, heavy manuring, and good drainage are necessary to make success more certain, as the Leek is a deep-rooting plant that readily responds to good cultivation. Presuming that seedlings have ere now been raised and hardened off ready for planting, the first operation necessary, is to take out trenches 8 ins. to 10 ins. deep, piling the soil on either side in the form of ridges. The bottom of the trenches should be well loosened up, incorporating a considerable quantity of well-rotted manure with it; into this plant the seedlings about 6 ins. or 9 ins. apart in the line, according to the size required. In the course of the summer give heavy waterings if necessary, supplying them with liquid manure pretty frequently. Earth up from time to time as the plants increase in size.

SCARLET RUNNERS.—In the midland and northern parts of the country, these may be sown or planted out on the level ground in the ordinary way; but in the neighbourhood of London and southern counties, much heavier crops are obtainable by planting in trenches, where the plants may be heavily watered if necessary. The white variety generally keeps up a better supply, especially towards autumn, than the scarlet one.

WINDOW BOXES.—Those who are unable to pursue other modes of gardening from want of time or space may, even in the very heart of London, with its smoky, foggy, and soot-begrimed atmosphere, grow a few window plants indoors, as well as on the window-sill outside. Plants may be grown in pots; but the best effect is produced by growing them in a box, and less trouble is necessary in watering and keeping them in healthy vigorous growth. Greater variety can also be ensured with a judicious use of plants suitable for the London atmosphere. Some use china boxes, others finely-painted ones, or those covered with rough pieces of virgin cork; but a plain wooden box, painted green, will meet the requirements equally well, and be as suitable. Lobelias bloom profusely, and should be planted on the sunny side, or that best exposed to light, when they will hang down and cover the box. Creeping Jenny is essentially a London plant, and always looks well, whether in flower or not. Its slender stems hang gracefully at great length. The evergreen Box, *Euonymus*, Holly, and other plants suitable for winter should now give place to *Heliotropes*, *Mignonette*, *Calceolarias*, *Pelargoniums*, *Fuchsias*, and such-like things. *Tropeolums* are also very desirable; and *T. aduncum*, or the yellow Canary Creeper, by the use of a couple of wires or strings, may be trained round the window, afterwards allowing it to hang down in graceful festoons.—*F*.

THE AMATEURS' ORCHID HOUSE.—Calling at Melbourne House, Heeley, Sheffield, the other day, I was very much pleased with what I saw in a warm greenhouse, a lean-to structure attached to the dwelling-house. Mr. Marshall, the owner of this compact and pleasantly situated dwelling, has succeeded far beyond his expectations with Orchids, as it is only about two years since he commenced by purchasing a few newly imported pieces, which started growing to his satisfaction. This encouraged him to make further purchases from time to time, until now the house is comfortably filled with healthy growing pieces, several of which are at the present time in flower. Amongst them is a handsome piece of *Dendrobium Jamesianum*, also *D. thyrsiflorum* and *D. aggregatum majus*; *Cattleya Mendelii* is an extra fine variety, having very broad, nearly white sepals and petals, with a large lip, the colour being very rich; *C. citriua* is well adapted for the amateur cultivator, as is shown by Mr. Marshall's healthy and well-flowered plants; *Lælia elegans* was represented by several well-flowered plants; *Oncidiums* are also doing well, amongst them are *O. ampliatum*, *O. flexuosum*, *O. Kramerianum*, and *O. Phalenopsis*, which will shortly be in flower; *Odontoglossum citrosum* and *O. vexillarium* are in good form and will be objects of interesting beauty in due course. The roof of Mr. Marshall's Orchid house is nicely shaded with *Hoya carnosa* and *Stephanotis floribunda*, one at each end of the house. Both plants are bristling with flower buds all over the roof, and they form a nice shading, but not too thick for their companions below. Mr. Marshall's success should encourage others to take up the cultivation of these interesting and beautiful plants, which can be purchased now without much extravagance.—*District Visitor*.

BERBERIS STENOPHYLLA.

THIS fine Berberry is deserving of a place in every garden where any pretension to the cultivation of good plants is carried on. Being perfectly hardy and ever-green, it is at no time of the year unsightly, and from the fact that its branches, which are usually from 2 ft. to 3 ft. in length, are somewhat pendulous or arching in character, it has a very graceful appearance. The flowers are produced in great quantities from every eye on the last year's growths, and are of a bright golden yellow colour. It is when planted in a mass, or when the plants get to a good size, that the effect is more noticeable, the perfect blaze of golden yellow flowers giving a person the idea of a miniature Laburnum. For filling up corners it is a very suitable plant, or for planting on a large rockery in conspicuous places it is very adaptable also, and one that may be relied upon after it becomes once established in the ground.

It is evidently a plant that is deserving of more notice amongst planters than what it receives at their hands, and being a suitable subject for walls as well, it may also be used for hiding unsightly corners, where sometimes it is found difficult to get any other kind of plant to grow. It should yield a quantity of berries, which are very ornamental; but here in this part of Lancashire, north-east, I have not seen it produce any, yet it grows and blooms freely. An illustration of this fine *Berberis* was given in the *Floral Magazine* about the years 1875 or 1876.—*W. G.*

OF all the spring-flowering Barberries none excel the brilliancy and profusion of flowering of this garden form, except it is *Berberis Darwinii*, one of its reputed parents, having orange flowers. The other supposed parent, *Berberis empetrifolia*, is a small bush, furnished with narrow linear leaves and yellow flowers, but altogether lacks the conspicuous and handsome effect produced by its more favoured offspring. The leaves of *B. stenophylla* are rather larger than the last, and the flowers are produced in axillary clusters all along the slender, twiggy, arching branches. Some fine specimens on a piece of rockery at Carville Hall, Brentford, make that part of the garden quite gay, independent of anything else.—*F.*

NOTES FROM CALLANDER, NEAR FALKIRK.

THE name of Callander is now very familiar to visitors of the Caledonian horticultural shows, and associated with this name is that of Mr. T. Boyd and his finely-finished Grapes; his success at the Manchester and Dundee International's has also added lustre and fame to the Callander fruit and its grower, which makes them much better known than we will attempt to describe.

There are a few items in the ordinary practice which may have a passing note or two. We were invited this morning (May 17th), when making a hurried march through the garden, to climb a ladder and inspect the finely set bunches of such kinds as Muscat Hamburgh, Champion Muscat (a grand Grape which has not had justice done to it), and several others of comparatively less value. No artificial aid is called into requisition to facilitate the setting of any Grape at Callander, and all set as freely as Gooseberries. The Muscat Hamburgs are large in bunch and of perfect form, of the usual triangular type, which has previously been the characteristic of Grapes grown at this noted old place. With all the usual attention at setting time, some experts fail to get this Grape to set, colour, or, in fact, assume its handsome appearance in any form. Mr. Boyd does not seem to understand why his experience with this erratic Grape should be in advance of so many of his compeers. The soil, of course, is excellent; the borders are carefully attended to during the growing season, and atmospheric requirements are duly considered, but others are not lacking in cultural attention, whose success is of a minimum character. The Madresfield Court at Callander receives no special attention by "nicking," "boring," or other mutilation. The extra growth of a few laterals may be the extent of anything given as special treatment.

There is no cracking, however, to be dreaded; and though this fine Grape cannot be placed on the same level as Muscat Hamburgh, it is much valued by connoisseurs who know what high-class quality means. A word on the Muscat Champion. When the late Mr. Melville tabled this delicious Grape, great hopes were

entertained by many that it would some day come to the front as a great acquisition to the dessert table; but, because of its mahogany and sometimes crimson colour, it remains only on sufferance, and is rarely met with. Why should colour exclude a good thing? Plums, Apples, Melons, and Figs are not tested by their exterior; and we think prejudice should not be carried so far with Grapes, because among dark kinds a deep blue-black is admired the most, and light amber is the favourite colour among light-coloured kinds. Mr. Carmichael, late of Sandringham, once told us that the crimson tint which he attained with Muscat Champion was greatly admired by many, and the rich flavour was appreciated by cultural palates.

There are numerous kinds of Grapes cultivated at Callander, but first-class sorts are grown most, both for private consumption as well as for exhibition purposes; and while Mr. Boyd grows his Hamburgs, &c., which have often created admiration on exhibition tables, he need fear no foe in the harmless strife whose strong points are in coarse Grapes—useful enough during winter and spring, but are unfit for dessert in summer and autumn. There are others among northern combatants who are alive to the points indicated, and have proved to Mr. Boyd that he must use strenuous efforts to "hold the fort." Mr. Murray, a few miles eastward, is a formidable opponent, with gigantic resources in his immense ranges of fruit houses at Park Hall, to which we have formerly referred. Another Murray, at Culzean—a very giant in strength as a competitor—is to be dreaded, to say nothing of McKelvies and others whom we have seen often holding high honours. We think that of late years too much has been attempted to bring second and third-class fruit to the front, and push the finer class backward; but it may be for this reason, that first-class kinds have made way for such as please the eye more than the palate.

There are many other features in the Callander glass structures upon which we could comment favourably; but just a word in conclusion on the Melons and Figs. The former are abundant in various stages, and are—as we have often seen them before—of much excellence. The kinds preferred before all others, which have been so extensively tried, are Eastnor Castle and Tillery's Melon, two capital kinds. Among Figs, Osborn's Prolific is valued much for its free-fruited proclivities. Negro Largo, grafted on another kind, is doing well and is very promising. As standard sorts, Brown Turkey and White Marseilles hold their own.—*M. T.*

DOUBLE-FLOWERING CHERRIES.

No genus of garden plants seems to be in a greater state of confusion than that of *Prunus*, now made to include the Almond, Peach, Apricot, Plum and Cherry. The latter section only will be noticed in this article, and the species included are generally described in books under *Cerasus*. There are two trees generally recognised in gardens as double Cherries. The largest, best-flowered, and most ornamental of these is a double form of the Bigarreau Cherry, a fine tree of which may be seen near the rockery in the Gardens of the Royal Horticultural Society, Chiswick, where it annually forms a very conspicuous object in May, and affords for cut-flower purposes masses of the purest white. Not only is the tree larger, with stronger and more robust branches than in the other garden Cherry, but the individual blossoms are larger and produced in the greatest profusion, completely concealing or subduing the green tint of the young foliage. The Bigarreau Cherry is generally considered to be a garden production between *Prunus avium*, the wild Cherry or Gean, and *P. duracina*, sometimes called *Prunus Cerasus Bigarella*. Loudon named the double Cherry under notice *Cerasus sylvestris duracina flore pleno*. This will serve to give some idea of the confusion existing amongst the species of this difficult genus. The pistil of this variety is developed into two or more small green leaves, so that fruiting is impossible.

The other double Cherry is a form of *P. Caproniana*, a native of Britain and other parts of Europe. The Morello, May Duke, and Kentish Cherries are varieties of this species; and a semi-double form grown in this country frequently produces fruit which ripens and has the characteristic acid flavour peculiar to the Morella. The double form is variously known as *Cerasus Caproniana multiplex*, *C. C. flore pleno*, *C. vulgaris fl. pl.*,

C. ranunculiflora, and possibly has other names in gardens. The tree is much smaller than *P. avium fl. pl.* and its varieties, has smaller flowers, and although useful as a shrubby plant on account of its smaller size, is generally inferior, from a decorative point of view, than the latter. It has the additional recommendation, however, of being readily amenable for forcing purposes, so that cultivators have the opportunity of giving additional variety to the collection of flowering shrubs adapted for the decoration of the greenhouse or conservatory in spring, when naturally-grown flowers are less plentiful.

P. serrulata is a small Chinese tree or large tree-like bush, very much resembling in appearance our native *P. avium*, but smaller, and generally it would seem with more rigid branches. The flowers, however, are large and produced in great profusion along the shoots of last year. It is occasionally seen in this country, and a number of trees are growing in the Kew collection. The double form only has apparently been introduced to this country, and the flowers are pink or pale rose in bud, but when fully expanded are pure white, with numerous rather deeply bifid petals, which gives them a distinct appearance. *P. Sieboldi flore pleno* is said to be synonymus with this, but, if so, there are several distinct forms in cultivation as some have large scarcely semi-double flowers and entire petals.

The double Chinese Cherry is *P. sinensis flore pleno*, a much smaller bush than either of the foregoing, and more adapted for pot culture, but, unfortunately, is less hardy when grown out of doors. The flowers are also smaller but produced in great abundance, as in most Cherries, and there are both white and rose-coloured varieties in cultivation. Being grown for purely ornamental purposes, the double form was the only one at first introduced; the fruit, however, is said to possess a peculiar but agreeable flavour. It may be known in winter by the pale green or greyish colour of its young shoots.

The dwarf Almond of the nurseries is a double form of *P. japonica*, with much smaller flowers than the *P. sinensis*, arranged in clusters along last year's wood, which is of a purplish or brownish red colour. By this latter character, and its much finer simply serrated smooth leaves, it may be distinguished from *P. sinensis*; the flower-stalks are also much shorter than in the latter species, and resemble in that respect the section typified by the Plum.—*Taxus.*

SPIRÆA ARUNCUS ASTIL- BOIDES.

THIS fine form of *S. aruncus* is an introduction of recent years, and is proving itself to be a very valuable acquisition to the several forms that are now in use for cut-flower purposes during the spring months of the year. There is no doubt but that in a few years hence it will be as much sought after as the popular *S. japonica* is at present. The experience I have had with this plant leads me to this conclusion.

It is extremely floriferous; every crown will yield a large spike of its plume-like flowers. It is also a very free grower, and adapts itself to almost any situation, flowering as freely outside in borders as it does in pots. One great advantage attaching to this *Spiræa* is that the panicles of flowers situated on the spike are each of considerable size, and being about 1 in. to 2 ins. apart from each other on the main stem, are readily cut off. Each panicle, when so taken off, pulled apart, and wired, are very serviceable for bouquet work, without the necessity of cutting the whole spike.

It is also extremely free in growth, and seems very suitable for forcing purposes, coming into flower at any period during the spring months, according to the time that it was placed in heat; but at all times it must be well established in pots before being placed in heat. It will not be long ere this fine variety is as much called for as the common form, *S. japonica*, for it lends itself freely to making quantities of crowns. Last season I managed to save seed from a few specially-prepared plants, which is germinating freely this spring, and has all the characteristics of being the true form of the parent plant.

As a pot plant for decorative purposes it will bear comparison with *S. palmata*, but not with *S. japonica*, the foliage not being produced in so great a quantity; still, there is sufficient to make it a very valuable acquisition to our collections of new and rare plants introduced during the last ten years.—*W. G.* [This fine plant was sent out a few years ago by Mr. W. Bull, to whom we are indebted for our illustration.—*Ed.*]

CONCERNING RHUBARB.*

My desire is that this meeting form itself into a committee of selection and comparison, each one, even the humblest member, taking part and giving up to the many the benefit of his knowledge, experience and judgment.

NAME. — Botanically it is *Rheum*, pronounced "room" (*vide* rheumatism). It is supposed to come from the word *Rha* or *Rhu*, the Russian name for the river Volga, near which Rhubarb was first found; therefore *Rha*—or *Rhu*—*barbarum* (as I shall shew in my historical notes) abbreviated soon made it *Rhabarb* or *Rhubarb*.

Ingeniously we might trace it to *Rheum* (room); man with cold or dialectic, *Rhub*; astammerer, *Rhubub*; a more precise man smart of speech, *Rhubarb*. Lancashire people say *Rhoobub*, Notts, *Roobarb*, and the Americans call it the *Pie Plant*.

CHOICE OF SUBJECT. — My reasons for choosing this subject are simply these: firstly, only an old gardener would have the courage to choose so lowly a subject; and, secondly, my experience tells me that gardeners as a body know less about Rhubarb than they do about almost any other thing that comes under their care. Some pooh-pooh it as a thing beneath notice; some dismiss it with a sneer; some just tolerate it, and in various ways it is treated with undeserved contumely. I arrived at this conclusion, partly because of my own knowledge — or want of knowledge rather, for I am measuring a peck out of my own sack — and partly and chiefly, perhaps, because of the ignoble place in the garden in which nine times out of ten I see it growing. I put it to you individually: Do we not now find it in the majority of instances thrust into some out-of-the-way corner — "Any where, any where out of the way," as if it had received from the gardener a contemptuous kick, with the exclamation, "Get there, that is good enough for you"? I desire, therefore, at the outset of my remarks to accentuate my previous declaration of ignorance, and to say that I lay no claim now to any special knowledge about Rhubarb — no knowledge, indeed, save that which has been thrust upon me by the circumstances of my life, these having compelled me to know or find out something about it. The demands upon me were heavy and continuous, and have always gone on a particular line for a special sort of Rhubarb — namely, that with colour in it. "We want that red Rhubarb, the redder the better" was the cook's daily cry, so in order to satisfy that cry I have made the discovery that Rhubarbs are very confused as to varieties and naming, and that a deal of good garden ground is occupied with very common almost worthless sorts, which might grow the best.

My object, therefore, is to call attention to Rhubarb generally, and to varieties specially; and, if possible, to awaken interest in a really useful plant, to ad-

vocate a better state of cultivation by speaking about varieties myself first, and then getting each grower to speak as to his likes and dislikes, to compare the varieties we know are best, and what varieties are true to name, for we shall find as we proceed that there is a great amount of confusion in this respect. I shall have something more to say on this head further on.

HISTORY, GENERAL. — Rhubarb is mentioned by Dioscorides, a botanist of Ancient Greece, as being brought from beyond the Bosphorus; and Pliny, very early in the first century, also mentions it as a plant which, he says, was brought from beyond Pontus. It

in gardens. It is said by Sir J. D. Hooker to be the handsomest plant in Sikkim.

This is what he says of it in his journal: — "On the black rocks the gigantic *R. nobile* forms pyramidal towers, a yard or more high, of inflated bracts that conceal the flowers, overlapping one another like trees to protect them from the wind and the rain. A whorl of broad green leaves edged with red spreads on the ground at the base of the plant, contrasting in colour with the transparent bracts, which are yellow, margined with pink."

Rhubarb was introduced into Britain by Dr. Fothergill, about 1788, and was first cultivated by a society of herbarists at Norwich, but a good many years elapsed before it was taken up by others. About 1820 the late Mr. Myatt, of Deptford, sent it first of all into Covent Garden Market. As an experiment he tied up six bundles and sent his son to market with them. He easily sold three. He tried again, however, sending ten, which were all sold; and so little by little the sale grew until now it would be difficult to say how many thousands of tons are sold of it all over the country every week in the season.

The cultivated kinds are seedling variations, from *R. rhaponticum*, *R. undulatum* and *R. australe*.

CULTIVATION. — The cultivation of Rhubarb may be dismissed in a few words. Roughly speaking, it is said, "the more muck the more Rhubarb." An open position, on good deeply dug and newly manured land, and the crowns planted in spring 3 ft. to 4 ft. apart every way, is nearly all that need be said as to its cultivation.

PULLING. — The pulling of Rhubarb wants much judgment. For house purposes it should never be pulled after the crimp goes out of the young leaf; for market purposes the demand governs the pulling as well as the supply. As a rule it is often pulled when too old. In this case every man must study his requirements and act accordingly.

EARLY VARIETIES.

HAWKE'S CHAMPAGNE was raised by Mr. Hawkes, market gardener, Deptford, some twenty or twenty-five years ago. It was grown locally for some time, and Mr. Gilbert, of Burghley, was the first to call public attention to its merits. I remem-

ber he said that it was given to him by his late master Mr. Wm. Myatt, of Deptford. The Royal Horticultural Society gave it a First Class Certificate in 1884, and only one or two trade houses at that time had it in stock. It is early — the earliest to my knowledge, having gathered it the second week in April. It is red all through, crisp, juicy, and excellent in flavour — the cook's favourite, and always in demand. It is not large, but for household purposes large enough — the ideal Rhubarb. It will force well, and is all red through, and delicate.

Buck's Early Red, or Pontic, is small, downy, red, and of good flavour. It was raised by Mr. Wm. Buck, of Elford, Lichfield, in 1754, and is now dying out.



SPIRÆA ARUNCUS ASTILBOIDES.

is a native of south-east Thibet, and the north-west and west frontiers of China; is said to be mentioned by Chinese writers 2,700 B.C. The *Rha*, which came into Europe by the ancient caravan routes from north China by Bokhara and Asia Minor, was naturally called *Rha-ponticum*, and that by Russia and the Danube, *Rhu-barbarum* — hence the names — *pontic* and *barbarum* to *Rhu* soon made *Rhubarb*.

We cannot go into the medicinal Rhubarbs. Ornamental ones we must not pass over without a word, because they figure so largely in sub-tropical gardening. Some of these are *Rheum Emodi*, *R. officinale*, *R. palmatum tanguticum* and *R. nobile*. The latter is the typical ornamental species, still but little known

* A paper read before the Notts Horticultural and Botanical Society, on June 9th, 1886, by Mr. H. N. Pownall.

Salt's Crimson Perfection is a magnified Pontie. Dancer's Early Red is a tall-growing, small-leaved, much-fluted variety, of no particular account. Tobolsk I never grew. Mitchell's Early Albert I had to give up, being too small for me, though I did not prove it, perhaps, as thoroughly as I ought to have done.

Kershaw's Paragon is a much-lauded mid-season variety, which, however, with me does not, like many much-bepraised things, bear out what its raiser said of it. It was sent out in the autumn of 1882, and was raised by Mr. Charles Kershaw, of Sleedsyke Nurseries, Brighouse, Yorkshire. It is not very early, nor particularly distinguished for anything except that (so far with me) it never seeds. It is apparently a seedling from Dancer's Early Red. It is said to be a cross between Tobolsk and Victoria, ready to pull in February, and of a splendid red colour, but has not proved so with me.

The raiser of the St. Martin's Rhubarb is Mr. W. W. Johnstone, of St. Martin's Abbey, Perth, now manager of Messrs. F. & A. Dickson's nursery. It was raised from Victoria about 1846 or 1847. It was first sent out in 1869 by Messrs. W. P. Laird and Sinclair, of Dundee, who bought the entire stock from Mr. Johnstone. It comes ten days earlier than Albert or Linnæus. Mr. Johnstone says, "I raised this from seed saved from Victoria in 1846 or 1847. The seedling plant (one out of about a hundred) for two seasons showed itself to be so much earlier than the other seedlings, or any other variety I cultivated that I divided it, and after repeated trials grew it to the exclusion of every other kind, except Victoria, a second early with me, and deficient in colour."

MID-SEASON AND LATE VARIETIES.

LINNÆUS AND VICTORIA are mid-season varieties raised by Mr. Myatt somewhere early in the "Forties," one light coloured, large, early; the other red, highly coloured, large and late. Mr. Gilbert says in a letter to me "I cannot fix the date of introduction, but Linnæus and Tobolsk we got from Mr. Myatt of Arundel Castle Gardens in or about 1845. I remember planting them well." Perhaps the date of their raising would be about 1830 or 1832.

SCOTT'S MONARCH was raised by Messrs. Stuart & Mein about twenty-three years ago. On communicating with the firm to ratify my research, they confirm that conclusion, not being able to fix the precise year, but saying that from 1860 to 1863 was the time. They were kind enough to add that besides being of enormous size, and one of the best late varieties, they recommend it as a sub-tropical plant—clumps often reaching 10 ft. or 12 ft. across. They add that they have crossed it with Victoria, and are working up the progeny. It combines the size, lateness, and the scarlet colour of Victoria.

THE UTILITY OF RHUBARB.

What are the claims of Rhubarb on the gardener? I maintain that its claims are powerful, unique. It claims to be an esculent satisfying the refined tastes of the rich, and supplies the poor with a good and healthy article of food. It can claim that though a vegetable, it has the inestimable, wholesome, salutary and attractive qualities of the finest fruit. It furnishes an ornamental plant for our parks and large gardens, having peculiar and striking beauties of its own, as to form and spread of leaves, stateliness, and beauty of flower stems. It has claims on us as a medicine of some 3,000 years standing. It is one of the most accommodating of plants, adapting itself to almost every variety of position and climate, placing itself within reach of the poorest.

EARTH-WORMS AND THEIR WORK.

FORMERLY, and even now a popular error prevails, that worms are of no use whatever on the earth, far less to human beings. They are even regarded as the vilest of all creatures, and looked upon with a kind of disgust. On the supposition that all things are made for a purpose, perhaps someone will be sentimental enough to suggest that worms were made to support birds, while the angler, with equal justice and hope of support, will affirm that they were fashioned and adapted to stick on fish-hooks. By those engaged in the tilth of the soil they were regarded, and still are to a certain extent, as enemies. Darwin did much to wipe away this delusion,

but he was not, however, the first to discover or assert that worms have played, and still are playing, an important part in the earth's history. Loudon published a book at least thirty-seven years ago, in which he states the following:—"Earth-worms (*Lumbricus terrestris*) unless existing in great numbers, cannot be ranked among injurious animals, notwithstanding the prejudices entertained against them by farmers and gardeners. They perforate the earth in every part; and by thus preparing the ground to receive moisture, accelerate the progress of vegetation. Worms are considered, even to a proverb, the meanest of beings; but without them the world would be a desert, and neither animal nor vegetable life could be supported."

Before proceeding to describe the merits or demerits of the worm in garden economy, I shall first introduce you to its acquaintance, its bodily structure, manners, habits, and distribution, together with its relations in some other parts of the world, and if I fail to create a personal attachment to it, I hope at least to raise it considerably in your estimation.

The worm is a terrestrial animal, as its specific name implies, and lives the greater part of its life beneath the surface. It is also semi-aquatic, like the majority of the great class to which it belongs, and is most active, as we shall hereafter, find after a period of rain, or when the ground is soft and moist. Cases are on record where worms have been kept alive submerged in water for three or four months. Provided the other conditions are favourable, they are not susceptible of drowning by simple submersion in water. During summer, when drought prevails—or, again, in winter, when the ground is frost-bound, hard, and dry—the worm retires to a more or less considerable depth below the surface, and becomes, for the time being, less active. In the first case, drought is the cause; while in the second, both that and cold induces the worm to roll itself in a ball, when it may be said to hibernate, or go into winter quarters.

The cylindrical body of the worm is made up of a number of segments or rings, varying from one hundred to two hundred, according to the size of the individual. These segments, owing to smaller intervening folds, appear double in the living animal. The body is, further, roughly divided into three parts. The anterior part consists of the head, mouth, œsophagus, and crop. The middle part resembles a stout smooth ring, and is very conspicuous while looking at it with the naked eye. It is known as the saddle, and inwardly contains the gizzard, or mill, in which the food swallowed is ground to render it fit for absorption into the substance of the body. The hinder, and by far the greater, length of the body contains the intestines. Two double rows of short bristles or hairs extend along nearly the whole length of the body on either side. Strong muscles in connection with these move them backwards and forwards, by means of which the body is propelled either way with considerable rapidity, provided the creature is either in its burrow or lying on a rough surface. On glass, or a similar smooth surface, these bristles obtain no hold for leverage and are consequently powerless to move the animal's body along. The intestinal canal runs along the entire length of the body, which is bifacial, and presents a dorsal and a ventral aspect. Above the intestine runs a cavity, the blood-vessel containing a red fluid equivalent to blood. Below the intestine is the nerve cord running along the ventral side of the body. Everyone is familiar with the fact that a worm may be torn asunder in many cases before it can be extricated from its burrow. This resistance is effected by the double row of setæ passing along each side of the body.

HABITS.

Worms are described as nocturnal in habit, from their custom of leaving their burrows at night in dewy or wet weather, a fact of which we have evidence by the slimy trails left on grass, or more distinctly on gravel-walks in the morning. They can frequently be detected at night by the aid of a lantern, and from the fact that many lie out late in the morning, we have the proverb that the early bird catches the worm. A very common practice amongst them is to lie on the surface of the earth with their tails in their burrows, so that on being disturbed or alarmed they beat a sudden retreat. An evident reason for leaving their burrows would be to find fresh pasture or hunting ground. There is no evidence to show that they ever find their way back when once they have

left their old home for any distance. Leaving their burrows would also be a quicker means of finding fresh supplies of food in the shape of leaves or other decaying vegetation.

THEIR SENSES.

Of the five senses attributed to man, worms possess three, namely, they feel, taste and smell in varying degrees. Their power of feeling or their sensitiveness to contact or vibration of the ground in which they live is the keenest and most exquisite of all their senses, and the one that warns them most quickly of approaching danger. They possess no eyes, and we must, consequently, pronounce them blind; yet they can perceive between night and day, for we have already described them as nocturnal in habit. This perception of light has been proved by visiting them at night with a light. If the light from a candle or paraffin lamp is concentrated by means of a lens, and suddenly turned upon them, they usually retreat instantaneously, as rabbits scamper off to their burrows. If they are kept in soil in a house, and the room illuminated as soon as sunlight wanes, they do not leave their burrows. This sensitiveness to light has further been proved to reside in a few of the segments at the head of the animal; for if this part be shaded, the rest may be exposed to intense light without producing any effect. This effect of light on the head irritates the nerve ganglia situated there, causing contraction of the muscles independent of the will of the animal, and this serves the purpose of sight.

If you want to alarm a worm, it is quite useless shouting to it, as the beast does not seem to hear in the slightest degree. Darwin failed to produce the slightest effect by shouting, by the shrillest notes of a tin whistle, or the deepest bass; and the animals remained indifferent to the notes of the piano, whether played softly or loudly.

The sense of smell is feeble, but does exist, as was proved by burying bits of Onion and Cabbage leaves, both much-relished kinds of food. If not too deeply covered, they almost invariably discovered these dainty morsels after the lapse of a few hours.

The sense of taste is, perhaps, one of the most universal amongst animals, whether their food consists of one special substance or a variety of things. Worms exhibit this faculty by showing a decided preference for one description of food to another. When a mixture of the leaves of Cabbage, Turnip, Horse Radish, Onion, Artemisia, Sage, Thyme and Mint were submitted to them, the first four were attacked, while the latter four were almost or quite untouched. Wild Cherry, Celery and Carrot leaves are also dainty kinds of food for worms, by a preference for which they exhibit their sense of taste.

Their sensitiveness to contact, to vibration, and all such causes as appeal to our sense of touch, is very keen, and by their quick response to such disturbing causes, they show themselves to be very timid animals. If any part of their body is touched, breathed upon, or the ground shaken by treading when lying exposed on the surface, they retreat instantaneously. They are perfectly indifferent to the mere sound of a piano when played, but if a pot or other vessel containing them is placed on the instrument, and a deeply vibrating note struck, they are alarmed immediately and retreat. They like heat, provided it is moist, but dislike cold and frost, as shown by their hibernating in winter during frost at a considerable depth beneath the surface.

BRAIN POWER, INTELLIGENCE AND MENTAL QUALITIES.

Judging from the behaviour of worms under certain conditions, we cannot deny that they possess some amount of brain power. When unoccupied they readily (as has been shown) respond to any alarming or disturbing cause; but when eating, dragging leaves to their burrows, courting, or otherwise occupied, they may be compared to some of the higher animals whose attention is absorbed in a similar manner, as they respond but slowly or not at all to light, vibration or actual contact. The very fact of their attention being occupied implies brain power or the presence of mind.

Worms exhibit a considerable amount of intelligence in the manner of plugging up their burrows, which will be noticed later on.

With regard to mental qualities, worms have been described as timid, but they exhibit capability of enjoying a considerable amount of the pleasures of animal life. Indeed, in view of their low organisation, they are endowed with faculties and mental qualities

quite equal to their sphere of usefulness and their powers of enjoying the same in the economy of nature. They eat enormously at times and evidently enjoy it. Their social instincts are developed to some extent, and they do not feel alarmed by coming in contact with one another, while clusters of worms may often be found rolled up in a ball in their burrows during dry seasons. —J. F. (To be continued).

THE COFFEE PLANT.

THE Coffee plant, *Coffea arabica*, is a native of tropical Africa, extending over Abyssinia, the Soudan, and the coasts of Guinea and Mozambique. It has been cultivated for a period considerably under 2,000 years; but the berries had in all probability been collected from trees in their native woods for many years previous to the trees being systematically planted and tended. No one has yet found the Coffee plant wild in Arabia as the specific name would imply, notwithstanding that Mocha has long been famed for producing the best Coffee in the world. The use of Coffee, it would appear, first originated in Abyssinia; later it became known in Persia, and from thence it was introduced to Aden, then to Mocha and Egypt. It has been introduced to Java, Ceylon, the West Indies and Brazil in more recent times, where it is extensively cultivated. The berries readily sow themselves and spring up in the tropics, so that its area of distribution has been greatly extended by man. The berries, moreover, furnish a good natural means of distribution by the lower animals, so that the plant is not likely to become extinct in a wild state. Its cultivation has suffered considerable check in Ceylon of late years, owing to the prevalence of a fungoid disease that attacks the leaves. Notwithstanding the cheapness of the real article, it has often been adulterated with other ingredients. A good substitute has lately been brought into commerce in the shape of Liberian Coffee, the produce of another species, *Coffea liberica*—a stronger plant with larger berries. —F.

EARLY v. LATE APPLES AND PEARS.

OCCASIONALLY we hear reputed connoisseurs descanting on the merits of late-flowering fruit trees, and the exemption of their flowers and young fruit from destruction by frost. A good example of this we have in the Court Pendu Plat Apple, frequently designated the wise Apple, from its habit of starting into growth, and producing both flowers and foliage late in the season. Notwithstanding this habit, the tree is not always a prolific bearer—indeed, frequently the reverse; and by making a casual inspection of the collection of trees in the gardens of the Royal Horticultural Society, Chiswick, one may see that those trees, which are amongst the first to burst into bloom, are generally, if not always, the most prolific bearers of fruit.

As an instance of this early-flowering, fruiting and other qualities, mention may be made of Duchess of Oldenburgh, which is laden with white bloom early in the season, ripens its fruit early and in great quantity. The same may be said of Lord Suffield, which, as everybody knows, fruits itself almost to death; it flowers early, and constitutes a showy object, from the profusion of its deep dark rose-coloured blossom. The Dutch Codlin is another deep red-flowered variety, and early. The Yellow Ingestrie is also early, prolific in bloom and fruit; and the individual bloom, though small, is pink, and beautiful in the mass. Gravenstein and Ribston Pippin may be added to the list, although the latter is properly mid-season; as well as Cox's Orange Pippin, and all are generally heavy croppers.

That the same rules are applicable in the case of Pears must be evident, from the fact that the early-flowering are the earliest to ripen, and being free-fruiters are most useful in this country. In proof of this, let us point to Pitmaston Duchess, Jargonelle, Williams' Bon Chrétien, and Louise Bonne of Jersey. The latter was practically out of flower a fortnight ago, so that calculating its chances after the recent heavy storms of hail, wind, snow and rain, it was beyond the reach of harm before the destructiveness of the storm commenced. Reckoning this as a matter of chance, considering the uncertainty of our climate in any given season, the fact remains to be accounted for why our early-fruited varieties should produce a fair average quantity, or even a moderately heavy crop of fruit even in the most

adverse seasons. That certain varieties should do this while others entirely fail, is a matter for comment. It is reasonable to suppose that all the more exposed blossoms should get destroyed, while the sheltered ones would remain unharmed. But then early varieties bloom while the trees are yet leafless, and it might be, and is, argued that later varieties receive a certain amount of protection from the foliage. We might expect then, that in particularly adverse seasons the late varieties would be most productive, but it does not appear that this argument is supported by facts. Can fruit growers generally, either for the market or for private consumption, substantiate this view? Otherwise it remains that early-flowering and free-fruited varieties in this country are always the most productive in any given season, however erratic and unpropitious the weather may be. If this is so, then it would be desirable in the production of new varieties, to encourage the raising of early-flowering seedlings especially for commercial purposes. —Torus.

GARDENING MISCELLANY.

Passiflora Constance Elliott.—In this variety we get a pure white hardy Passion Flower, that should be, in course of time, as extensively planted in localities where it will live in the open air, as the common blue type. Now the original *Passiflora cerulea* is one of our oldest garden plants, having been in cultivation since 1699. It is a native of Brazil and Peru, in the mountainous districts where the weather is mild; about the same climate, in fact, as the southern part of these islands, where the plant is thoroughly at home, and not only flowers profusely, but ripens its fruits. But the new white variety is of quite recent introduction, and it originated in this way. The original plant was found by Mr. W. Napper in August 1882, standing alone and apparently uncared for in the court at the rear of Mr. Fuller's house at Newton Abbot, and it is said to have been raised from the blue Passion Flower, being one of a batch of seedlings. It was transferred to the Exeter Nurseries of Messrs. Lucombe, Pince & Co., who exhibited it, obtained a Certificate for it, and are now sending it out.

Tacsonia Van Volxemi.—What a lovely climber this is! I planted a small plant of it eight months ago, and all through the winter the temperature was never higher than 48°. It has grown with wonderful rapidity, and has covered the space (20 ft. by 6 ft.) which was allotted to it, and would cover double the amount of space if it were allowed to do so. It has been in flower since February, and its graceful shoots and charming flowers festoon it in such a natural manner as to make any one delighted with it; it has now some scores of blooms open, others half expanded, and promise of a succession for some months to come. —R. P. R.

Rhododendron formosum.—Having been named and described by two different botanical authorities, this Eastern Himalayan shrub continues to be cultivated in the greenhouses of this country under two different names; while owing to this confusion the names are generally believed amongst gardeners to indicate two different species. The name R. Gibsoni is the most prevalent, and some consider it a hybrid or garden form; but this is not the case, as they do not differ in any respect. The flowers are large and campanulate, white, with the exception of a pale yellow blotch in the throat, and a purple tint on the outside of the corolla, which is, consequently, most conspicuous in bud. For greenhouse or conservatory decoration it is a useful free-flowering species, and may be flowered in a small state in pots for many years. A large specimen has been flowering for some time at Devonhurst, Chiswick.

Euphorbia palustris.—As a rule, the Spurge—especially the hardy ones—are neither very conspicuous nor ornamental; but a few are especially noticeable in spring or summer from the decidedly yellow tint of their bracts and leaves. Amongst these *E. amygdaloides*, *E. Cyparissias*, and the present one may be noticed. The foliage of the latter is very attractive, even at a distance, all through the spring and early part of summer, every leaf partaking of the same clear yellow hue. As in many other species of *Euphorbia*, the stems are densely clothed with leaves, so as to be hidden. Being perfectly hardy and free-growing, no

special attention is necessary after planting out amongst the other occupants of a bed or border. A strong plant will soon attain a yard or more in height, and as far through. A fine specimen may be seen in the Gardens of the Royal Horticultural Society, Chiswick.

Cardamine pratensis flore pleno.—The double garden form of the Lady's Smock or Cuckoo Pint is a pretty and interesting plant for a moist border, or a damp nook on the rockery, as it is grown by Mr. Wright, at Devonhurst, Chiswick. This species is peculiarly liable to sport, even in a cultivated or wild state, and presents many remarkable peculiarities. In damp places the leaves are frequently proliferous, furnishing an unusual method of propagation by the production of young plants on the leaves. Doubling also takes place in different ways by the proliferation of normal flowers, whereby an extra number of floral leaves are produced. In some flowers the six stamens become petaloid, while the pistil develops into another flower in the centre of the outer one. The number of the petals in the latter do not, however, always correspond to the orthodox number of stamens. The centre flower is usually, if not always, furnished with a green calyx, generally somewhat abnormal, while the petals are indefinite, and fill up all the available space. As the flower gets old, the central one is generally carried up on a short stalk. This is sometimes seen in the Rose, and is known as median proliferation. —J. F.

Saxifraga Camposii.—Of the mossy-leaved type of Breakstone or Rockfoil, the species under notice must be reckoned one of the boldest and best. It increases rapidly enough to bring it within reach of the owner of the smallest bit of garden-ground, and those who cannot even command these advantages, may grow it in pots. Most or all of the species may be successfully cultivated in pots, and the present one gives great satisfaction grown in this way, as may be seen at Chiswick, in the gardens of the Royal Horticultural Society, where plants grown in small pots in a cold frame with a northern aspect flower early in the season. It is perfectly hardy, however, being a native of the mountains of Spain, and is grown on the rockery, where it is very ornamental with its large pure white blossom. The offsets or barren shoots produced abundantly after the flowering season is over, afford an easy and ready mode of propagation.

Azalea Blooms.—An assortment of *Azalea* blooms, varieties of *A. indica*, comes to us from a Lancashire correspondent. Both single and double forms are represented, exhibiting great variety of colour. *Daphne* is a large pure white form, showing an attempt at becoming double. A magnificent and very double variety, named Madame Jean Wolkoff, is pure white with the exception of a pale yellow blotch in the throat, which, however, is hidden by the doubling of the flower, and would doubtless prove more acceptable and useful for cut-flower purposes. A series of blooms are furnished with a white margin, contrasting with some shade of pink or pale red, which harmonise well together. The largest of these is Noble Belgique, also beautifully spotted on the lower lip. Reine Marie Henriette is similar but smaller; while the delicate pink of Her Majesty, and the lively red of Madame M. de Ghellinck, constitute very novel flowers. The large, deep rose, self-coloured double flowers of Alice are very fine. Grand Duchess de Bade and Marquis Corse are semi-double deep red forms, the latter having a deep blood-red blotch on the three lower segments. The small-flowered deep crimson Flambeau, and deep red Marquis of Lorne, are worth cultivating for their distinctness and very intense coloration.

Clianthus puniceus.—It is gratifying to learn that this handsome New Zealand scarlet or, more properly, crimson-flowered plant can not only be kept alive, but even flowered out of doors as near London as Maidstone. A beautiful-flowering spray, well furnished with leaves, was recently sent us by Mr. M. McLean, of Vintuer's Park, in that neighbourhood. The thermometer during last winter there registered 24° of frost, yet all the protection afforded the *Clianthus* was a covering of hexagonal netting. We have seen it grown against a wall in the open air in the suburbs of Loudon, but it almost invariably got killed or crippled in severe frost, so that flowering was rendered impossible. Under glass, however, it may be grown either in pots or planted out with perfect success, flowering with great freedom. It is essentially an amateurs' plant, thriving well with little attention.

Jerusalem Cherry Tree.—The invention of popular names continues apace, but the great question remains, whether they will be generally adopted by those classes for whose benefit they are intended. If a confusing and ridiculous mixture or compound of other names would ensure this end, then popular names generally are certain to make successful headway. It is difficult to see how a combination of the names of various things can render the compound more easily retained in the memory of those who object to botanical names. The subject under discussion is neither a Cherry Tree nor does it come from Jerusalem, being no other than the common berry-bearing *Solanum pseudo-capsicum*. The same objection, of course, applies to the Jerusalem Artichoke, neither of the names of which are applicable. The Cape Gooseberry is a member of the same family as the Potato, and comes from South America, not the Cape. *Prunus persica* or *Persica vulgaris*, the Peach, received the names of *persica* and *Malum persicum*, because the Peach was believed to be a native of Persia. —B. B.

Fruit Prospects.—On looking through several large fruit plantations the other day, it was gratifying to see how remarkably well all kinds of fruit trees were looking, and that by their present appearance there is likely to be a wonderfully heavy crop. Apple trees were literally studded with fine blossom-buds; and Plums, Cherries and Pears were a sheet of fine healthy blossoms. I have been told by old practical fruit growers that not for some previous years have they known the Nut trees to look more promising than they do at the present time. Bush fruits are also very promising. Peaches and Nectarines have set plenty of fruit. The trees, when in flower, were a pleasing sight, being a complete mass of strong healthy bloom, and the young growths are at present remarkably clean and free of insects, and there is at present not much blister or curl to be seen on the leaves. We mulch heavily all our old trees as soon as the nailing is finished. This, I find, greatly benefits them in their early stages of growth, and I have also noticed that insects are not nearly so numerous and troublesome as when left till later on in the season. At one time the Strawberry plants did not look so over-promising, the severe winter having told on them. Mulching early in the winter protected the roots considerably, and the plants are now green and vigorous, throwing up their flower-spikes in abundance, and show signs of a good and plentiful yield. Of Apricots we have a good average crop. —H. Markham, *Mereworth Castle, Maidstone*.

Magnolia conspicua Soulangeana.—It is with much pleasure we learn that this fine tree succeeds well in Scotland, even against a wall without protection. Mr. Rushton sends us some fine sweetly scented flowers from Cherwood, Corstorphine, near Edinburgh. The flowers are similar in structure to those of the type, but the fleshy sepals and petals are purple externally on the lower half. The plant is a supposed hybrid between the Chinese *M. conspicua* and the closely allied Japanese *M. purpurea*, which has the sepals and petals purple externally, excepting the tip, and white internally. It may be interesting to add that it is grown in a made-up border 2½ ft. deep, resting on the whinstone of Corstorphine Hill. Being deciduous, it is better able to withstand the severity of Scotch winters than if it were evergreen like *M. grandiflora*.

Notes on Cabbages.—I quite agree with your correspondent, Mr. Markham, that Ellam's Early is quite a little gem in its way; among the seven or eight varieties that I am growing this year, it is by far the best stock. The Cabbage is small, sweet and tender; in fact, the Cabbage for a nobleman or gentleman's table. We have been cutting it for over a month from a west border, but like many other good things it has one bad fault, which is that when hearted and we have a downpour of rain it cracks at once. Early Eversham I do not know; my favourite Cabbage is Butcher's Warwickshire, this grows into good-sized heads, which suits my purpose better than any other. In conclusion, I am delighted to know that Mr. Markham, like myself, can grow good Cabbages without that everlasting digging. —R. Gilbert, *Burghley*.

An Ornamental Pear Tree.—When one speaks of Pear trees, economy is more often associated with them than ornament; yet there are some varieties that combine both qualities, such as *Beurré Diel*, which is notable for its fine pyramidal habit and the pro-

fusion of its snow-white blossoms. Whether grown in the natural way, or pruned pyramidally in the true orthodox fashion, Henri Capron, when in bloom no less than in fruit, is a truly ornamental object. This arises from the great size of its snow-white blossoms, which are the largest of any cultivated Pear tree. One of the old pyramidally-trained trees in the Gardens of the Royal Horticultural Society, Chiswick, for some time previously to the recent severe gale might have been seen a mass of the purest white, the branches being almost entirely hidden with flowers. The latter are also notable for frequently producing supernumerary petals, showing a tendency to become double—a character rarely, if ever, seen in other varieties of the Pear. It may be mentioned that the Jargonelle bears flowers second in size to Henri Capron.

Sedum Sieboldi medio-variegatus.—This interesting variety of Siebold's Stonecrop is specially remarkable on account of its variegation, each leaf bearing in the centre a creamy blotch. The foliage is fleshy, and on the outside of the creamy blotch glaucous in colour. The leaves are produced in threes, arranged round the decumbent stems in the fashion of a whorl, and these being thickly set together form dense and compact tufts at this season of the year, rendering the general appearance of the plant highly conspicuous. During the summer the stems elongate to the extent of from 6 ins. to 9 ins., producing during August and September terminal cymes or clusters of the prettiest of pink flowers. It is well adapted for pot or rockwork culture; if the latter, some protection must be afforded, as the plant is catalogued under the designation of "half-hardy." With me, however, during the late severe weather, it has, on more than one occasion, been subjected to a temperature of 8° below the freezing point. I cultivate it in 4½-in. pots for the decoration of the greenhouse; it is also very suitable for the window or table. My lady friends invariably exclaim "how pretty." It thrives well in good sandy loam, mixed with little nodules of charcoal or sand-stone. It is not yet too late to propagate by sub-division of the root-stock, or to purchase for growing on for autumnal flowering. —C. B. G., *Acton, W.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CHRYSANTHEMUMS being now established after the last shift, have been subject to an all-round stopping, and removed from the pits on to an ash border out of doors, where the growth made will be much more satisfactory than if kept in the pits. Keep the plants regularly supplied with water, but avoid the use of manure of any kind at this season, unless through the press of other work the pots become full of roots, when, if the necessary final shift cannot be given, a little soot-water may with advantage be used. If time can possibly be found, the compost for this shift should at once be prepared, so that it may be turned, and the materials become thoroughly incorporated by the time it is required. The same remark applies to the soil for the layering of the Strawberries for forcing purposes. We have given the final shift into 8-in. pots to the summer-flowering batch of Chrysanthemums, and although these are not generally liked, as being somewhat out of season, we find them very useful for staging purposes in the greenhouses.

CINERARIAS will now be going past their best, and should at once be removed from the greenhouse to make way for other subjects—notably, herbaceous Calceolarias. If it is desired to retain any sorts for propagating purposes, do not cut them down on removing them from the house, but store them out of doors in some sheltered position on coal-ashes, where they may be kept watered and allowed to die down gradually; in this way the suckers will come much stronger. We pricked off the first sowing, and they are placed in a north pit by themselves, where they can be kept close for a few days until they start, after which they will be freely ventilated, encouraged to make as sturdy a growth as possible, and be kept sprinkled overhead night and morning.

GREEN-FLY.—Should there be any trace of green-fly on the herbaceous Calceolarias, fumigate at once, repeating the dose to effect a thorough clearance, or the flowers are quickly spoiled by the deposit. The same remark applies to the Pelargoniums, which are now

fast approaching their best; they should also be staged as thinly as possible and freely ventilated. In the case of bright sunshine a light net or other shading should be given to the houses containing these, and, in fact, all other flowering plants; a light dewing overhead with the syringe every evening will greatly assist in keeping them fresh.

LACHENALIAS are now over, and may be put into the cold pits to ripen off, gradually withholding the supply of water that they may not ripen prematurely. Callas, too, may now be removed out of doors to ripen off preparatory to being planted out, but they must always be given a full supply of water. We have planted out our old cut-back plants of *Solanum*; the young ones, however, are not yet quite strong enough, so will be kept in the frames for a time.

THE FRUIT HOUSES.

FIGS are now making a free growth, and have been looked over and regularly stopped, so as to obtain a good second crop, which is, generally speaking, very valuable for dessert purposes where this fruit does not succeed out of doors. We have thinned off a great quantity of fruit from the late Peach trees, but, of course, not giving the final thinning, which is much better deferred until the stoning period is passed. According to the time the fruit may be required, so must the temperature of the house be kept; generally speaking, early in August is when this crop is most in demand. Bear in mind it is a dangerous practice to keep the Peach houses too hot until after they have stoned, as it very frequently results in the loss of the greater part of the crop; although our house is heated we never make use of it after once the fruit is set, unless to forward the crop, to be ripe by a given date.

EARLY GRAPES.—Generally speaking, the early Grapes will now be colouring, and this is the time to indulge in liberal treatment by frequent applications of liquid manure to the borders, both inside and out. So far, the rainfall has been with us very light, and unless this is noted the roots in the outer border are apt to suffer. Evaporating pans placed on the pipes, and kept replenished with strong manure, are of much service in keeping the foliage clean and healthy, thus ensuring first-class fruit. Air must always be admitted to the houses in which the fruit is colouring, both front and top, thus producing a thorough circulation. If anything approaching closeness prevails, there will be but little bloom upon the fruit; and whatever damping down is necessary, let it be done about mid-day.

STRAWBERRIES.—We have removed all pot Strawberries from the vineries and Peach houses into pits. It is rather difficult to keep them free from red-spider at this season.

THE KITCHEN GARDEN.

GENERAL WORK.—We are busy now hacking through all the Potato squares, preparatory to moulding up. The earliest kinds have not come up at all regularly, even now some are just breaking through the soil, others 1 ft. high; all second earlies look wonderfully well, late ones only here and there are visible. Runner Beans are well up, but as the weather was so piercingly cold, we took the precaution of protecting both these and the dwarf French with Spruce boughs. We have been compelled to water newly planted-out Lettuce, and also the Celery; while the weather continues so variable, things make but little progress.

We have also gone through the Raspberry quarters, removing all surplus suckers, so that more strength may be given to those required for next season's fruiting; afterwards the ground will be well scuffled, which will help to kill small weeds, and also prevent the surface baking. We have removed all the trusses of flower from the young plantation of Strawberries, as it is from these we layer our stock for forcing; runners are making good growth, and preparations must now be made to secure them. Where straw, which has been used in the stables, has to be used in the fruiting squares, it is advisable to put it on in good time so that it may become sweetened, or the fruit is apt to taste; added to which, put on thus early, the probability is that rain will assist in cleansing it.

Look well to the sowing of all salads, choosing now a cool position for Radishes; Lettuce sown out of doors are now quite ready for planting out, and will be attended to as soon as the weather is favourable. —Walter Child, *Croome Court*.

ORCHID NOTES AND GLEANINGS.

Odontoglossum Pescatorei.—From Mr. J. T. Poë, Riveston, Nenagh, comes a very fine variety of this popular Odontoglossum, which, if it does not afford the variation for which *O. crispum* is famous, nevertheless gives birth to forms of rare, striking and desirable beauty. The sepals are white, flushed with purple along the midrib, and furnished with a large and conspicuous violet-purple blotch on the middle of each; the petals, on the contrary, are broad and overlapping the sepals, of good substance and pure white, with a smaller blotch of the same colour on their middle; the labellum is of the ordinary size and shape, but beautifully spotted in a radiating manner towards the margin, and having a large blotch of the same colour on the crest.

Oncidium Marshallianum.—At Messrs. Protheroe & Morris's rooms on Friday last (20th), a magnificent spike of this fine Orchid was exhibited from the gardens of Captain Maxwell, Terregles, Dumfries. It was one of two which, in the aggregate, bore 141 blooms. The magnificence of such a spike may be imagined when one recalls to mind the handsome size of the rich yellow flowers. The chief feature of the flower resides in the labellum, which puts in the shade *O. ampliatum majus* and even *O. varicosum Rogersi*, to which the general appearance of this species may be compared. The spikes in question were produced by an imported plant. This is the more encouraging when we consider the frequency with which *O. crispum* or *O. prætextum* crops up in importations of *O. Marshallianum*. In the same glass of water were some grand blooms of Admiral Fairfax's variety of *Cattleya speciosissima*.

Slugs amongst Orchids.—These pests are the cause of many a heart-sore to Orchid growers. Take for instance that we may have an importation of *Odontoglossum crispum* or *Cattleya Mendelii* just showing buds. Our hopes are built up on these beautifully developing buds; we have rosy anticipations of something good to come. One morning we find a slug has blighted those rosy anticipations. Now, the point is, how can we get rid of this sort of vermin. I saw a suggestion in one of the gardening papers the other day to thoroughly wash the staging, &c. with a saturated solution of common salt. I should say this might be a good thing, but would it be effective? I would suggest a strong solution of Hydrargyrum Bichloride (corrosive sublimate). Perhaps some of the knowing ones could tell us if this would be apt to have any injurious effect upon the Orchids themselves.—*J. H. T. Peck, Blaby.*

Epidendrum Arachnoglossum.—This, by no means, common species has been flowering for some time past in the collection at the Woodlands, Streatham. It seems intermediate between *E. ellipticum* and *E. evectum* with precisely the same habit, but the flower spikes do not attain a length of several feet as in the latter. The flowers are concolorous, and of a deep rosy red, while the labellum is trifid and deeply cut into fringes or teeth, as the name evidently implies.

FLORICULTURE.

PANSIES IN BEDS.—While Pansies are still late in flowering in the midland districts and the north, they are now getting nicely into bloom in more southern localities, aided by the warmer weather by day, though the nights are still cold. I find that my own plants derive great advantage from frequent top-dressings; they are throwing up young growths, and these should have some nice light sandy soil to root into. By pegging out the leading flowering shoots, space is afforded for the young growths to develop themselves; these make excellent cuttings if put into pots in sandy soil and kept in a cold frame; or if a bed be made up under a shady wall or hedge and the cuttings put in there and a hand-light placed over them, they will be pretty certain to strike. One of my favourites among the show Pansies is George Rudd, a fine yellow self of excellent quality, good habit and very free. I have just planted out some seedlings, and the showery weather has enabled them to get hold of the soil, and they will soon be in flower. I am looking anxiously for them to do so, as one likes to raise something good; at the same time, one cannot keep from asking—how many blanks will there be? and how many prizes? Let us hope some of the latter will come to every enthusiastic raiser of seedling flowers.—*R. D.*

HORTICULTURAL SOCIETIES.

Royal Horticultural—May 24th.—The leading features of the exhibits brought before the members of the Fruit and Floral Committees, on Tuesday, were Tree Pæonies, hardy herbaceous and Alpine plants, Azaleas, and the Cucumbers brought out in competition for Messrs. Sutton & Sons' prizes. A number of First Class Certificates were granted, as noticed in another column. Messrs. J. Veitch & Sons brought forward a various assortment of plants, including Tree Pæonies in pots, of which two were certificated. A proliferated *Calceolaria* of the herbaceous type was a great curiosity, the corollas being several times duplicated in the same flower. A fine basket of miniature plants of *Azalea rosæflora*, not exceeding 6 ins. in height, was shown; one of *Hydrangea stellata* fl. pl., one of *Spiræa confusa* and another of *Syringa vulgaris Lemoinei* fl. pl., for the latter of which a vote of thanks was accorded. The rosy flower buds of *Rosa lucida* were very ornamental, and *Illicium floridanum* with deep maroon flowers, elicited some attention. E. G. Loder, Esq., Floore, Weedon (gardener Mr. Goldsmith) again exhibited three well-flowered specimens of *Myosotidium nobile*, a plant most difficult to bloom; a Cultural Commendation was awarded. F. A. Philbrick, Esq., Q.C., Oldfield, Bickley, exhibited *Hexisia bidentata*, a curious little Orchid with jointed pseudobulbs and short terminal racemes of scarlet flowers.

Mr. T. S. Ware, Tottenham, besides a large collection of *Pæonia Moutan* in pots, and also cut blooms, exhibited a fine lot of herbaceous plants, including North American *Cypripediums*, such as *C. montanum*, the miniature *C. arietinum*, *C. calceolus*, *C. pubescens*, and *C. occidentale*, the first and last having a white labellum and brown sepals and petals, while the others are yellow or spotted as in *C. arietinum*, which is remarkable for an obconic prolongation on the under-side of the labellum, and the lateral sepals free almost to the base. No other *Cypripedium* has all three sepals free. Mr. Anthony Waterer, Knap Hill, exhibited a mixed group of different types of hardy Azaleas, for which a Bronze Banksian Medal was awarded. Both single and double forms were shown, all of which were seedlings. A vote of thanks was accorded for hybrid forms of *A. mollis*, always characterised by a profusion of large flowers in soft shades of red, orange, and yellow, and one had canary-yellow flowers. Mr. Charles Vuylsteke, nurseryman, Loochristy, Ghent, Belgium, exhibited a number of hardy hybrid Azaleas, apparently of *A. mollis* crossed with *A. occidentale*, and having large flowers in different shades of red and yellow. A Bronze Banksian Medal was awarded to Messrs. Paul & Son, The Old Nurseries, Cheshunt, for a group of herbaceous and Alpine plants, including *Aquilegia glandulosa*, *Anthemis Aizoon*, a composite with hoary leaves; *Arnebia echioides*, the Prophet Flower; and varieties of *Phlox subulata*, such as *P. s. nivalis* and *P. s. Vivid*.

Messrs. James Carter and Co., High Holborn, London, brought forward a collection of *Mimulus*, very dwarf in habit, and with unusually large flowers. Princess Victoria had crimson flowers, richly spotted in the throat; and Princess Beatrice was closely spotted all over with crimson on a yellow ground. Mr. R. Dean, of Ealing, exhibited Dean's new strain of Royal Blue Dwarf Cinerarias. The plants were healthy, evenly flowered, and very brilliant in colour. They were wintered without fire-heat. A vote of thanks was given for a well-flowered yellow *Polyanthus* named Governor, having a darker centre. Snowdrift was white with a yellow centre. Mr. Charles Turner, Slough, exhibited a seedling *Pelargonium*, Magpie, with white flowers, and a purple blotch on each petal. Messrs. Wood & Ingram, Huntingdon Nurseries, forwarded a seedling *Pelargonium*, named J. Wood Ingram, with deep reddish scarlet flowers.

At the meeting of the fruit committee, Cucumbers were brought forward in competition for Messrs Sutton & Sons' prizes. Mr. T. Lockie, The Gardens, Oakley Court, Windsor, carried off the first prize with a brace of Sutton's Improved Telegraph; Mr. C. J. Waite, The Gardens, Glenhurst, Esher, was second with a brace of Purley Park Hero; and J. Downing, Esq., The Shrubbery, Enfield, Middlesex, was third. Mr. Lockie also exhibited six seedling Melons, named Beauty of Windsor, being the result of a cross between Dr. Hogg and Victory of Bath. The fruits were above the medium size, with pale skin and white flesh. Mr. George

Beaton, Style Hall, Gunnersbury, forwarded three dishes of Pears, to show how late they would keep in the cool temperature of what was once used as an ice-house. The varieties were Easter Beurré, Suzette de Bavay, and Winter Bon Chrétien. A vote of thanks was accorded for the exhibit. W. F. Hume Dick, Esq. (gardener, Mr. W. Palmer), Thames Ditton House, Thames Ditton, exhibited a fine dish of Asparagus, and a dish of good-sized and well-coloured Strawberries of the Auguste Nicaise variety, for which a cultural vote of thanks was accorded. A vote of thanks was accorded to Mr. E. Ward, The Gardens, Stoke Edith Park, Ledbury, for an exhibit of Broccoli.

Crystal Palace.—May 21st.—The great summer exhibition was held on Saturday in the Palace, where a great number and variety of exhibits were got together. Owing to the fact, however, that they were scattered along the entire length and breadth of the building, they failed to produce the striking and imposing effect on the visitors they would otherwise have done, had it been possible to mass the plants in the centre of the building. Azaleas, Pelargoniums, Orchids, Roses, Caladiums and Crotons were amongst the most noticeable features of the exhibition.

In the open classes the first prize was carried off by Mr. W. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, Staffordshire, whose best plants were *Tremandra ericæfolia*, *Darwinia tulipifera* and *Dracophyllum gracile*; the second by Mr. Henry James, Castle Nurseries, Norwood, having, amongst other things, *Darwinia fuchsoides* and *Boronia pinnata*. For Heaths in 12-in. pots, Mr. Henry James was the only competitor, showing a huge bush of *Erica Cavendishiana*, well-flowered *E. Lindleyana* and *E. ventricosa coccinea minor*. For nine greenhouse Azaleas, Mr. Charles Turner, The Royal Nurseries, Slough, was first, showing huge specimens of *Reine de Fleurs*, *Duc de Nassau*, *Madame de Cannært d'Hamale*, &c.; Mr. H. James was second with some good specimens. For eighteen Azaleas in 9-in. pots, Mr. C. Turner was the only competitor, with creditable specimens; while he was also first in the classes for show and decorative Pelargoniums, fancy ones, and in the class for eighteen Pelargoniums, showing fine specimens of *Amethyst*, *Gold Miue*, *Kingston Beauty*, *Ellen Beck*, *Princess Teck* and other well-known varieties. Mr. D. Phillips, Langley Broom, Slough, was second in the first and last of the above-mentioned classes; Mr. J. Wiggins, gardener to W. Clay, Esq., Grove Road, Kingston, was third for the show type; and Mr. F. Hill, gardener to H. Little, Esq., The Barons, Twickenham, third in the class for eighteen.

Mr. T. N. Penfold, The Gardens, Beddington House, Beddington, was first for stove and greenhouse Ferns; Mr. J. Bolton, Combe Bank, second; and Mr. H. James third. For fine-foliage plants, exclusive of Palms and Ferns, Mr. T. N. Penfold was first, and Mr. H. James second. Fine specimens of Crotons, including *Andreanum* and *Queen Victoria*, were shown by Mr. J. R. Bird, gardener to J. A. Causton, Esq., Lodge-moore, Alleyn Park, West Dulwich; by Mr. H. James, and Messrs. Hooper & Co., Covent Garden, who gained the first, second, and third prizes respectively. Mr. J. Lambert, gardener to H. W. Segelcke, Esq., Elfindale Lodge, Herne Hill, gained first prize for nine *Dracenas*; Mr. H. James second, and Mr. T. N. Penfold third. Messrs. J. Laing & Co. were awarded the first prize for Caladiums, showing magnificent specimens; while Mr. C. Simmonds was second. Mr. A. Luff, gardener to R. R. Hyatt, Esq., Hetherset, Leigham Court Road, Streatham, was first for *Gloxinias*; Mr. J. Wakeham, gardener to H. Barrett, Esq., Merivale, North Dulwich, second; Mr. Schumacher, gardener to J. Wood, Esq., Alleyn Park, West Dulwich, third. Mr. A. J. Catt, gardener to W. Cobb, Esq., Silverdale Lodge, Sydenham, carried off the first prize for nine Orchids; Mr. F. Hill being second; and Mr. H. James third. The first prize for a group of not less than forty plants went to R. J. Measures, Esq., Cambridge Lodge, Camberwell; the second to Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham; the third to Mr. S. Cooke, gardener to De B. Crawshaw, Esq., Rosefield, Seven-oaks. For a single specimen of Orchid, Mr. H. James was first, with *Lælia purpurata*; Mr. F. Hill second, with *Cattleya Skinneri*; and Mr. A. J. Catt third. Messrs. John Laing & Co. carried off the first prize for a group of plants arranged for effect. It contained Palms, Ferns, Crotons, some fine new Begonias (described on another page), &c. Messrs. Hooper & Co.,

Coreut Garden, were second with similar plants; and Mr. H. James third. Competition was very keen in the class for dinner-table decorative plants, consisting of Palms, Crotons, Aralias, &c., Messrs. Hooper & Co. obtaining first prize. Mr. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gunnersbury House, Acton, and Messrs. John Laing & Co. were equal second. Mr. H. James was first for both Sarracenias and Nepenthes, and Mr. A. Luff second.

The first prize for Roses in 9-in. pots was gained by Messrs. Paul & Son, The Old Nurseries, Cheshunt; the second by Mr. C. Turner; third by Mr. Rumsey, Joyning's Nurseries, Waltham Cross. Mr. J. James, Woodside, Slough, was first with a fine group of dwarf large-flowered Calceolarias; Mr. C. J. Salter second; Mr. H. Guzzett, gardener to T. Gabriel, Esq., Elmstead, Leigham Court Road, Streatham, third. Mr. J. Wakeham was first for a single stove plant in bloom; Mr. H. James was first for a greenhouse plant; Mr. James Lambert was first for a green-foliaged plant. In the class for six button-hole bouquets, Messrs. Perkins & Sons, Coventry, secured the first place; Mrs. Bishop, Duppas Hill, Croydon, second; Mr. C. A. Wright, 2, Railway Buildings, Norwood, third. Messrs. Perkins & Sons were again first for a bouquet, and a bridal bouquet, while Mr. J. R. Chard, Brunswick Nurseries, Stoke Newington, was second. Mr. George Phippen, florist, Reading, was awarded a first prize for an epergne for a drawing room; Mr. T. Butcher, South Norwood, was first for a vase for dinner-table, while Mr. J. R. Chard was second in both cases. In the class for cut flowers of stove and greenhouse plants, Mr. A. Gibson, gardener to T. F. B. Atkins, Esq., Halstead Place, Sevenoaks, secured the first place; Mr. T. N. Penfold second; Mr. H. James third.

The competition was generally well sustained in the amateurs' classes, and Mr. W. Chapman was again first for stove and greenhouse plants, showing fine specimens of *Ixora Dixiana*, *Dracophyllum gracile*, and *Tremandra ericefolia*. Mr. A. Offer was second, showing *Boronia elatior*, *Statice Gilberti*, &c.; Mr. J. Bolton third. Mr. A. Offer was first for greenhouse Azaleas. In the class for fine-foliaged plants Mr. W. King, Waddon House, Croydon, gained first, showing large specimens of *Phoenix reclinata* and *Lantana borbonica*; Mr. A. Offer was second; and Mr. J. Bolton third. Mr. Bolton had the first prize for stove and greenhouse Ferns, showing amongst others a fine *Cibotium regale*; Mr. G. Parrott, gardener to W. Wright, Esq., The Grange, Denmark Hill, was second; and Mr. J. Wakeham, third. For six Orchids Mr. Catt and Mr. Hill were again first and second respectively; Mr. A. Luff third. Mr. A. Offer was first for six Crotons, showing fine plants of *Prince of Wales*, *Angustifolia*, &c.; Mr. J. R. Bird second; and Mr. H. Guyett, gardener to T. Gabriel, Esq., Streatham, third. Mr. W. King carried off first prize for *Dracenas* with *D. Lindenii*, *D. Baptisti*, &c.; Mr. C. J. Salter second; Mr. J. Bolton third. Large well-flowered *Gloxinias* were shown by Mr. Slogrove, gardener to Mrs. Crawford, Gattou, Reigate, securing first; Mr. A. Luff second; Mr. G. Parrott third. In the class for show *Pelargoniums* Mr. F. Hill exhibited fine plants of *Formosa*, *The Baron*, &c., and was first, while Mr. J. Wiggins was second. Mr. D. Philipps was first for the fancy type of *Pelargoniums*; Mr. F. Hill second, Mr. J. Wiggins third. Mr. G. Kinson, gardener to L. Luders, Esq., Claremont, West Dulwich, received a second prize for Roses, while the others were withheld. Mr. C. J. Salter carried off the first prize for *Calceolarias* with dwarf well-flowered plants; Mr. J. Ford second; Mr. A. Luff third. For stove and greenhouse cut flowers Mr. C. J. Salter was again first, exhibiting *Lælia cinnabarina*, *Dendrobium Bensoniæ*, &c.; Mr. A. Gibson second; Mr. G. Parrott third.

Amongst miscellaneous exhibits, Messrs. Barr & Son, King Street, Covent Garden, were still to the front with a large collection of cut *Narcissi*, &c., including *Gladiolus Herberti*, *G. tristis* var., *Tulipa vitellina*, fine canary-yellow, and other new plants. Messrs. W. Paul & Son exhibited a fine group of Roses in pots and cut blooms; and three boxes of cut blooms of *Maréchal Niel* were exhibited by Mr. J. Walker, Thame, Oxon. *Maréchal Niel* Roses and fancy Pansies were exhibited by Mr. F. Hooper, Widcombe Hill, Bath. Mr. W. Rumsey, Joyning's Nurseries, Waltham Cross, also exhibited six boxes of cut Roses, including two of *Souvenir d'un Ami*. A fine lot of tree *Pæonies* and herbaceous plants were shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, four of the *Pæonies* being certificated, as described in another column. Messrs. Paul & Son, The Old Nurseries, Cheshunt, exhibited a fine group of herbaceous and Alpine plants; Mr. J. R. Bird a group of Crotons and *Mignonette*; and Messrs. Perkins & Sons a wreath.

QUESTIONS & ANSWERS.

WINTER AND SUMMER-FLOWERING PLANTS.—*Richmond Browne*: We presume that frost is kept out of your greenhouse in winter, and if so, the following will flower freely with you, namely, *Cytisus racemosus* (yellow), *Primula sinensis*, *Coronilla glauca* (yellow), *Salvia Grahami* (red), *Boronia elata* (carmine), *Daphne odorata* (D. indica of gardens, pink or rose, sweet-scented). These six plants are easily managed, and free-flowering, but there is a host of other fine or suitable plants, such as *Azaleas*, *Camellias*, *Cinerarias*, *Boronia megastigma*, *Epacris*, *Erica melanthera*, *E. hyemalis*, *Chorozema cordata splendens*, and *C. Chandleri*, *Cyclamen persicum*, *Eriostemon densiflorus*, *Inantophyllum miniatum*, *Lachenalia tricolor*, *L. Nelsoni*, *Metrosideros floribunda*, *Polygala Dalmatiana*, *Richardia æthiopica*, *Salvia Bethelli*, *S. Pitcheri*, *Sparmannia africana*, *Tetradlea hirsuta*, and others. For summer-flowering plants, *Pelargoniums*, *Fuchsias*, *Hydrangea hortensis*, or some of the garden varieties, such as *Thomas Hogg*, *Abutilons* in variety, *Agapanthus umbellatus*, *Chrysanthemum frutescens*, or some of the many garden varieties as *L'Etoile d'Or*, *Erica eximia*, *E. Aitoniana*, *E. Massonii major*, *E. perspicua nana*, and *Tuberous-rooted Begonias*. There are also many fine climbers.

NAMES OF PLANTS.—*W. Rushton*: *Magnolia conspicua* Soulangiana. *C. B. G.*, Acton: *Scilla hispanica* (syn. *S. campanulata*), a well-grown specimen, with more spreading segments than usual, probably owing to its being cultivated in a greenhouse, and not a constant and distinct variety from the type; the other is *Saxifraga cæspitosa* var. *B. L.*: 1, probably a *Callistemon*, please send when in flower; 2, *Eriostemon scaber*. *P. G. E.*: 1, *Saxifraga crassifolia* (might be a variety, but no typical leaf was sent); 2, *Sedum sarmentosum variegatum*; 3, *Ranunculus amplexicaulis*; 4, *Scrophularia aquatica variegata*; 5, *Asphodeline lutea* (syn. *Asphodelus luteus*). *Cosmopolitan*: 1, *Cardamine pratensis alba*; 2, *Sisymbrium Alliaria*; 3, *Cerastium vulgatum*; 4, *Capsella Bursa-pastoris*; 5, *Cardamine pratensis*; 6, *Ranunculus bulbosus*; 7, *Carex paludosa*; 8, *Anthriscus sylvestris*; 9, *Ajuga reptans*; 10, *Lamium album*. *Levenshulme*: 1, *Lælia purpurata*, a very fine variety, with intensely purple labellum and rosy sepals and petals; 2, *Cattleya Mossii*, with very fine warm rose sepals and petals; 3, *Odontoglossum cordatum*; 4, *Epidendrum vitellinum*.

COMMUNICATIONS RECEIVED.—*G. W. C.*—*J. G.*—*E. R. C.*—*D. & E. W. G.*—*A. C.*—*G. B.*—*T. B.*—*R. S.*—*Scotian.*—*J. U.*—*Q. R.*—*D. M.*

TRADE CATALOGUES RECEIVED.

JOHN LAING & Co., Forest Hill, S.E.—Novelties, all kinds of Plants, Begonias, Orchids, &c.

LUCOMBE, PINCE & Co., Exeter.—Stove, Greenhouse, Bedding, and Herbaceous Plants, &c.

DAMANN & Co., San Giovanni a Teduccio, near Naples.—Catalogue of Bulbs, Roots and Orchids.

COVENT GARDEN MARKET.

May 26th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	5 0	Peaches, per dozen	12 0	21 0
Grapes, per lb.	3 0	5 0	Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3 0	8 0
per lb.	2 6	3 6	Pine-apples, Eng., lb.	1 0	1 6
Kent Cobbs., 100 lbs.	60 0		Strawberries, per lb.	3 0	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Asparagus, per bble.	2 0	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces, per dozen	1 6	2 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, per lb.			Onions, per bushel	4 0	5 0
Cabbages, per doz.	2 0	2 6	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English,			Sea Kale, per basket	1 6	2 6
per dozen	3 0	5 0	Small salading, punnet	0 4	
Celery, per bundle	2 0		Spinach, per strike	2 0	
Cucumbers, each	0 6	1 0	Tomatos, per lb.	2 0	2 6
Endive, French, doz.	2 6	3 6	Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones, 12 bun.	2 0	4 0	Parma Violets (French),		
Arum Lilies, 12 blms.	3 0	5 0	per bunch	2 6	4 0
Azalea, 12 sprays	0 6	1 0	Pelargoniums, scarlet,		
Blue Bells, 12 bunches	1 0	2 0	12 sprays	0 9	1 0
Bonvardias, per bun.	0 6	1 0	Polyanthus, 12 buns.	2 0	5 0
Camellias, 12 blooms	1 0	3 0	Primroses, 12 bunches	0 3	0 6
Carnations, 12 blooms	0 9	2 0	Primula, double, bun.	0 9	1 6
Cut Tulips, 12 blooms	0 2	0 4	— single, 12 bun.		
Daffodils, dble, 12 bun.			Roses (coloured)	1 0	4 0
Encharis, per dozen	3 0	6 0	Roses, Tea, per dozen	1 0	2 0
Gardenias, 12 blooms	1 0	3 0	Roses, mixed,		
Heliotropes, 12 sprays	0 6	1 0	per doz.	0 6	2 0
Hyacinths			— Safrano (Freuch),		
Lapageria, red, 12 blms.			per doz.	0 6	0 9
Lilies of the Valley			Spiræa, 12 bunches	4 0	6 0
12 sprays	0 6	1 0	Stephanotis,		
Lilium longiflorum,			dozen sprays	2 0	4 0
12 blooms	4 0	6 0	Tropæolums	1 0	2 0
Marguerites, 12 bun.	3 0	6 0	Tuberose, per dozen	1 0	
Mignonette, 12 bun.	3 0	6 0	Violets, 12 bunches	0 4	0 9
Pansies, 12 bunches	2 0	3 0	Wallflowers, 12 bun.	2 0	4 0
Pelargoniums, 12 spys.	0 6	0 9	White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	6 0	9 0
Arum Lilies, per doz.	9 0	12 0	Hydrangea, per doz.	9 0	12 0
Azalea, per dozen	18 0	36 0	Lily of the Valley,		
Cineraria, per dozen	6 0	9 0	12 pots	12 0	18 0
Cyclamen, per dozen			Lilium longiflorum,		
Cyperus, per dozen	4 0	12 0	per doz.	18 0	30 0
Dracæna term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	9 0
Epiphyllums, per doz.			Musk, per dozen	3 0	6 0
Erica, various, doz.	18 0	30 0	Palms in variety, each	2 6	21 0
Evergreens, in var.,			Pelargoniums, doz.	6 0	18 0
per dozen	6 0	24 0	Pelargoniums, scarlet,		
Fairy Roses, per doz.	8 0	12 0	per dozen	4 0	8 0
Ferns, in var., do	4 0	18 0	Rhodantha, per doz.	6 0	9 0
Ficus elastica, each	1 6	7 6	Roses (various), doz.	18 0	30 0
Foliage Plants, vari-			Solanums		
ous, each	2 0	10 6	Spiræa, per dozen	9 0	12 0
Fuchsia, per dozen	6 0	9 0	Tulips, per doz. pots		

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COCOATINA,

Anti-Dyspeptic Cocoa or Chocolate Powder.

Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoa thickened, yet weakened, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

Made instantaneously with boiling water, a teaspoonful to a Breakfast cup costing less than a halfpenny.

Cocoatina possesses remarkable sustaining properties, and is specially adapted for early Breakfast.

In tins, at 1s. 6d., 3s., 5s. 6d., &c., by Chemists and Grocers.

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NATIONAL ROSE SOCIETY OF ENGLAND'S

GRAND EXHIBITION will be held in the WAVERLEY MARKET, EDINBURGH, on WEDNESDAY, July 13th, 1887, in connection with the SUMMER SHOW of the ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

For Schedules, &c., apply to SECRETARY, Royal Caledonian Horticultural Society, 18, Waverley Market, Edinburgh.

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CRYSTAL PALACE.—GREAT ROSE SHOW OF SEASON, Saturday, July 9th, postponed from July 2nd. For schedules and entry forms apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

Next Week's Engagements.

MONDAY, June 6th.—Sale of Orchids, from the collections of Mr. W. E. Brymer and Rev. J. B. Norman, at Stevens' Rooms.

TUESDAY, June 7th.—Sale of Odontoglossum Alexandræ and other Imported and Established Orchids, at Protheroe & Morris's Rooms.

THURSDAY, June 9th.—Sale of Established Orchids, from Messrs. W. Thomson & Sons' collection, at Edinburgh.—Sale of Specimen Exhibition Plants, at Fairlawn, Lytham, Lancashire.

FRIDAY, June 10th.—Sale of Imported Orchids, at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 4, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—The Council of this society have speedily followed the line we pointed out a fortnight since, for on Tuesday, June 28th, they invite the Fellows to meet them at South Kensington, and there discuss the position, and, it is hoped, some practical suggestions in reference to the future. We can but hope that good for the future usefulness of the society will come from that gathering, but all depends upon the spirit displayed on both sides, and also upon the breadth and soundness of the course suggested. It is, perhaps, to be regretted that the Council do not appeal to the whole body of horticulturalists at once; but as it may be necessary to consult the Fellows first, the other step may be found needful only as a *dernier ressort*. If the Fellows alone can succeed in helping the Council out of their present difficulties, and in establishing the society once more upon a safe basis, none will rejoice more earnestly than ourselves. But we entreat the parties to the gathering to put aside all ambitious ideas and impracticable proposals. Let the sugges-

tions made be of a sound business nature, devoid of sentiment and of feeling. Let no false notions of pride or foolish clinging after the flesh-pots of South Kensington stifle the demand, which is imperative, that something must be done—and it must be of a practical nature also—if the society is to be saved to horticulture and to future usefulness.

Will the Fellows, as well as the Council, strive to remember that, although the home of the society is in London, yet it claims to be the representative of the horticulture of the Empire, and that prestige hinges not upon its habitation or locale, but rather upon the capacity the society shows to make for itself a life of usefulness and to benefit horticulture in every way. It is to be feared, that so far the society's advisers, both now and in the past, have been too parochially-minded; that restricted view of the society's position was distressingly demonstrated when it was reduced from the broad platform of a national institution to become a South Kensington parasite; and as a parasite and nothing better is the society now being treated—indeed, it seems almost as if the South Kensington authorities would rejoice over its extermination. Most earnestly do we hope there are better things in store than extinction, for it will be a disgrace to English horticulture indeed if its chief body be permitted to die.

It is almost exasperating to note the tendency shown, from time to time, to defer or put off the inevitable; it is astonishing, that with one of the wealthiest, most intelligent, and wider-spread constituencies than any other profession can show, that a National Horticultural Society should be on the verge of bankruptcy or insolvency. Surely there are means by which the Royal Horticultural Society of Great Britain can be resuscitated—if we may yet use the term—be re-invigorated and re-established in permanence and in security. Whilst our opinion is, that only broad, nay, almost democratic changes can bring about this desirable end, we shall be pleased to learn of other methods, if any, of a practical nature that can be put before the coming meeting. It seems to be folly longer to seek for courtly favour and patronage. The day for that has departed, whilst proposals to become an adjunct to the Imperial Institute—a something yet non-existent—can hardly be regarded as serious. It seems not improbable that the deliberations of the coming meeting may determine the society's future career, perhaps its existence. May good sense and wisdom govern its deliberations.

THE IMPERIAL INSTITUTE.—The publication of the scheme or rough draft thereof, for the future government of the Imperial Institute, shows that, whilst agriculture and other practical sciences are to be represented on its council, horticulture is distinctly ignored. We are not sure that such exclusion provokes cause for lament. It may be that the promoters of the Institute have not met, in courtly circles, with very eminent professors of horticulture or representatives of the profession, and have therefore been led to look askance at our old and honoured vocation in consequence. However, it is doubtless best as it is, as the association of the Royal Horticultural Society with the Imperial Institute would be but to choke or damn it effectually. Of course, the Institute will be located at South Kensington, where it will presently add a monstre addition to the wilderness of bricks and mortar into which that once pleasant region is being turned, and we do not portend for it any great amount of usefulness or of success; indeed, it bids fair to become a sort of white elephant, which, perforce, presented to the nation presently, will become a heavy incubus and burthen

upon the unfortunate tax-payers. Whilst the Royal Horticultural Society—free and unfettered—may do something for itself, allied to the Imperial Institute it would soon be crushed out of existence—its vitality would be utterly destroyed. As the recently published scheme, to which we have referred, seems thus to settle the aspirations of some members of the Council who may still have lingering tastes for South Kensington, there seems to be almost a providential dispensation in that publicity at a critical moment in the fortunes of the society.

THE COUNCIL OF THE ROYAL HORTICULTURAL SOCIETY have decided to hold the general meeting of the Fellows, announced in our last, on Tuesday, June 28th.

MR. H. J. VEITCH, MR. H. J. ELWES and MR. R. I. LYNCH have been elected corresponding members of the Russian Imperial Horticultural Society.

It is reported from Dorchester, that at the Bath and West of England Agricultural Society's Show, which opened on Monday, there was an unusually good display of Orchids. Mr. W. E. Brymer sent the principal contents of his Orchid house.

"LANCASTRIAN" writes, "Our forest and ornamental trees suffered terribly by the severe gale which passed over the country on May 20th, and on May 29th. I could not find a single Oak-apple. I wonder how many of your readers did see any."

THE NORTON PANSY CLUB'S SILVER MEDAL, given for the best seedling Pansy, show or fancy, raised subsequently to 1883 by the exhibitor, and named but not in commerce, was won by Mr. James Simkins, with "Syren," a perfectly-shaped variety with a rich blue margin.

AT THE HULL CHRYSANTHEMUM SOCIETY'S SHOW, to be held on November 17th and 18th next, a Silver Challenge Vase, value fifteen guineas, will be competed for with forty-eight cut blooms. It must be won twice consecutively or three times altogether before it becomes the exhibitor's property.

We regret to hear of the death on Sunday morning last of MR. GEORGE JACKMAN, of the Woking Nursery (aged fifty years), after a very brief illness, brought on by a cold. Mr. Jackman made his name famous as a raiser and exhibitor of Clematises, and in conjunction with the late Mr. Thomas Moore, published a most useful work on these showy flowers, under the title of *The Clematis as a Garden Flower*. He was present at the last Botanic Show, where he took high honours with his pot Roses.

"C. A. G." writes: "Can any raiser of Auricula seedlings recommend a small watering-pot that distributes moisture so delicately and evenly as to be worthy of the name a 'Dew-pot'? Drops are too heavy, even from such copper roses as I have seen; a kind of spray seems to be what one wants—a gentle bedewer of the surface, warranted not to indent it."

WE are informed that the Tulips in the nursery of Messrs. E. H. Krelage & Son, Haarlem, are now in full bloom. There are four beds of Tulips under two spacious tents, covering together an area of more than 7,000 sq. ft. Two of the beds contain 700 bulbs in each, consisting of the best Dutch sorts in Violettes, Roses, and Bizarres. The other beds under a smaller tent each contain 840 different sorts of Byblemens and Roses, all Flemish varieties of the most brilliant colours. The show is later than usual, owing to the character of the season, and may last till the middle of June if the weather be favourable. The collection of late Tulips of every description planted in the nursery is very large, and includes everything good and rare in Dutch and Flemish varieties, and also a fine collection of Flemish breeders, Violettes, and Roses in the most striking and brilliant colours.

AN Exhibition of the products of the ARTS AND INDUSTRIES RELATING TO HORTICULTURE is being organised at Antwerp, and will be open from June 19th to October 15th next. A special commission has been elected for the organisation of the exhibition, and a park of some 17 acres, and a large hall covering more than 5000 square yards of ground, afford ample space for the arrangement of exhibits. Intending exhibitors are required to send before the 10th of June, an exact and detailed list of the objects they wish to exhibit, and these will be received up to Thursday, June 15th.

THE GRANGE, HACKBRIDGE.

By the kindness of Mr. A. H. Smee the gardens here, known as "My Garden," have been open for the inspection of the public all this week, and those who have not availed themselves of the boon, have lost a golden opportunity of seeing a quiet and secluded retreat full of interest to all, or anyone possessed of a love for flowers.

"My Garden," consisting of about eleven acres within the enclosure, was originally reclaimed from bog, and was, and is now, bounded on one side by the clear if slow running river Wandle, noted for trout and other fish. It is also variously intersected with brooks or rivulets of clear sparkling water, rich in animals and animalculæ of many kinds, as we have evidence in the history of "My Garden," written by the father of the present worthy proprietor. *Typas latifolia*, *Carex aquatica* and *C. pendula*, the great water Dock, and other aquatic wildings full of interest and attraction fringe the margin of the Wandle, which here widens so as to resemble a natural and placid lake of great beauty. Towards one end a long rustic wooden bridge spans the water connecting the gardens with the fields beyond, gay with wild flowers, and bounded by various tall trees, the beauty of whose newly expanded foliage would be difficult adequately to describe. The bronzy tints of the black Poplar, *Populus nigra*, are at present very distinct and characteristic.

We were highly interested in the collection of Orchids, and noted many valuable things. The bulk of those flowering at present are located in what was originally a fernery, the moist atmosphere of which seems peculiarly suitable to the occupants. Ferns still occupy the back part of the house appropriately, and we noted a fine specimen of *Adiantum pedatum* of considerable size. *Cattleya Mossiæ*, *C. Mendelii*, *C. labiata Roelzii*, *C. Schroderæ*, *C. Skinneri oculata*, and others kept the house aglow with their rich and varied colours. The specimens of *C. Mossiæ* were both numerous and heavily flowered. Some of the forms are so distinct as to deserve a special varietal name, some exhibiting delicate and attractive tints, while others approach *C. Mendelii* in general appearance. The labellum of one variety had the rich golden blotch usually confined to the throat carried round the orifice, constituting a bold and handsome flower. The petals in one distinct and singular form are reversed, or droop backwards in a very conspicuous manner, and this habit seems constant, as eight to twelve flowers were precisely similar on the same plant. One variety of *C. Schroderæ* exhibits a peculiar coppery yellow blotch instead of the normally yellow one, and is sweet-scented. There is a yellow blotch in the throat of *C. Wagneri*, otherwise the large handsome flowers are of snowy purity. Not the least interesting is a specimen of *C. Trianae*, whose growth for the last two years has been made in the open air. The flowers are certainly not large, but of great substance, and have been open since the early part of March. The lasting qualities of *Odontoglossum maculatum* are even more notable. Some flowers that opened about the 8th or 9th of January (five months!) are still good.

Several *Cypripediums* are to be noted in flower about the house, such as *C. Argus*, *C. hirsutissimum* and *C. Lawrenciana*. The flower of the latter was notable for its size and the unusually rich claret-purple colour of the dorsal sepal or standard. *Dendrobiums* are well grown, and we noted a healthy specimen of the rare Assam species, *D. senile*, the pseudo-bulbs of which are furnished with long shaggy grey or whitish hairs. The deep shining golden yellow flowers of *D. clavatum* are furnished with a conspicuous blackish crimson blotch in the throat, and resemble those of *D. suavisimum*, and as well as having evergreen or persistent leathery leaves; but the clavate pseudo-bulbs are quite different. The tiny pseudo-bulbs, bearing large yellow flowers of *D. Atkinsi*, seemed happy grown on a block. *D. Bensoniæ*, *D. densiflorum* and *D. luteolum* contributed their quota to make the house gay. The latter is a pretty and likeable flower, but never very abundantly produced. *D. Farmeri aureo-flavum*, otherwise known as *D. F. aureum*, had flowered well, but was faded when we noted it.

The terete-leaved *Oncidium*s are by no means common in gardens, but here, *O. teretifolium* or *O. rotundifolium*—with erect leaves and panicles of bright yellow flowers—finds a place and receives attention. The large, soft, uniform yellow flowers of *O. concolor* are always more desirable than the last, and look very at-

tractive in pendent spikes. Equally curious in its way, as any, is *O. Cavendishianum*, with its leathery leaves, resembling those of *O. luridum*, flowering in another house; the yellow flowers of the former are, however, the more attractive. Several noteworthy features are observable amongst *Odontoglossums*. Two newly-imported pieces of *O. crispum*—fastened to pieces of Fern stem and suspended—by the great size of the deep brownish red pseudo-bulbs, and the remains of the great flower spikes developed in their native haunts, give rise to lively expectations as to what the flowers are like. Some of the pseudo-bulbs are 4 ins. long by 2½ ins. to 3 ins. wide, and measure 8 ins. in circumference. They are the largest we have seen for this species, and, in anticipation, expect they will produce something fine. Few specimens of this species are in full flower at present, but many are well advanced in the bud state. A very interesting natural hybrid exhibited characters exactly intermediate between *O. maculatum* and *O. caudatum*, having the petals and labellum of the latter with the colours of *O. maculatum*, but much paler. A fine specimen of the sweet-scented *O. citrosmum*, with unusually large flowers, was very conspicuous in the centre of the house. Amongst the varieties of *O. Rossii majus*, one was noticeable for its ovate, very much elongated, not triangular lip.

Masdevallias are represented by many species, but the small-flowered unassuming *M. ochthodes*, which has been in flower continuously for the last five years, must not be overlooked. In striking contrast to this, a noble form of *M. chimæra* engaged our attention, not only by its size, but by the length of its tails and the long shaggy grey hairs with which the sepals were thickly clad. The peduncles of this plant carry from one to eight flowers each, but only one expands at a time. *M. ehippium* (syn. *trochilus*), *M. Wagneri*, *M. ignea*, *M. Estradæ*, *M. Shuttleworthi*, *M. Harryana*, and *M. Lindeni* vie with each other to attract attention, either by their brilliant flowers or their singularity. *M. Benedicti* and *M. simula* are both very floriferous, and command due respect in collections. *M. rosea* was very fine, as was a hybrid form evidently having for its parents *M. Veitchii* and *M. Davisii*, and exhibiting a broad orange band along the middle of the lower lip.

Many other Orchids, now flowering, lend a varied and engaging interest to the different houses so recently accessible to the public. The delicious fragrance of *Aërides Ballantynei* adds greatly to the value of the delicately tinted flowers. An elegant little form of *Vanda cœrulescens*, named *V. c. Boxalli*, appeared almost specifically distinct; the leaves are slender, and the flowers small with white sepals and petals and a blue lip. A distinct-looking *Disa*, with numerous flowers on a spike, had the two lateral sepals of a coppery red, while the upper one was marked with rich red veins on a pink ground. The primrose lip, and the rich brown, almost black, and brownish yellow sepals of *Brassia Keiliana* constitute this a very distinct species which might be oftener seen elsewhere. The pretty, but diminutive, *Pleurothallis Barberiana*, with purple spotted flowers, we hardly expected to find outside a botanic garden. *Colax jugosus* appeared at home judging from the size of flowers and the purity of the white ground colour, which shows off the violet spotting to best advantage. Not the least valuable was a finely marked form of the rare *Phalænopsis speciosa*; the rosy violet blotches extended over the whole of the upper part of the sepals and petals; the heavy beard on the top is here a marked feature.

It is impossible in the space at command, to mention all the fine things, whether grown under protection or in the open garden, but one cannot fail to see the attention bestowed on it by the proprietor, and the many cares devolving on Mr. Cummins, his gardener, who has to watch over and attend to the wants of a rich and interesting collection. The soil seemed favourable to Conifers, judging from a perfectly pyramidal specimen of *Wellingtonia gigantea*, with a fine tapering bole and feathered to the ground. *Todea superba*, grown as specimens in isolated glass cases, measured 6 ft. in diameter. Other fine Ferns were planted here and there in moist shady places, including *Onoclea sensibilis*, *O. (Struthiopteris) germanica*, *Adiantum pedatum* and *Osmunda regalis* in fine masses. Near a stream *Digraphis arundinacea* showed its determination to grow by pushing its rhizomes through an asphalted walk. In passing through the

gardens, one frequently notices the wires or other apparatus for suspending *Odontoglossums* and other Orchids over the running streams in the open air during summer.

THE CHRYSANTHEMUM.

SEASONABLE NOTES.—Where the directions given on pp. 424 and 520 of *THE GARDENING WORLD* have been followed, the more forward plants will now be ready for another shift, this time into their blooming pots; but before doing so, carefully go over the plants that have been previously stopped, and if it be seen that they require another stopping, it should be at once done, as after this date the plants should not be checked. The soil for this final potting should be made up as follows:—Three parts good turfy loam and one part well-decayed manure, to which should be added a sufficient quantity of coarse sand or (which does equally as well) sifted ballast to keep the whole porous. A handful of bone dust and a little soot added to each pot will be of great benefit to the plants. The size of the pots for this final potting should be either 8½-in. or 11-in., the larger size to be used for the strongest growers and also for large specimens. The pots should be perfectly clean and well crocked; over the crocks a few rough pieces of turf should be placed to ensure perfect drainage, then put in some soil and press it well down. The plant to be potted should be carefully turned out of the pot, the pieces of crock removed, and when placed in the flowering pot, the soil should be carefully worked all round the roots, so that the space between the roots and the side of the pot may be completely filled up; when this is done the soil should be well rammed down, leaving a space of ½ in. from the top of the pot for top-dressing the plants later on. Care should be taken not to over water any of the plants at this stage of their growth.

The plants should then be stood in their summer quarters on a good bed of ashes to prevent worms from entering the pots, and stakes put to them to prevent their getting broken. A strong stake should then be driven into the ground at each end of the row of plants, and some stout wire securely fastened to one stake, and from that be secured to the stake at the other end of the row. The stakes to which the plants are tied should then be fastened to this wire to prevent the plants being blown over by the wind. The plants intended for producing specimen blooms will shortly throw out side shoots, and from three to six (according to the variety) should be retained, and all others pinched off. On these shoots the flower-buds will in due course appear. Till then the plants will not require any manure-water, but after hot days the plants should be well syringed, not only the foliage but the pots and the ground on which they stand.

Plants in the borders should have stakes put to them to prevent their getting broken, and as soon as they show their bloom buds, a little blood and bone manure should be sprinkled around the plants and watered in. This will be found an excellent plan to adopt with plants in the borders.

If rooted cuttings of the early-flowering varieties be potted at once into 3-in. pots, and stopped as soon as the roots have reached the sides, they will then make very useful plants for blooming in 4½-in. pots, and will come in very conveniently later on for distributing amongst other plants in the conservatory.—*W. E. Boyce, Archway Road, Highgate.*

CHAMÆPEUCE DIACANTHA AND C. CASSABONÆ.

THE first of these makes the handsomest and most striking plant, and is possibly the most commonly-grown species. It makes a handsome pot plant, but notwithstanding its beauty, may not become a general favourite, owing to the formidable array of spines with which the tips and margins of the leaves are armed. This makes it disagreeable to handle, especially when a good development of the leaves have been made, as these lie over and cover the surface of the pot in all directions. The plant is, however, decidedly ornamental in character, and for this reason may, with great propriety, be used in the decoration of the conservatory during the winter and spring months. The leaves are of a bright shining green, marked with a broad silvery line along the mid-rib and all the principal veins.

The most popular use, however, to which it may be put during summer is in carpet or sub-tropical bedding, especially the former. No more striking and uncommon-looking plant can be used for the centres of circles or squares, or for dotting about at regular intervals in the groundwork of any design. *C. cassabonæ* may be used for the same purposes as the other, but is less ornamental; although some might prefer it because of a greener tint and much less spiny. As a rule, growth is not so strong, and the plant is more serviceable for the margins or dividing-lines of large carpet-beds, where the plants used are not kept down to the strict orthodox limit. The deep green leaves are much less deeply divided than in *C. diacantha*, with less distinct silvery veins.

The cultivation of both are simple. Should plants of a limited size be required, seeds—which are easily



CHAMÆPEUCE DIACANTHA.

obtainable—should be sown in February and brought on slowly in the temperature of an intermediate house, as the plants are all but hardy. Indeed, if they are grown in a dry situation on a rockery or similar position they will outlive all but the severest winters in the neighbourhood of London unprotected. After being planted out, they will form dense compact rosettes of leaves during the course of summer. If required for conservatory decoration, they should be grown on in pots. They are useless for planting out a second year, as they are biennial, running to flower and seed. They are admissible, however, and very ornamental in



CHAMÆPEUCE CASSABONÆ.

this state for the rockery. They may also be sown in September to obtain larger plants, and wintered in the greenhouse.

THE PORTLAND NURSERY, READING.

THIS might appropriately be termed the trial grounds of the florists' flowers grown by Messrs. Sutton & Sons, as distinguished from the much larger trial grounds that lie between Reading and Earley. What a charming nursery this is, and how well everything is ordered, how trim, clean and neat! It is impossible to find a disorderly character. I am glad always when I think that a large number of gardeners visit the place during the year; and what high conceptions of plant culture they can derive from what they see if they will only exert their ordinary powers of observation. Whatever

is done is not only done at the right time, but done well. There is no stint of attention, and there is the largest reward in the shape of success.

Cyclamen and *Primula sinensis* are now seeding. Both are in those suitable span-roofed houses that are to be seen in this nursery. The Cyclamens are kept fairly moist, because there is a strain upon them as seed-producers, and it is necessary the seed be nourished. When the seed harvest is over they will go to a cold frame, be rested a bit, then they will start into growth and be re-potted to flower next spring. No plant is neglected, so there is no check. A good harvest of *Primula* seeds of the choicest kinds is being gathered. All the flowers are carefully fertilised artificially, and it is only by doing this that they bear and mature seeds.

Then there are hundreds of little Cyclamens, sown in November, that are pushing on into size rapidly, to be re-potted presently and grown on until they are finally put into 5-in. pots to flower. These are all results from special crosses, made for the production of fine varieties.

Herbaceous Calceolarias, of which there is a very fine strain grown in this nursery, are now rapidly going out of flower and forming plump seed-pods; the flowers of these also are carefully fertilised. One good feature in Messrs. Sutton & Sons' strain of Calceolarias is the excellent variety found among them—not too many selfs, as is seen in some strains; and yet just enough of fine and striking self colours to form a just proportion. One bright yellow self, named Cloth of Gold, is so good and distinct that it is to be regretted it produces so little seed, for it is of a fine glow of colour. One fine plant of Calceolaria—the flowers large and finely-formed, with bronzy brown spots on a golden ground—was particularly attractive.

Gloxinias are in splendid form just now. In attempting to describe the fine varieties, one is in danger of being accused of exaggeration, for the flowers are very large, very stout, and grandly coloured. Here are some of the prettiest spotted varieties I have ever seen; and so large and solid too. They are varieties that bloomed for the first time last year, and are being further tested. How gallantly they come out of the trial! Here are plants of Gloxinias from seed raised in January last; and there are some of high quality, three or four years old. A calendar of Gloxinia culture can be put in a few words: Sow in January, up in February, pricked off in March, potted in April, shifted in May, put into 32-sized pots in July, and then in flower. There are hundreds of plants going through the process, and it is found by experience that the most forward of the seedlings being the strongest, are merely normal types; the later and more retarded plants are those that show the highest attainments in quality. As a matter of course, the fine specimens in bloom now are, as above stated, plants that bloomed in previous years. There are among them some of the finest pure white varieties I have ever seen. But anyone interested in Gloxinias, and desirous of seeing some of the very finest types should run down to Reading. They will be repaid for their journey.

Here is a house of twenty-four sorts of Cucumbers for trial; the plants are in pairs, and as the house runs from east to west, one is on the north and one on the south side. They are planted in stout wooden boxes resting on bricks, in a hot-bed made up of manure and loam; there is a hot-water pipe running along at the back of the boxes with troughs of water on it, and the pipe also passes through a tank; there is, therefore, always plenty of moisture in the atmosphere. There is about 2 ft. 6 ins. of manure and soil, and the plants were originally 4 ins. or so below the box edge, so as to admit of surface soiling, which is occasionally done as required. The house will be an instructive and interesting sight when the fruits are far enough advanced to admit of comparisons being made.

Begonias of the tuberous-rooted section are a great feature, and they are extensively grown here. There are many fine plants of selected seedlings of last year just coming into flower that will be objects of great beauty presently. Then there are many hundreds of seedlings obtained from seed sown in January, now in thumbs and small 60-sized pots, ready for potting into large 60's. Some of the more advanced are already in larger pots. Messrs. Sutton & Sons have a wonderful strain of Begonias, and I have never elsewhere seen a collection so rich in pale and deep yellow, golden, orange and nankeen tints. In the case of the Begonias,

careful crosses are made so as to secure the highest quality, and new and distinct types. The Begonias will be a great sight during July and August.

In the open ground there are great trials of Stocks, Asters, Phlox Drummondii, Pansies, Carnations and Picotees, &c., the two former sown in the open ground and coming up thickly. Hollyhocks look uncommonly well; fine flowering stems will carry noble spikes by-and-bye; no mulching is placed about them until the spring, then the young growths round the base of the stalks are cast away, the plants are well watered, and a mulching of dung is placed round each; thus they get a good start early in the year.

There is a remarkable trial of Tomatos, about which we hope to have something to say later on; and there is to be a trial of Tobaccos also, the plants will soon be ready to plant out. But in these trial grounds there is very much to interest a visitor. Anyone can most profitably spend a few hours here; the visitor, as already stated, sees things well done, and anything grown out into flower is made to display its charms in the most satisfactory manner.—E. W.

ZONAL PELARGONIUMS.

WERE I questioned as to what class of greenhouse plants I considered the most popular, easiest to grow, cheap in price, effective for decoration, and least subject to disease or injury by insect pests, my answer would be the zonal Pelargonium. For the reasons I have enumerated it has become an immense favourite with the masses as well as the classes; it yields beauty in the home-spun greenhouse of the amateur as well as in the palatial conservatories of the wealthy, and flourishes alike in the murky atmosphere of smoky towns and the pure country air. Few plants of late years have been so much improved, and we are indebted to enthusiastic hybridisers for sending out many beautiful varieties in colour, shape, and greater size of pip and truss; indeed, there is no comparison between the modern sorts and those of ten years ago.

I have been extremely fond of these plants since the late Dr. Denny sent out his first set through Mr. Cannell when at Woolwich, and which were then considered masterpieces. By strict attention to nature's laws—in affording needful rest, suitable compost, and the requisite temperature—a successional display can be assured the whole year round; whilst one batch of plants is in flower another may be at rest, and a third coming forward in the propagating pit. As their culture has been fully demonstrated already for winter decoration (see p. 153), it is not my intention to repeat the details given, but to supplement them with a few observations which may be of service to some.

Cuttings to supply plants for spring and early summer decoration we strike in June, and when rooted they are potted into 4-in. pots. As soon as the roots commence to double around the sides, they are again potted firmly into 7-in. pots, using as a compost old Cucumber-beds with a good sprinkling of sand. The pots are well drained and stood outside in an old frame, and we give them copious supplies of water. As they make progress in growth, pinching the shoots is resorted to to induce liberal and uniform growth. By the end of October they are housed and kept as cool as possible, with plenty of air through the winter and only sufficient water to keep them from flagging. About the end of January they are again shaken out and re-potted in the same size pots and in fresh soil of precisely the same texture, placed on stages near the glass, and kept close for a few days with a rise of temperature to 65° to stimulate growth and root-action. In the new soil, when this commences freely, the temperature is kept at 60°, and as growth proceeds and the flower-trusses appear, the points of the shoots are pinched close to the base of the flower-stalk. It may be necessary to shade in brilliant sunshine, but we always admit plenty of air; by this simple treatment we have had a creditable display for the last three months. A slight dressing of Clay's Fertiliser is given occasionally to keep up their vigour and to prolong their blooming season. By the introduction of another resting batch, a perfect display of flower can be easily kept. Appended is a list of the choicest in their respective shades of colour.

SINGLE VARIETIES.

Crimson and scarlet.—Ajax, Plutarch, Mrs. Morris, Mrs. Gordon, Metis, C. H. Swinstead, Tristram, Rose, De Lesseps, Lizzie Brooks, Alex. Albrecht Calbrian,

Raphael, Nelly Thomas, Miranda, Mrs. Mellor, Jas. Douglas, Dr. Orton, and Mrs. Lord.

Magenta.—Octavia, Lord Chesterfield, Amy Kohn, Bacchus, Mrs. Johnson, Orestes, Jessie Moir, Viola, and Zelia.

Pink.—Mrs. Robertson, Constance, Eurydice, Mrs. Strutt, Mrs. Turner, Lady Sheffield, and Lucy Bosworth.

Salmon.—Lady Chesterfield, Olivier, Lucy Mason, Mrs. Holford, Laura Strathan, Omphale, Edith Pearson, and Lotis.

White and Blush.—Queen of the Belgians, Queen of Whites, Aline, Eureka, Bianca, Norah, Mary Caswell, and Edith Little.

DOUBLE VARIETIES.

Crimson and scarlet.—F. V. Raspail, G. G. Faidherbe, Gen. Campeon, Gen. Millet, Comte Rampion, H. Cannell, M. Pasteur, Lord Cecil, Mr. Gladstone, R. Brett, and Georgina.

Purple-magenta.—Charles. Darwin, Gen. Billet, Cassimer Perier, Agalia, Guillaume Mangeli, Souvenir de Capeaux, and Ernest South.

Salmon.—Carillon, Minster, Constance, J. P. Stahl, Thea, Madame Monoreau, Corinna, and Attraction.

Pink.—Lord Mayor, Ed. André, Jules Simon, Mrs. A. Latty, Madame Desbois, Jeffery, M. de St. Amand, Madame Thibaut, and Clara Pfitzer.

White.—La Cygne, Madame Léon Dalloy, La Niagra, La Quintinie, and Alberta perfecta.—B. L.

FIELD AND GARDEN HEDGES.

HEDGES play a most important part on the farm or in the garden, however small either may be. Their utility as barriers and shelter to cattle and crops, for boundary lines, dividing of fields and properties, is well known to all engaged in agricultural or horticultural pursuits.

Hedge plants, like others, require time, care and attention, especially in a young condition. It is of primary importance that the soils and situation should be taken into consideration, and the sorts most suitable for any given purpose. In any case the soil should be trenched 18 ins. deep, that is if the sub-soil will allow of it, and 4 ft. in width. If the soil is good so much the better; if not, mulch, when planted, on each side. In planting, draw a line up the centre of the prepared ground, and with the spade take out a trench about one foot deep. The roots being trimmed, place them the required distance apart, and cover with the finest soil. This done, tread firm with the foot, and bring the plants into position, and fill up the trench neatly with the remaining soil.

For a boundary fence the common Thorn or Quick may rightly be placed first in the deciduous list. Its low-growing habit, and numerous laterals densely set with spines interlacing with each other, make a complete mass of network, which presents a most formidable barrier to cattle. Nor is it particular to soils or situations, thriving almost anywhere. Myrobellia, Blackthorn or Sloe is stronger and coarser in growth than the Quick, and where extra strong hedges for cattle are required it may be used with advantage, keeping it well cut back. For single rows plant six per running yard for the Thorn and four of the Blackthorn. Cut them down the second year to within 4 ins. of the ground, when they will break strongly, and throw from six to twelve shoots, making a close hedge that will resist sheep. How often do we notice up-grown hedges spoiled for the want of timely precaution! Last year we had to cut down a hedge strong enough for cattle, but gappy underneath, presenting no obstacle whatever to sheep, as well as being unsightly and showing nearly 2 ft. of bare stems. Negligence of this kind arises from the idea that a fence will sooner be the result, but I have always found it otherwise.

Beech and Hornbeam may be classed and treated as one; but the former may have preference, on account of having broader leaves and giving a better shield for divisional lines and shelter-belts to nursery and garden quarters. They are extremely useful if clipped in August, as then they retain their foliage throughout the winter. Their worst fault is their liability to aphid or green-fly in summer. Plant five to the yard.

The oval evergreen and common Privets soon make neat compact bushy hedges. The oval-leaved is the best, retains its leaves longer, and is likewise stiffer in

growth than the common form. Whichever sort is planted, it should not be allowed to get too tall, as both are liable to weight themselves down. To avoid this, laterals should be encouraged from the base, and the hedge cut so as to taper upwards. Some plant a Thorn after every third specimen of Privet, to give the latter stability. Plant six Privets to the yard.

Willow and the common Elder are not recommended, as being coarse in growth; but in low-lying situations, and where the moisture is stagnant, the Willow is suitable, because life to this is death to the others. Whilst the Elder is more subject to drowning, it can, nevertheless, grow in a moderately wet and stiff soil. Insert cuttings in spring 1 ft. apart, after the desired height. Keep it well cut back, or it will develop into large bushes or trees, shading the ground and robbing it of nourishment.

Sweet Briar makes both a miniature and a good boundary fence to cottage gardens, on account of its spiny and interlacing nature; whilst the fragrance of its leaves, its single flowers, and coral-red fruits in winter, tells us of its presence, and make for itself one of the gems of the garden. Plant four to the yard, and mulch occasionally in winter.

Fuchsias are not especially adapted to our climate unless in dry and warm situations; F. Riccartoni is the best. In the Isle of Man this forms most charming hedges. For garden or divisional purposes the Manxman seldom uses anything else. He inserts the cuttings in prepared ground in spring, where he requires his hedge. These readily root, and in the course of two or three years they have hedges, which, if clipped in spring, produce young growths or laterals, laden with their beautiful drooping blooms in July and August; and these being the months when visitors are numerous, they are both admired and envied.

EVERGREEN HEDGES.

From evergreen or coniferous subjects there is as much choice as in the other. It will be seen that the evergreen Privet is included with them; but in most northern districts it seldom stands over the winter, and is what I might call semi-deciduous. In selecting from evergreens, prudence and caution must be exercised. For a good hardy fence in a smoky district, the common Holly stands pre-eminent. It combines the qualities of immunity from cattle, ornamental appearance, and acts as shelter. It is extremely hardy and not partial to soils. Plant from 9 ins. to 2 ft. apart, according to size.

The common Yew is a good old-fashioned plant, and for shelter, hedges, and divisional lines to nursery quarters, it is equal, if not superior, to the Holly. It will stand any amount of cutting. However, on account of its poisonous qualities, it should not be planted within the reach of cattle. I could never rightly understand why it should be considered so, for I have seen them eat it greedily in summer with no ill results, whilst in winter its effect has been deadly. I believe it is most dangerous when taken on an empty stomach, there being nothing to combat against its poisonous properties. Plant five to the yard.

Amongst others well suited for the above purpose are the common Laurel, Berberis Darwinii and Laurestinus, and for a neat low-growing fence, the tree Box. The conifers may be represented by Cupressus Lawsoniana, the Siberian and American Arbor Vitæ; but soils for most of these should be dry, and the situations favourable, otherwise, they will not succeed.

In all cases they should be well attended with regard to cutting and keeping them vigorous. Occasional top-dressings with good loamy soil, with an admixture of rotted manure. Cutting and keeping them in shape is a matter of no small importance, helping to thicken and promote a compact growth. The form and shape of a hedge is a matter of taste, and may be arched or round-topped, square, or tapered upwards to a point; the latter is the most favoured, and evenness or regularity of breadth should be maintained as much as possible.—B. L. H.

GARDEN PLANTS ILLUSTRATED.

TRICHOCENTRUM ORTHOPLECTRON.

In outline the flowers of this handsome Orchid resemble those of a Miltonia. The plant is epiphytal, with oval or oblong leathery leaves, resembling those of a Phalenopsis, and is altogether devoid of pseudobulbs. The spreading sepals and petals are nearly

equal in size, and of a light cinnamon-brown. The large flat labellum is obovate-emarginate, or somewhat squarish, and slightly contracted at the middle; it is of a rich crimson-lake, paler towards the margin, with a yellow blotch above the ridged disk. There is a curious tooth-like projection from each side of the white column. The species comes from Brazil, and flowered in the collection of W. Lee, Esq., Downside, Leatherhead, in October last.—*Orchid Album*, t. 272.

BEGONIA CYCLOPHYLLA.

This is a tuberous-rooted Begonia, a native of South China that has been recently introduced from thence. The flower scapes are radical, about 6 ins. in height, bearing a branched cyme of delicately rose-coloured flowers of moderate size and deliciously scented, with an odour that has been compared to that of some species of Rose. This is strongest in a warm atmosphere just after they have become fully expanded. This quality is by no means common amongst the mass of Begonias now grown. The male flowers are 1 in. to 1½ in. in diameter. The leaves are cordate-orbicular, deep green above, reddish beneath, and about 6 ins. in breadth.—*Botanical Magazine*, t. 6926.

CEROPEGIA MONTEIROE.

Tubers of this curious climber were sent to Kew from Delagoa Bay, by Mrs. Monteiro, in 1884, having been collected about the rivers Cougo and Angola, W. Tropical Africa. The flowers are produced in lateral clusters of about three, and the corolla is 2 ins. to 3 ins. long, with a trumpet-shaped mouth. The tube is dull green, spotted with white and green on the upper part. The dome or canopy consists of five lobes that coalesce over the organs of the flower.—*Botanical Magazine*, t. 6927.

NANNORHOPS RITCHIEANA.

Under this name we have an ornamental fan-leaved Palm, reminding one somewhat of *Chamærops humilis*, but differing botanically in having the style basal in fruit and the perisperm not ruminated, whereas in *Chamærops* the style is terminal and the perisperm ruminated. There is only one species of *Nannorhops*, native of some parts of India, Afghanistan, Beloochistan and southern Persia. Numerous stems are produced from creeping rhizomes, forming tufts, and these bear cuneate fan-shaped leaves with numerous bifid segments. Abundance of seeds have been imported by Surgeon-Major Aitchison, and it is hoped we shall soon have an abundance of plants. *Bulletino della R. Società Toscana di Horticultura*, 1887, t. 3.

ANTHURIUM SPLENDIDUM.

It is to be regretted that this splendid Anthurium has proved as yet difficult to cultivate, requiring great heat and moisture to induce it to make good growth and a presentable appearance. The leaves are deeply heart-shaped, with the blade suspended from the petiole, and are strongly rugose all over, after the manner of the spathe of *A. Andreanum*, but having the elevations and depressions closely aggregated and very numerous. The nerves are of a deeper lustrous green than the rest. The spathe is whitish tinted with rose, but not very showy. The species was introduced from meridional south America by Mr. W. Bull, of Chelsea.—*Bulletina della R. Società Toscana di Horticultura*, 1887, t. 4.

AMARABOYA PRINCEPS.

The generic name given by Linden to this new genus of Melastomaceæ is furnished by Amaraboye, the native name of the plant in New Granada. Three species are grown on the Continent, of which *A. princeps* is the most remarkable, and bears terminal cymes of flowers of a uniform red-carmine, with twelve to fifteen large white stamens arranged very conspicuously in a circle round the centre. These flowers are 10 centimetres in diameter, or very close upon 4 ins., and resemble those of a single *Pæony* considerably. The leaves are deep green above, three-nerved, reddish crimson beneath, and very handsome.—*L'Illustration Horticole*, 5 ser. I., t. 4.

IMPATIENS HAWKERI.

This Balsam is one of the most important introductions of last year, and differs from the now almost universally-cultivated *I. Sultani*, in the greater size of its flowers and leaves, together with the fine bronzy or metallic red polished stems. The flowers are rich dark carmine, with a white eye surrounded by a pale bluish tint. The spur is greatly elongated, recurved and red. If it flower moderately freely it will be a great acquisition in gardens. Mr. W. Bull received it from the South Sea Islands, where it was discovered by Lieutenant Hawker, whose name it commemorates.—*L'Illustration Horticole*, 5 ser. I., t. 2.

GARDENING NOTES FROM SCOTLAND.

Chrysanthemums.—We are well supplied with hints as how to do these plants well, and to have blooms large and in great abundance. There has been no lack of information for many years past on the chief cultural points which lead to real success; still, we often hear friends and others complain that their plants do not bloom well, and are very late and inferior to what they see elsewhere. The main causes of disappointment may be found, first, in coddling the plants during the propagating period and earlier stages of growth, and then stopping to make them bushy till it is too late for flowering growths to be formed. Then we often notice the stock of plants placed in such positions where they can only have a minimum of light, it being sometimes believed that shading is really essential to success. In northern and late districts we do not care about stopping the shoots after May, and if they are grown without being stopped at all, fine flowers in abundance may be expected.

The earlier-flowering class for planting out, as well as for pot culture, are invaluable till the main batches of plants come in at the end of October or early in November. Means for protection from early frosts are worth all the trouble which they entail. Last season we only stopped our general stock of plants once, and many of them not at all; we never were better satisfied with our returns, and they bloomed till the middle of January. We have now about 200 plants placed in the full sun, for such is necessary in our district.—*Caledonian*.

Bedding.—The bedding season is now on, and where the beds are not filled with bulbs and other spring and early decorative plants, such weather as we now enjoy (nearly 70° in the shade, May 24th) may prompt many to get the spaces filled, as expeditiously as possible, with the occupants which are to bloom throughout the season. It is much better to have such plants under the protection of a frame, where a covering of mats, frigi domo, or some other material may be thrown over them. If they are turned out of the pots, allowed to grow steadily, and lifted to the bed or borders with roots entire during the early part of June, much will be gained both in growth of plants and inflorescence. Stunted plants under the best of circumstances are long in starting into growth. Often in tenacious soil the plants are placed in the usual way, but weeks pass before any roots take hold of such soil, and much of the season is lost before a start is made; a handful of rich light soil placed round the roots of each plant in the process of planting, does much to aid them into free growth.—*Caledonian*.

Shrubs after Blooming.—It may not be inopportune to make some reference to early-flowering shrubs, and the attention they require after blooming. Many kinds are now past, while others are at their best, and numbers are on the way for a succession of bloom. A good collection of flowering shrubs—both deciduous and evergreen—in pleasure grounds are objects of the most pleasure-giving and desirable character. As examples, fine plants of the various shades of Ribes, Berberis, Cherries, Lilacs, Crabs, &c., well arranged among deep-coloured evergreens where the flowering kinds show themselves unmolested, cannot fail to give the most pleasing effect; but it often happens that these are allowed gradually to develop themselves till they form something like a petty jungle. Fine effect, under such circumstances, is crippled or gone altogether.

When the shrubs have flowered and are starting into fresh growth, from which one anticipates a floral display next year, it may be necessary to go over each shrub individually with the knife, cutting away any branches which are unduly taking the lead or encumbering their fellows—not to make formal or unnatural objects of the shrubs or trees, but to keep them to the limits desired and the size which may be deemed suitable to the position. Plants showing their individual proportions, and allowed to have free air and light about them, are likely to flower more abundantly than those which are crowded and permitted to grow out of form. By waiting till the plants make their growth before pruning is destruction to bloom.—*Caledonian*.

THE AMATEURS' GARDEN.

KITCHEN GARDEN.—In dry weather keep the hoe at work to kill weeds and loosen the soil round all growing crops; this will promote a healthy condition of the plants, by lessening evaporation till the plants cover the ground, shading it from the sun and preventing excessive evaporation. When through stress of other work weeds have been allowed to become numerous, and should showery weather succeed, it will be necessary to rake them off as the work proceeds, otherwise they will take fresh root and establish themselves again in a very short time. Endeavour at all seasons to prevent them running to seed and so save a great deal of additional labour.

THINNING THE CROPS.—Attention must be paid to this before the seedlings become too crowded, otherwise they become stunted and drawn at the outset, and never attain their proper size and development. Great size is not always a desideratum, and growers should be guided accordingly; but good, well-formed bulbs and roots cannot be obtained unless sufficient space is allowed for a proper exposure of the foliage and for root development. Carrots, except the Short Horn varieties, and Parsnips require from 4 ins. to 6 ins. between each plant in the row, some growers give a greater distance, but for table purposes the distances given will meet the requirements if the ground is properly manured and otherwise well tilled. They are not always allowed this distance, especially when grown in lines, but then a large percentage are unfit for use. Beet-root requires 6 ins. or 9 ins. between each plant. Onions keep best when grown of a medium size and well ripened, but to obtain bulbs ranging from ½ lb. to 1 lb. in weight they must be sown on rich soil, in lines 12 ins. apart and 6 ins. between each plant. Market growers often economise space and only give them half these distances. Under favourable conditions fair-sized bulbs can be grown even at the above distances; but seeing that labour is always of some material consequence in private gardens, the lines should be sown sufficiently far apart to admit of the hoe being run down between them to kill weeds.

Potatoes are now advancing rapidly in the open air, and should, therefore, be earthed up immediately, if not already done. Before this, however, see that they have been properly cleaned. Attention now in that respect will save much extra labour in cleaning before the crop is fit to lift. Those who planted early, on hot-beds, will now be able to use young tubers.

BEDDING-OUT.—No time should now be lost in having all the bedding plants, except the tenderest, removed to their summer quarters. If all plans and arrangements have been drawn up, and calculations made beforehand as to the number of plants required for any given design, no waste of time will be occasioned now, and no disappointment for want of material. Prudent amateurs and gardeners commence their calculations for new and other designs long previous, and, in fact, frequently in autumn when the new stock of cuttings is being made. Taking it for granted that plans and plants are all in readiness, the beds and borders must be thoroughly prepared for the reception of the latter. Spring bedding plants, except in particular cases, should now be removed to the reserve garden, and inserted in lines, breaking up such things as Daisies, Aubrietias, Arabis and Myosotis, where stock is required. These should be planted at once, and watered, not allowing half to get destroyed before they are protected from the killing effects of drought. Stress of work may be advanced in excuse for such conduct, but it is very bad economy, and no good gardener would allow it. After removing everything except perhaps the latest-flowering and double Tulips, manure those beds where the plants to be grown in them during summer would be benefited by it. This is most necessary where the soil is light and sandy, otherwise in ground well-manured in autumn, none will now be required for such things as Pelargoniums, Nasturtiums, Lobelias, Fuchsias and similar things. Pelargoniums should not be encouraged to grow too grossly, otherwise they flower badly. Having dug, or forked, and raked the beds, measure off the lines and spaces for the plants intended to be grown. The requisite number of plants may then be conveyed to the beds, where due respect must be made to the size and height of the plants as

they are at present, and the height they are, from previous experience, likely to attain. Where the beds can be inspected from all sides, the tallest plants should occupy the centre, while smaller specimens, or dwarf-growing varieties, should always be placed exteriorly to these. In the case of beds or borders open to inspection from one side only, the taller plants should occupy the back. Colours should also be studied and made to harmonise as much as possible, and not made too conspicuous by violent or glaring contrast.—*F.*

SMALL AURICULA GROWERS.

I HAVE read with very great pleasure the correspondence in your valuable paper from small Auricula growers. I am one, and although I do not possess "lean-to or span-roof houses, pipes, boilers, stoves and ventilators as good a spunkahs," I have been daily delighted for a few—very few—weeks past with a frame full of flowering plants, the greater number of which have been very good. Especially good has been George Lightbody, Lancashire Hero (gray and green), Richard Headley, C. E. Brown, John Waterston, Acme, Conservative, Smiling Beauty, Beauty, Pizarro, Mrs. Douglas, C. J. Perry, Topsy, and a few others; and all grown in cold frames. I fancy I hear your correspondent, "C. A. G.," ask, "How did you manage to get good blooms without artificial heat?" Well, I did not use matting. I covered the light frame with canvas and a thick carpet which I appropriated for the occasion, and over all tied a piece of tarpaulin, which kept the lot dry. I used the covering for about a month, commencing at the end of March, and the plants were very much benefited by it.

I fear "C. A. G." did not shed tears enough over her honoured band to bring them up to show form—in other words, did not give them sufficient water. My experience is that Auriculas ought never to get dry, not even in the coldest weather; if they do, the roots next the sides of the pots shrivel, and the plants have to make new roots at the time all their energies ought to be devoted to foliage and flowers, the result being a poor bloom.

For the last four shows I have not had a plant fit to stage, the date being a week or ten days too soon for me. I most cordially agree with "C. A. G.'s" very practical suggestion, supported too by your other correspondents, "R. D." and "J. K.," that the London show should be held in future in the first week in May. Only think for a moment what a gain a later show would be to the possessors of lean-to or span-roof houses, what a saving of wear and tear of pipes, boilers and stoves, and what a reduction in the bill for fuel! Surely the growers, rich in the resources which are of priceless value in a cold late spring, will hail with joy the very reasonable proposal of "C. A. G.," and do their utmost to bring about such a happy arrangement, whereby the small growers may, peradventure, be enabled to exhibit in the company of the giants, with a remote possibility of winning a few of the minor prizes.—*T. Fife, Southern Hill, Reading.*

LATE-KEEPING APPLES.

SELDOM do we have the pleasure of inspecting so many well-preserved Apples so late in the season as Mr. A. H. Smee, The Grange, Hackbridge, permitted us to inspect last week, assisted by his assiduous gardener, Mr. Cummins. The house or fruit-room in which the specimens were located is a new one on approved principles, fitted up with hot-water pipes connected with the boiler of a stove. It may not be unseasonable to remark that no fire-heat has been used since Christmas. The roof is furnished with a few large windows, which, however, are darkened when light is not wanted in the interior. Two ventilators at each end, consisting of perforated zinc, allow a free play of air at all times; and on certain occasions the door is left open, while an inner one of lattice-work prevents access to the interior. Two steps take us down to the floor, which consists of concrete. No fire-heat is used, except in the case of severe frost or when the newly-collected or ripening fruit becomes sweaty, when artificial heat is employed to drive out the moisture.

Some of the fruit lies exposed on shelves of narrow laths, but a considerable quantity is wrapped up in paper (each fruit separately), and stored in boxes. The green colour of London Pippin has now given place to

pale yellow, flushed with red. It may be used either for table or culinary purposes, being one of the first quality. Although Beauty of Kent is only reckoned a mid-season variety, some fine specimens spoke of the treatment bestowed on this much-lauded Apple. Golden Noble is no less beautiful or appreciated, and the rich yellow smooth-skinned fruit is still very tempting. This, too, is only reckoned a mid-season variety, and seeing that it fruits abundantly, might be grown more extensively for market as well as for private purposes. Fall Pippin, as grown here, is a firm medium-sized Apple with a shining yellow skin. It is a culinary variety, and will evidently remain in perfection for some time to come. Another culinary Apple deserving notice here, is Northern Greening. The medium-sized specimens are green, and from their firmness seem destined to keep good for months, while the quality is much superior to that of the last variety. Winter Coleman or Norfolk Beefing is a round or somewhat flattened Apple of a bronzy red colour, late keeping, and excellent for culinary purposes. An excellent late-keeping variety that fruits abundantly, and is destined to become more frequent in gardens, is Lane's Prince Albert. Dumelow's Seedling, generally known as Wellington, is well known, and needs no recommendation, suffice to say the specimens at the Grange were in excellent condition. Wallington Beauty would seem to be a new or local variety, but even now the large fruit presents a fine appearance, suggestive of the name. A Sussex Apple named Orange Blossom is small but firm, and in good condition. A firm, red, and flattened fruit, of medium size, is that named Lord Burghley. It is a late-keeping dessert Apple, yet in fine condition. The Clove Pippin, a mid-season variety, has now assumed a fine yellow colour, and being large, is serviceable, although not of first quality. It may be used either for dessert or culinary purposes as well as Dutch Mignonne, and both are in excellent keeping order. The latter is now of a fine yellow colour, and suffused with russet. The fruits of the variety, Allen's Everlasting, are rather small but very firm, and of the usual flattened character. It is, further, an Apple of the finest quality. Hoary Morning deserves a place in every collection, from its decidedly ornamental character. Although now somewhat faded, the bright red colour, longitudinally striped with a darker shade, makes it a favourite with many. It is a culinary Apple of large size, and reckoned a mid-season variety, but still preserves a handsome presentable appearance. These by no means exhaust the number in Mr. Smee's fruit-room, but serve to give an idea of what can be grown and preserved in excellence, even at this late season, in "My Garden."

AUBRIETIAS.

SINCE Mons. Aubriet gave his name to this genus, and Aubrietia deltoidea became cultivated in English gardens, what a world of service this and the varieties raised from it have rendered! At this season of the year the Aubrietias are in the full glow of their vernal beauty. Travellers by the Great Western Railway to Reading can, as they pass Messrs. Sutton & Sons' Seed Trial Farms at Earley, look upon large patches of exceedingly pleasant lilac and violet colours furnished by such varieties as Græca, Hendersoni, and others. The soil is covered by patches of foliage, and this is hidden by the wealth of blossom overlying it. Now, Aubrietias, that invariably flower very freely, appear this season to be blooming with something like a wonderful profusion of blossom, as if nature had generously endowed them with floral wealth as it has the fruit trees. Aubrietias can be used in many ways, excepting on a cold, moist, sunless aspect, where they will not do so well; but on any open sunny spot—on rockwork, sloping borders, raised edgings, and such-like—Aubrietias can be used with great advantage. I have a bed of Auriculas with a sloping edge 18 ins. or so in depth, and this is covered with patches of the last new Aubrietia—the deep-coloured A. violacea. They are in the full blaze of the sun, and form a floral picture of great merit. But if one would see Aubrietias in all their glory, they should visit Belvoir Castle in April, and view with what wonderful effect Mr. W. Ingram uses them on the warm slopes upon which he lays down such a grand display of floral beauty in spring. To realise the splendour of the pictures Mr. Ingram traces upon the soil in spring they must be seen to be appreciated.

A few years ago, Mr. Ingram was successful in

raising some pink Aubrietias, but I do not think he named any. Probably, he found some difficulty in fixing anything in the way of distinct and striking colours; and yet I know he had great hopes they would have proved useful in his unrivalled spring garden.

Aubrietia deltoidea, or the purple Aubrietia, came to us from the Levant in 1710; but A. purpurea—from which, no doubt, most of our fine varieties have been obtained—we got from Greece in 1820. Such kinds as A. grandiflora, A. Hendersoni, A. Campbells, A. græca, and A. violacea have appeared from time to time, and fine large-flowered violet and purple varieties have taken the place of the pale violet A. deltoidea. When planted out permanently—and especially so in places where the plants suffer from drought—Aubrietias decline in quality, as might be expected; but when they are cultivated as Mr. Ingram does them, they show distinct and striking colours.

Aubrietias vary a good deal from seed, and anyone raising seedlings should select the largest and deepest-coloured varieties, and then propagate them by means of division. If anyone would pull away from the parent plants little rosette-like tufts of leaves, with long stems attached to them, and dibble them out in a cool moist corner, they would soon make root and grow into nice useful plants. Seed can be easily obtained, for the Aubrietias produce it freely on well-established plants, and if a sowing be made in a pan or shallow box in early spring, and the plants, when large enough, pricked out into a nursery-bed, they will make excellent stuff for blooming the following spring. Frequent top-dressings of soil greatly help the plants, and enable them to root themselves more freely in the soil.—*Quo.*

I AM constantly in receipt of applications from plant lovers for deep-coloured forms of the Aubrietia. There can be no doubt but that the pretty lilac-blue Græca and similar pale-hued kinds produce a very pleasing effect when found in a good mass; but still the popular taste runs for dark-coloured forms. I presume that arises from the comparative absence of red amongst spring flowers, which these dark-coloured Aubrietias help to compensate for. I have had to remark this year what has been an unusual feature in association with these pleasing plants. A few weeks since, when a mass of Aubrietia violacea—one of the finest and deepest-coloured forms in cultivation—was in full flower, some dry parching winds and bright sunshine, allied to white frosts at night, materially affected the colours of the flowers, so that they were much paler than usual, and, indeed, quite out of character. But we have now had rains, cloudy skies, and an absence of white frosts, and the flowers are again of their normal hue—indeed, for the end of May, wonderfully coloured, almost the hue of Beetroot. This fact evidences that the best of Aubrietias will vary greatly in diverse positions, according to warmth or otherwise. Many who have seen this bed of A. violacea have remarked, "That is the best colour I have ever seen"; and I think it is true, for I have not seen it equalled. Aubrietias are blooming late this year, because the autumn growth suffered so much from the snow; but they have an astonishing capacity for recovery. I like especially to plant them on the margin or top of a slope, where they can run down and cover the stone or soil for about 2 ft. in depth. The effect produced then is wonderful, the plants in such case suffering less from snow than when growing flat on the ground.—*A.D.*

ADIANTUM SCHIZOPHYLLUM.

THE accompanying illustration is an exact representation of this new Fern as we saw it at the Great Whitsuntide Show, at Manchester, where it was certificated by the judges. It is perfectly distinct and would never be mistaken for A. gracillimum, having longer and narrower, not triangular fronds as in that form. Another peculiarity is, that they branch in a varying degree, and are at all times slender, drooping gracefully all round the pot in which it is grown. The stipes and rachis are slender and ebony-black, while the whole length of the frond does not seem to exceed 1 ft. The narrowly cuneate pinnules afford the most constant and characteristic features of this Maidenhair, and constitute it a very distinct form of A. cernuum, of which it is a seedling, originating about two years ago in a batch of seedlings raised by Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway. The specific name, meaning cut-leaf, may refer to the branching character of the fronds or to the pinnules, which are also occasionally deeply incised at the margin. The whole plant is compact, graceful, and sure to become a general favourite for decorative work.

LILIES OF THE VALLEY AT TWICKENHAM.

It is impossible for any one interested in the culture of Lilies of the Valley, not to enjoy a visit every year to Messrs. Hawkins & Bennett's market plant and flower garden at Twickenham, where Lilies of the Valley are so finely done. Not merely have the firm one of the finest strains in the world in their Victoria Lily, but they do it so well also, that it is easy to perceive how success in blooming arises from excellence of culture. This firm holds absolute possession of this fine Lily, because they have not sold or grown it in pots for market purposes as others do. They grow it exclusively in large beds for the production of cut flowers, and annually send into market some thousands of dozens of bunches of this fragrant and delightful flower. Not merely are the flowers pure in colour, but the bells are of exceptional size, and the spikes long and well thrown out. Allied to this floral development there is grand foliage, rich, dark and glossy in hue, clean and vigorous.

therefore, that even in one bed alone there must be many thousands of crowns.

It is noteworthy, that whilst the life of an ordinary bed is from seven to eight years, those heated endure about five or six years, the forcing tending to weaken a little the native vigour of the plants. However, only a very moderate quantity is so forced. The Lilies are of necessity grown over and over again in the same position, so that when an old bed is dispensed with, the roots being first lifted out, the soil is trenched deeply, the bottom soil removed, and a quantity that is fresh and fertile, with abundant short manure, added, so that the soil is considerably renovated. The strongest crowns are selected, and replanted thickly in rows, whilst the weaker crowns are planted deep in nursery beds elsewhere to develop ere being replanted into blooming beds. The first year after planting, the beds produce good blooms, the second year there is a slackness of flower, but in the third year they are in full bloom again; this fine florescence continues until the plants show signs of exhaustion. The firm, finding their

ducing huge pips like Camellia or Balsam flowers, is Eurydice, one of the most beautiful and perfect doubles in cultivation; the colour is a bright rosy pink. A grand double scarlet kind is King of Scarlets, which should be widely grown.

A huge house, some 200 ft. long and 18 ft. wide, is literally one mass of scarlet from end to end. The fine double F. V. Raspail, and single West Brighton Gem, wonderfully free, and the older Vesuvius, with some others, make up the bulk. Another house, almost as long, is full of whites from end to end. Here Eureka, Ladd's Queen of Whites, and Niphetos are the chief. The latter has the purest flowers, but is loose in truss; the Queen the best form; and from these two intercrossed have come some superior seedlings, which the firm hope will give them all they desire in form, purity of colour, and continuity of bloom summer and winter. A selection from F. V. Raspail gives a grand double named Jubilee Scarlet, the pips being of unusual size. A beautiful salmon is Sophia Burkin; a lovely pink is Lady Emily, a fine thing for



ADIANTUM SCHIZOPHYLLUM.

Culture is all carried on out in the open and in impromptu frames, if such a term may be applied to wooden sides and ends about 15 ins. in height, and which may be removed at any moment if desired. The larger beds are some 150 ft. long, and about 8 ft. in width, whilst from end to end over the top of the foliage run, at intervals of 12 ins., stout wires strained tightly by means of screws at each end; these are so placed as to hold up light canvas coverings, which are rolled down at night to protect from frost, and back again in the morning. Later, when the flower spikes are developed, huge frame lights are lifted on over the wires, and these, whilst effectually protecting the flowers and foliage, also serve to give the desired finish. A few long lengths of beds are heated, a small pipe running through back and front; these are, of course, for early work, and the season of bloom is materially quickened. Other beds, somewhat in the shade of trees, are late, so that the blooming period extends fully two to three months. The firm have found, on testing, that in all these fully-grown beds there are some 500 crowns in a square yard. It is obvious,

stock to be now in excess of their capacity to extend its culture, are about to offer some of it to the public, they having been entreated to do so for several years, and we hope shortly to be able to direct our reader's attention to that offer in our advertising columns. They propose also, we learn, to give with their Lilies some outline of their system of culture, which has proved so successful.

Any mention of this plant establishment would be defective were no mention made of the Pelargoniums, which are grown here in tens of thousands, and present a display of colour hardly to be met with elsewhere. Huge ranges of houses, lean-to and span, but the latter chiefly, are devoted to the production of flowers from these plants all through the winter and spring; and then as the furnishing season comes on the plants are drafted off to market in large numbers to make, in some mansion or elsewhere, big masses of colour. There are, at least, a thousand of that lovely double Ivy-leaf, Madame Croussé, flesh tint, so highly esteemed for bouquets. These are tall plants, literally crowded with bloom-buds, and all in 48-sized pots. Of other Ivies, a wonderful kind, dwarf in habit, very free, and pro-

bedding; whilst for pot-culture for cutting from, Constance, paler pink, is really perfect. These are but a few of the many kinds of zonals grown here so largely for the production of cut flowers. A word is due to the Stephanotis house, some 50 ft. by 6 ft. in width, the roof being full of clean growth such as cannot be excelled anywhere.

THE FLOWER SERMON.

On Tuesday evening the Church of St. Katherine Cree, Leadenhall Street, E.C., was thronged on the occasion of the preaching of the annual "flower sermon" by the Rev. W. Meynell Whittemore, D.D., the rector. The sermon is addressed to young people, but adults and even the aged were not wanting. Dr. Whittemore, who on this occasion preached his thirty-fifth flower sermon, took his text from Matthew vii, 16: "Do men gather figs of thistles?" The sermon, which was of such brevity that it could hardly have wearied the attention of the youngest child to whom it was addressed, was devoted to a consideration of thistles,

and of the lessons which could be deduced from them. Thus, the statement that the lightly-wafted thistle-down is the fruit of the thistle led to the enquiry what fruits were the children bringing forth in their lives. Again, the rough exterior of the thistle, contrasted with the juicy and wholesome stalks of some members of the thistle kind, and with the fragrance of others, suggested the reflection that a rough exterior sometimes concealed sweetness and usefulness. So, the fact of the musk-thistle giving forth its perfume chiefly at night was the text of a little discourse to show that the night of sorrow often produced the richest spiritual life.

The lightness of the thistle-down, and the result of its falling upon soil in the growth of a sturdy thistle, was made into a warning against the utterance of malicious words, which, borne by a tale-bearing wind, might lead to the growth of a crop of hatred and bitterness. So "if we would have friends we must show ourselves friendly," and other lessons of life and manners were taught to the young hearers from the thistle. Lastly, the thistle was treated as the emblem of a curse upon the earth, and in heaven there would be no curse. After the sermon an offertory was collected towards paying the cost of the new parish and Sunday school-room, and at the close of the service the congregation filed up to the chancel, and there deposited their bouquets, which were afterwards conveyed to the Sailors' Orphanage.

BROWNEAS.

THE species of Brownea, of which seven or eight have been introduced to this country, are trees or shrubs belonging to the regular-flowered section of the great Pea family—that is, the petals are similar in shape and size, and not irregular and papilionaceous, as we have them in all the British Leguminosæ. The flowers are generally collected in dense heads, which often resemble those of a Rhododendron, owing both to this arrangement and the regularity of the flowers themselves. The foliage, however, and inflorescence, taken together, constitute them magnificent plants for a stove or conservatory, in which latter place the taller-growing ones have more room to develop their natural habit and size, which adds greatly to their imposing appearance. The flowers, furthermore, are, in several of the species, so densely arranged in a head as to appear like one flower (and they are often taken to be such), which, if measured, would prove of a far greater diameter than they appear to the eye when produced on the top of tall trees.

The known species are all natives of some part of tropical America, chiefly the south, but some extend to central America; and *B. coccinea*, which was the first one introduced to this country, is a native of the West Indies and some parts of the mainland, such as Venezuela. It is, moreover, the most widely-cultivated in this country, and possibly flowers more frequently and abundantly than any other. Owing to their distribution in those warm and humid regions, they necessarily require stove treatment before any measure of success can be attained. Given these conditions, however, there is no secret or difficulty in their cultivation.

A compost consisting of equal parts of loam and peat or twice as much loam as peat, with a sufficient quantity of sharp sand to keep the whole porous and open, will meet the requirements as to soil. Good drainage is essential to success, as they require an abundant supply of water in summer while making their growth. Towards the end of the growing period, water may be partly withheld to induce the ripening of the wood and favour the production of flower buds. When the first growth has developed and ripened early in the season, a second may follow in the course of the summer, especially if the plants have been repotted and kept in a warm, moist atmosphere. Watering must be more cautiously performed when the plants are at rest, especially during the dull and sunless weather. A superabundance of moisture at the roots at that time often causes the latter to decay, when the plants get into a bad condition from which it is difficult to extricate them, or they may even perish altogether. The roots are of a fleshy character and, as a rule, not very numerous produced, consequently they must not be over-potted, or the soil is apt to become sour from not being fully permeated and occupied by the fibres which tend to keep it open and sweet.

Propagation may be effected in two different ways, namely, by seeds and cuttings. Some of the species produce fruit in this country, and when occasion offers, seeds may be imported from which seedlings can readily be raised. Plants obtained in this way, however, take much longer to attain flowering size, which is very objectionable in houses of small size. In the case of rare or newly introduced species, or where hybrids are wanted, this method is imperative. Plants already in a flowering condition are obtainable from cuttings. Of course, considering the size of the flower truss, they cannot be expected, like Hydrangeas, to flower the first year, seeing that cuttings of the latter may, and are used with great certainty, having the flower buds already in an advanced state of development. Cuttings of the ripened wood in this case should be employed, and inserted in pots of very sandy soil, and placed under a bell-glass, keeping them moist, and standing them in a place with a brisk stove temperature. Those possessed of a propagating frame with a bed of cocoanut fibre in which the pots may be plunged, have all the conditions requisite for increasing stock.

As soon as it is ascertained that the cuttings are tolerably well furnished with roots, they should be potted off singly, using a richer or more substantial compost than that in which they were rooted. The annual routine of culture is henceforth similar to the general run of stove plants. Some of them flower in a comparatively small state when obtained in this way, and the young foliage is especially ornamental, exhibiting remarkable shades and tints of colour seldom occurring in other members of the vegetable kingdom, which, moreover, disappear as the leaves attain their full size and commence to harden.

B. COCCINEA, as already mentioned, was the first introduction, being grown as early as 1793. A figure appeared in the *Botanical Magazine*, t. 3964, in which it will be seen that the flowers are not so large, and produced in smaller clusters than in some of the other species—notably, *B. Ariza* and *B. grandiceps*, the latter of which is now tolerably common in collections. The leaves are leathery, and smaller than in most species, consisting of only two to three pairs of leaflets and an odd one. The scarlet flowers are produced in clusters in the axils of the leaves or from the buds on the older parts of the stems and branches from which the leaves have fallen. The result of this is that the fullest effect the plant is capable of producing is somewhat lost, owing to the flowers being hidden away amongst the foliage. The object of this in a state of nature is, doubtless, the protection of the blossom from the fierce rays of the sun. The flowers, as a rule, are short-lived, but seem to remain in perfection in this case as long as any. The young leaves are of a beautiful shade of pink or flesh-coloured, and very ornamental when about half developed.

B. ARIZA is evidently more often talked about than seen, judging from the fact that plants are in cultivation under the name of *B. Ariza hybrida*, but which, on inspection, prove to be *B. grandiceps*, or slight variations of it. A parentage between the latter and *B. coccinea* is more often visible in the seedlings. *B. Ariza* is synonymous with *B. princeps*, sometimes grown as *B. stricta*, a tall-growing erect and naked tree, with a branchless stem attaining a height of 20 ft. to 40 ft. in its native country, and not much smaller in this country, when grown in high-roofed stoves or conservatories where it is allowed room to develop. The stem is firm and comparatively thin, but requires no artificial support, which tells greatly in its favour. These dimensions are obtained even when grown in a pot, while the thinness of the stem is attributable to its unbranched condition, bearing the huge leaves in a tuft at the apex, similar to the habit of Palms, Dracænas and other Monocotyledons, whose stems, as a rule, do not increase much in thickness. The leaves assume a horizontal or drooping position, and consist of pairs of oblong-lanceolate deep green leathery leaflets. The mid-rib of the leaf alone, from which the leaflets ultimately fall at maturity, resembles a branch of considerable length and thickness. When the leaf-bud bursts in spring, numerous leaves come all of a mass, while the axis bearing them elongates, completes its growth and rests for the season. At first they are perfectly erect, and retain this position for some time, surrounded at the base by a mass of brown scales, consisting of the bud-leaves or bracts, and possibly the stipules. These young developing leaves have a beautiful satiny lustre, which they preserve for some

time. The flowers are of an intense scarlet, and borne in drooping clusters of great size. This species is figured t. 6459 of the *Botanical Magazine*.

B. GRANDICEPS is as deserving of cultivation as any, and, perhaps, next to *B. coccinea* receives most attention in this country. The small state in which it can be flowered, the size and beauty of the flower head, and the decidedly ornamental effect produced by the young expanding foliage, are, doubtless, the best reasons that can be given for the preference shown it. Young plants struck from cuttings are frequently used for the decoration of the stove, and its attractiveness is of no mean character when the young buds burst, an occurrence which may take place at any time during the course of summer, according to the state of the plant. They are at first of a deep brown hue, soon changing to pale green, copiously furnished all over with large irregular-sized brown blotches, and ultimately become green. It would be interesting to ascertain the value of these curious markings in the economy of the plant; but, at the same time, it seems feasible to imagine that the presence of other colouring matters besides chlorophyll in the delicate tissues of the leaves, shields the latter from the fierce rays of the sun till they attain a firmer consistency and develop the internal and protective tissue. The flowers are of a soft rosy red colour and densely arranged round a conical axis, forming a rosette or head of great dimensions. Those on the circumference of this mass are the first to expand, and while the central ones remain in bud condition, the whole bears a striking resemblance to a single huge flower, and is often reckoned as such by casual observers.

Besides the three species above mentioned, there are several forms in cultivation variously described as *B. hybrida*, *B. coccinea hybrida*, *B. Ariza hybrida*, or such similar names, but there evidently appears to be a lack of system among hybridists, or, at least, the cultivators, for *B. grandiceps* is often made to pass muster for one of these hybrids, as is shown by the peculiar blotches or markings of the young leaves, and by the flowers themselves when they are produced. This may arise from the sending out of seedlings before they have been flowered and certified. There are, however, several distinct forms in cultivation, of which one cannot deny the hybrid nature, and whose parentage is often traceable from the foliage and flowers. Other species have been introduced, but if still in cultivation have not yet become common.—*Taxus*.

GARDENING MISCELLANY.

Fickle Primroses.—Let me record another instance of the inconstancy of Primroses. In 1885 I bought, of a well-known firm in the north, half-a-dozen plants of the crimson Primrose; all were in full bloom, and all the blooms were of a deep rich crimson. I planted them near one another, and quite apart from any other Primroses. Last year they flowered liberally, but, to my surprise and disappointment, the flowers were without exception pale yellow, and indistinguishable from the field Primrose. I concluded that the crimson hue of the year before had been a mere "sport," dependent, perhaps, like the blueness of the blue Hydrangea, upon some peculiarity in the potting-soil. I left the degenerate plants untouched, and thought no more of them, except as six fresh opportunities for practice of the grace of resignation. This year, however, four out of the six have reverted to the crimson of two years ago; while the other two, still walking in the wide path of declension, have presented me again with the ordinary custard-coloured flowers. Will someone accustomed to read the workings of the Primrose mind, kindly tell me what may be expected next spring? Will the four lower their standard again, or will the conduct of the two rise to its early level?—*C. A. G.*

Scilla hispanica (syn. campanulata).—Of all the Bluebells that are grown—and some are very beautiful—assuredly the one now under consideration is pre-eminent. As a plant for the herbaceous border, or clumped in masses beneath the shade of overhanging trees, it is fair to look upon; but brought under the loving hand of an amateur enthusiast, given the requisites of cultural consideration, grown on in 6-in. or 8-in. pots, and flowered under glass, it far surpasses

the original type. This Spanish Squill, or Bluebell, is worthy of more extended recognition in the matter of pot culture. It is a desideratum for amateurs possessing only unheated structures; for if the bulbs are potted up in autumn, wintered in a cold frame, top-dressed in spring, and brought into a greenhouse to develop their floral beauties, they cannot fail to gratify the most fastidious. A clump of bulbs, treated as above, is now the object of the writer's admiration. The long strap-shaped sub-erect leaves become, under cultivation, perfectly recurved—so much so as to completely hide the pot in which the plant is growing. From this mass of foliage rise sixteen handsome spikes of bloom covered with pale blue flowers. The latter are broadly campanulate in form, and range from twelve to thirty on each individual raceme, which, collectively, rise to the average height of 19 ins. After flowering, place outside in a shady position, attend to watering till the foliage changes colour, then divide for increase, pot up, consign to a cold frame, and, for the time being, its cultural requirements are complete. *C. B. G., Acton, W.*

Jack-in-the-Green Polyanthus.—From Mr. William Caudwell, The Ivies, Wantage, comes this curious garden form of Primula, which well earns for itself the heading of this note. It was accompanied by a most interesting series of Hose-in-Hose Polyanthus and other forms, illustrating the origin of flowers from ordinary green leaves. The variations in the present instance occur in the calyx, which ranges from the normally 5-angled slightly inflated form through various stages of development, both green and petaloid or coloured. A deep crimson flower was furnished with a large calyx, whose segments were crisped and toothed, while other dark-coloured flowers have a calyx with enlarged and dilated segments, not much inferior in point of colour to the corolla itself. Several bright yellow forms were perfect specimens of the Hose-in-Hose, having calyx and corolla coloured alike. The calyx of Jack-in-the-Green has developed into five perfect green leaves precisely similar to the ordinary ones, with nothing to mark their true significance as part of the flower, except their position round the corolla, and their being slightly joined, forming a cup at the base. The crimson red corolla has an elongated tube.

Brash and Lias.—"A young gardener," writing to me a few days ago, asked me if I would give definitions of these two terms, for the information of himself and his fellow-students. "Brash" is a word of French origin, and has nearly the same meaning as "trash," which is of Scandinavian origin; the words appear to be directly related. In geology, a brash is a scattering of fragments of rubbish of rocks caused by weather, local dislocations, and sometimes by blasting. But the term should never be applied to the result of human agency. When a particular brash is referred to, its nature should be stated, as lime-stone brash, red sand-stone brash, &c. The noble headland of Main Tor, in the Peak district of Derbyshire, seems brash as one looks at it, for the face of the rock is for ever falling in flakes and in chips. "Lias" is always a limestone, and is usually called blue lias, because mixed with beds of blue clay. It is much valued as a source of lime, because free from magnesia. The position of the lias is the base of the oolite, and above the new red; it is, therefore, not a very ancient rock. The lias fossils include ammonites, fishes, and the big reptiles of the ichthyosaurus pattern. White lias is the best lithographic stone. Lias is of marine origin.—*R. D.*

Solomon's Seal.—In the *Gardeners' Chronicle* last year I noticed a communication from a well-known contributor respecting a sweet-scented form of Solomon's Seal. I remember that at the time a footnote by the editor took me rather by surprise, it being to the effect that such a plant was entirely unknown to him. Our own stock is beautifully scented, and we use the plant rather largely for church and house decoration, and often find that its scent attracts the notice of visitors passing through the houses. Till I saw the letter in question, I had not the slightest doubt but that everyone's stock was like our own, never noticing any difference in growth, colour, or time of flowering. I think the question of there being both scented and odourless varieties of this old favourite, is of sufficient interest to call the attention of your readers to it, because if anyone has a stock of scentless plants, it will be quite worth while for those who appreciate flowers for their perfume, to procure a stock which will

delight both the sense of sight and smell. I call attention to it now because I suppose it will be in flower in most places by this time, though, like everything else, it is unusually late this season.—*W. B. G.*

Weeds on Lawns.—We have a piece of grass much disfigured with plantains, and find sulphuric acid, lawn sand, and sulphate of ammonia are attended with the disadvantages of disfiguring the grass, and being to a great extent disappointing in their results. A great number of the root-stocks are not entirely destroyed by any of them, and after a time the parts unaffected send up fresh growths, which are most difficult to deal with. I would like to know if any of your correspondents have tried Smith's Weed Killer for this purpose, and with what results. Failing that, I fear there is nothing for it but to get them out with a Daisy-iron—a tedious and expensive operation.—*W. B. G.*

Lilium Harrisii.—This belongs to the *L. longiflorum* section, is called "Easter Bermuda Lily," and sometimes *L. floribundum*. The above Lily surpasses all others in its free-flowering properties, blooming two or three times in the space of a twelvemonth. There were some doubts expressed on its first appearance, as to whether it was distinct enough from *L. longiflorum* to be called a new species, but the subsequent culture of it has tended to confirm the opinion that it is a grand Lily and most distinct. It grows about 3 ft. high, bearing from four to six flowers, but often more, being produced as in the typical *L. longiflorum*. The bulbs may be planted singly or three in an 8-in pot, in rich loam with a proportion of manure. When the growth is about a foot high, liquid manure, in weak doses, should be administered liberally, and this treatment must be continued throughout, for when the old stem commences to die another fresh one will be pushing forth, which, being weaker than the first, requires extra nourishment. Bulbs thus treated will bloom in April, while for purity and fragrance, or used for decoration, they cannot be excelled.—*F. R. S.*

Tree Pæonies, Snowflake and Lilacina.—These two fine certificated varieties are in flower at Mr. Wm. Gordon's nursery, Twickenham, together with about thirty other new and fine varieties imported direct from Japan. Snowflake is a large double pure white; Lilacina, white, with lilac centre; Dr. Gordon, a grand double pink; Lady Osbert, scarlet and red; Lord Beaconsfield, blush, with violet flame in the petals; Her Majesty, rose, with lilac centre; Enterprise, rose; Merry Hampton, a fine violet; and Ivy, a charming single with dull scarlet or bright brick-red petals, and yellow centre—to our mind the prettiest of all. The plants have a fine appearance mixed with elegant-leaved Japanese Maples, and their flowers are delightfully fragrant.

Suttons' Imperial Cabbage.—This is one of the best early varieties I have ever grown; indeed, grown side by side with four other sorts, I may say that it is by far the earliest and best. I have been cutting beautiful heads since the first week in May; and to get Cabbages fit for table at that date in Carnarvonshire is very good work, considering what a trying spring we have had. The winds we have here are very severe, and try the constitution of all plants. The seeds were sown on the 6th of August, and the plants put out on the 1st of October last, on the Onion quarter, and not a single plant has bolted.—*G. Tyler, gardener to General Hugh Rowlands, V.C., C.B., Plastirion, nr. Carnarvon.*

Amaryllis Belladonna (Belladonna Lily).—When at Gunnersbury Park the other day, I noticed that the long border of Belladonna Lilies in front of one of the plant houses had made a marvellous growth of foliage, but the spring frosts and biting northerly winds had seared the leaves in places where they were exposed to their action. It is some five or six years ago since Mr. Roberts planted the bulbs, and he has been most successful in flowering them. Last autumn there was a wonderful wealth of bloom, the flowers large and finely coloured. It is curious to notice how much earlier the bulbs are at one end of the house than at the other, and that is because the hot-water pipes are at one point much nearer the bulbs than at the other. The border is on a south aspect. It is on such an aspect or a south-west one that the bulbs should be planted. The bed should be dug out to the depth of 18 ins., some drainage be added if necessary, then some rich soil put in, and the bulbs be planted 9 ins. below

the surface, so that they may be outside the reach of frost. In two years they begin to bloom freely, and by the third year will throw up three or four flowering stems each, as the Gunnersbury plants do, and they should not be disturbed for a few years, not until signs are apparent that the plants are giving out. During autumn and winter a good mulching of dung and loam should be added, and, if necessary, these can be removed in spring. A bed of these Lilies is of great assistance to a gardener at that season of the year, and it supplies a large number of cut flowers of a very useful and acceptable character. Bulbs can be purchased very reasonably in August and September, as they are imported largely in a dry state from Holland, France and Guernsey. The bed once planted there is no further cost for years, except such a trifling outlay in the shape of labour necessary for their culture.—*R. D.*

Late-keeping Apples.—Amongst the mass of Apples grown, it is so far satisfactory to know that there are British-grown varieties capable of keeping up a supply till next season's crop is obtainable. Mr. M. McLean, The Gardens, Vinter's Park, Maidstone, sends us two varieties, namely, French Crab and Lane's Prince Albert. One fruit of the former was ripened in 1885, the other in 1886, as was also that of Lane's Prince Albert. The oldest fruit was a good deal shrivelled, as might be expected, but in no way decayed, while last year's fruit of the French Crab was as firm and sound as when gathered last autumn. It is a beautiful Apple, now of a pale yellowish green, marked with small russet dots and giving off a delicious odour; it may be used either for dessert or culinary purposes, and is synonymous with Winter Greening. The specimen sent us was above the average size. Lane's Prince Albert ripened last year, is still sound and firm, with a smooth glossy shining skin, of a pale greenish yellow, flushed and streaked with red on the exposed side; it is a large conical Apple of the first quality, keeps late and a heavy cropper. It is one of the Apples that deserves to be more extensively grown.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

BEDDING-OUT will now occupy most of the time, though the potting-on of many of the summer-flowering decorative plants must not be overlooked; they are so quickly rendered useless if once they become badly pot-bound. We have shifted the seedling tuberous Begonias into 32's, returning them to the stages in the intermediate house. The smaller ones have been potted off singly, and will be treated in the same manner as they advance in growth. Mimulus, Celosias, Browallias, and a host of other subjects have likewise been similarly treated. If pit-room can be spared, many of this class of plants will be found to succeed far better than if kept in the houses.

IMPATIENS SULTANI have been shifted into their flowering pots, and another sowing has been made to succeed them. This will be found far preferable to keeping the old plants on throughout the season. The early Achimenes are now coming into bloom, having been neatly staked out and staged in the intermediate house, where their flowers last longer, and are of better texture and colour, than if grown in a strong heat. As Caladiums make progress, they must be given plenty of room and fully exposed to the light, that the different tints may be brought out, for—like Crotons—it is only by such treatment that their full beauty is seen. Take every care of the pretty little *C. argyrites*, so very useful for all kinds of decoration.

THE EARLIEST-FLOWERED AZALEAS of each type will now have completed their growth. Ours have been removed from the houses into the pits, so that they may be hardened off, and also to rid the vineries as much as possible of all plants, which is necessary as soon as room can be found for them elsewhere. There is always a danger of their becoming infested with thrips, which speedily transfer themselves to the Vines, and spread with alarming rapidity. Let the pits containing them be freely ventilated, but in case of bright sunshine it will be advisable to give some slight shading during the hottest part of the day; so far little of this has been required this season. We have given the greenhouses a thorough turn-out and cleansing, potting such plants as required, and re-

staging all through, giving also a fresh coating of staging material.

The whole of the zonal Pelargoniums have also been looked to, in most cases a shift into larger pots having been given; even where this has not been done the drainage has been examined and a surfacing of fresh soil given. One side of the greenhouse has been given to them, as their flowers are extremely useful for cutting, and when grown under glass and liberally treated, amply repay all attention bestowed. All possible strength will be devoted to the bedding out, so as to get it completed as quickly as possible; the weather, too, is extremely favourable to their taking hold of the soil, thus doing away with much of the watering generally attending this work.

THE FRUIT HOUSES.

CUCUMBERS which have been heavily cropped during the past two months, as ours have been, will now show signs of distress. We have packed round and between the hillocks of soil with some good strong half-rotten manure, and given a surfacing of 2 ins. of good rich soil, which will speedily cause them to grow away again; at the same time the plants have been subjected to a thinning-out of the leaves. The temperature will be also rather higher for a time, so as to thoroughly excite them. Take care that the supports are placed under the Melons in good time. There is little to be gained in over-cropping—if anything, a loss of weight at the expense of the number of extra fruit obtained. If a plant will produce four good fruits we are quite satisfied.

We have made up a hot-bed for the next set of plants, and they will be planted out as soon as the soil has become warmed. It will be found advisable to use a rather firmer compost from now, so as to avoid too frequent waterings at the roots. If grown in pits, take care that the proper temperature is maintained, or they are extremely liable to canker off at the base. Damp down the sides of the walls each afternoon, and close early—I wish I could say with plenty of sun-heat, to save firing; truly this is a most unfavourable season meteorologically.

GRAPES are colouring fast; but with such continuous firing we notice a slight trace of red-spider, and to eradicate which, sulphuring, as previously advised, will be resorted to, a remedy always effectual against this tiresome pest. We shall ventilate more freely with both front and top lights, and so by this means we hope to make the foliage more hardy and less liable to be attacked. The succession Peach trees have been gone over, and neatly tied to the trellis. Much of the surplus fruit has also been taken off, so as to relieve the trees, and the foliage, too, should at the same time be kept from the fruits to thoroughly expose them to the light and sun.

THE KITCHEN GARDEN.

GENERAL WORK.—Care must be taken that the thinning of the various crops, such as Onions and Carrots, is not too long delayed, as should they become too strong, much injury is done to the roots of those remaining; the weather is particularly favourable for the work just now. For the main crop of Carrots we generally leave about 9 ins. between the plants, Parsnips a foot (these were thinned some-time since), and Onions, according to variety, from 4 ins. to 6 ins.; after thinning is completed the Dutch hoe is run between the roots, which leaves a nice mould on the surface and prevents baking. We have planted out our first sowing of Snow's Broccoli on a well-prepared piece of ground; we find this the most valuable of all the Broccolis, and always make two sowings.

We have also pricked out a quantity of the other varieties of Broccoli, these generally giving a better return than if drawn and planted from the seed beds, and as a rule stand severe weather better. Attention must be paid as much as possible to the squares of Potatos; they are now growing very freely, and much injury is done if neglected. As the Broccoli is cut the stems are removed from the squares, the ground is well manured and dug ready for succeeding crops. We have made another sowing of Lettuce to succeed those planted out last week. We have also made another sowing of Broad Beans, rather late in the season, in a young state; these are useful as a change for the dining table. Make frequent sowings of Spinach, as it is so soon apt to bolt during hot weather.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—It is a very good plan as early as possible in the month of June to commence a regular review of the whole of the Orchids, as nothing more important just now commands attention. It is best to begin in the house in which it seems most necessary; clear a good space on the staging, have it thoroughly cleansed, and then pass the plants back, thoroughly cleaning them and their pots, and doing everything else necessary to each as they are passed over, taking care not to hurry, but to do all thoroughly and well. The fresh space cleared should be treated in the same way, and so on until the house and everything else in it is in perfect order, when another house should be commenced, and treated in the same way.

In passing the plants over, it is advisable, with such things as Cattleyas and Lælias, and, indeed, most other things on coming to a specimen which is weak and does not seem to be settling in the pot in which it is placed, to turn it out and either block it or put it in a small basket and suspend it near the glass; so treated, plants going back often get quite a fresh start and quickly re-establish. In arranging the baskets, blocks, and other plants suspended from the roof, care should be taken that they are so placed that they are not suspended over the plants on the stages more than is absolutely necessary, for plants do not like others over them, even although they are not allowed to drip on them. It is usually convenient to suspend many over the walks or in other ways where they have no plants under them, but where it is absolutely necessary to suspend some plants above those on the stages, the ill-effects may be lessened by changing their relative positions frequently.

THE TEMPERATURES FOR THE MONTH of June should be:—East Indian or warm house, 75° to 80° by day, 70° at night; Cattleya or intermediate house, 70° to 75° by day, 65° at night; Odontoglossum or cool house, 60° to 65° by day, 55° at night.—*James O'Brien.*

Cattleyas at Messrs. James Veitch & Sons.—Lovers of good Cattleyas and Lælias should not delay in paying a visit to the great display of them at the Royal Exotic Nursery of Messrs. James Veitch & Sons, and fanciers of cool-house Orchids will find an equally good display in their Odontoglossum houses. There is a great advantage in inspecting the showy and variable Orchids when in bloom, as some like one kind of flower and some another; when selected in bloom all are sure to secure what pleases them best. At Messrs. Veitch's the hybrid Cypripediums and other Orchids have many good things in bloom among them; and *Cœlogyne Dayana*, *Dendrobium Bensoniæ* xanthinum, *Phalænopsis Parishii* and many fine specimens of the noble *Schomburgkia tibicinus* are in flower.

Cattleya Mossiæ: New White Variety.—The finest thing we have seen in this way is now in flower at Messrs. Hugh Low & Co.'s nursery at Clapton. In form and size it is equal to the best *C. Mossiæ*, but has pure white sepals, petals and labellum, the only colour being a bright light yellow in the centre of the lip and the faintest pencilling of pink in the centre of the labellum at the edge, which is finely fringed and expanded. Scores of plants, too, of their fine strain which produced *C. M. superbissima*—now in Sir Trevor Lawrence's collection, and which is admitted to be one of the very finest—are in bloom, and many of the specimens exhibit qualities of the highest order, the labellums being especially large, round, finely-coloured, and fringed.

Phalænopsis Sanderiana alba.—Amongst a host of other good things at the Clapton Nurseries a pure white variety out of *P. Sanderiana* is flowering, its hlooms being as white as a *P. grandiflora*, and only having a very little tinge of chrome-yellow at the base of the lip. It is a very distinct and pretty variety, the leaves being quite those of *P. Sanderiana*, although the flowers are very dissimilar.

Odontoglossum Andersonianum, Maxwell's Variety.—This is the finest variety of its kind we have seen, the spotting being altogether different to the other named forms. In shape and in the peculiar elongation and recurving of the labellum it is exactly *O. A. lobatum*, but the sepals and especially the petals are so heavily blotched with bright chestnut-red in the middle of each segment, as to give a marked

predominance of that colour, finely shown up by the broad creamy white margin which runs round and tips each segment. The lip is bright yellow at the base, and has a few round spots in the centre, and the flower measures 4 ins. across the sepals, and 3½ ins. across the petals. This fine novelty comes from Captain Maxwell, of Terregles, Dumfries.

Uropedium Lindeni.—It seems to be the generally-accepted opinion amongst reliable authorities that this singular Orchid is nothing more or less than a monstrous variety of *Cypripedium* (*Selenipedium caudatum*) that originated, as it were, accidentally, and became persistent, or managed to live and secure its reproduction in a manner different from that of its parent, and at present unaccounted for or unknown in the scientific world. We had the pleasure of seeing it the other week in the collection of R. H. Measures, Esq., The Woodlands, Streatham, where it was bearing four of its singular flowers on a spike. The sepals are pale greenish yellow, and the petals deep dull purple, similar to those of *C. caudatum*, but, as a rule, not attaining the same length and slender character. The labellum is similarly coloured, and in shape and general appearance like the petals, or somewhat broader and concave at the base, but without the characteristic pouch or slipper-shaped process of *Cypripediums*. It is desirable on this account, and not without decorative effect in a collection of Orchids.

Brassia verrucosa.—Some finely-flowered specimens of this singular and ornamental species have been gay for some time past at Carville Hall, Brentford. The sepals and petals are of a clear greenish yellow, spotted with brownish purple or black spots near the base. The labellum, the most conspicuous part of the flower, is pure white, furnished with small green warts, which give rise to the specific name of the plant. Mr. Morrison grows it very successfully in well drained pots in a compost of lumpy peat and sphagnum. The pseudo-bulbs increase freely so that a number of specimens have been obtained by dividing the original one in a very short time.

HORTICULTURAL SOCIETIES.

Manchester Botanical and Horticultural.—The gardens at Old Trafford, being this year not available for holding the annual Whitsuntide exhibition, a smaller piece of ground near at hand had to be called into requisition, and, consequently, the annual display was shorn of much of its proportions and reduced to very limited dimensions, though, as far as it went, the quality was, undoubtedly, first-rate all through. The society has held these annual displays for the last twenty years, and always with great success, so that, although this exhibition made somewhat of a break in the series, the council were wise in not breaking the continuity of the series altogether, even though they lose money by so doing.

The exhibits were staged in a range of glass 300 ft. long, specially built for the occasion by Mr. Sam. Deard, of Harlow, and in three large marquees. The most striking features of the show were the Orchids and herbaceous plants, though among the former were none of the grand specimens which have been so telling at previous exhibitions; nor with the exception of one group were there any of the noble specimens of stove and greenhouse plants, Palms and Ferns, only to be seen now at provincial exhibitions of a first-class character. This, of course, was easily to be accounted for, as no money prizes were offered in the usual way, only Jubilee medals for collections, and these in three degrees of value.

First Class Queen's Jubilee Medals were awarded to Mr. B. S. Williams, Upper Holloway, for a grand bank of small and medium-sized flowering and fine-foliaged plants, in great variety; and a choice assortment of Orchids—a group altogether that was a credit to one of the Society's oldest supporters. To Messrs. F. Sander & Co., St. Albans, for a remarkably beautiful group of Orchids of various sizes, consisting of some 300 specimens of Cattleyas, Odontoglossums, Cypripediums, Dendrobiums, Masdevallias, &c., grouped in a style that at once caught the eye, so fine was the general effect. To Messrs. John Laing & Co., Stanstead Park, Forest Hill, S.E., for a group of Caladiums and Tuberous Begonias of unusual excellence, the new varieties of the latter being for novelty

far in advance of anything seen before, and a number of Certificates were awarded. It was in every way a group that did credit to the firm. To Messrs. W. & J. Birkenhead, Fern Nursery, Sale, for an extensive and tastefully grouped collection of hardy and exotic Ferns, in great variety and luxuriance of foliage, which made an admirable contrast to Mr. Williams' brilliantly coloured flowers opposite. To James Broome, Esq., Didsbury, for a fine group of stove and greenhouse plants, Orchids, &c., including a wonderful example of *Vanda teres* with about a hundred flowers on it, fully developed. To O. O. Wrigley, Esq., Bury, for a fine collection of *Cattleya Mossiæ* in two groups, and exhibiting some 1,400 blooms fully developed. To A. Heine, Esq., Fallowfield, for a lovely display of cut blooms of *Cattleyas*, *Lælias*, *Odontoglossums*, *Cypripediums*, *Vandas*, *Dendrobiums*, &c. To Mr. James Mason, Victoria Street, Manchester, for a splendid group of small Palms and Ferns intermixed with lovely baskets of Roses, Lily of the Valley, Lilac and Carnation, an exquisite wreath and cross—altogether an exceedingly rich display of the choicest of Flora's productions. To Messrs. F. & A. Dickson & Sons, Upton Nurseries, Chester, for a charming group of hardy herbaceous and Alpine plants—all quality. To S. Schloss, Esq., Bowden, for a handsome group of stove and greenhouse, flowering, and fine foliaged plants. To S. Baerlein, Esq., Didsbury, for a very beautiful group of plants arranged for effect. To Messrs. James Dickson & Sons, Newton Nurseries, Chester, for an extensive and well-arranged collection of Alpine and herbaceous plants occupying the whole of the centre of one of the tents. To Messrs. C. Ryland & Co., Ormskirk, for a most creditable group of Show, Fancy and Zonal Pelargoniums, hardy Ferns, &c. To James Brown, Esq., Heaton Mersey, for a most creditable group of fifty pot Roses, turned out in good style. To A. Burley, Esq., Pendlebury, for a fine group of hardy and exotic Ferns; and Sir J. Pease, M.P., Hutton Hall, Guisborough (Mr. McIndoe, gardener), for an admirable collection of twenty-eight dishes of fruit, consisting of good black and white Grapes, Figs, Oranges and Lemons of home growth, Peaches, Cherries, Apples, Pears, Melons, Strawberries, &c.—a handsome dessert for the season.

Jubilee Medals of the Second Class were awarded to Messrs. W. Cutbush & Son, Highgate, for an extensive and choice group of Ghent and Indian Azaleas, New Holland plants, &c., including numerous examples of the intense blue *Leschenaultia biloba major*. To the Liverpool Horticultural Co. (John Cowan) for an extensive collection of showy and attractive Orchids. To C. Moreley, Esq., Rusholme, for a group of stove and greenhouse plants of admirable quality. To John Heywood, Esq., Stretford, for a capital group of Orchids, including well-flowered specimens of *Cattleya Skinneri*, *Lælia purpurata*, &c. To Messrs. Heath & Son, Cheltenham, for a group of Orchids neatly set up with small Palms, Ferns, &c. To Messrs. R. P. Ker & Sons, Liverpool, for a capital group of Indian Azaleas and herbaceous Calceolarias, &c. To Mr. A. J. Bruce, Chorlton, for *Nepenthes* and *Sarracenias*; Mr. W. Owen, Hereford, for cut Orchids; Messrs. Perkins & Sons, Coventry, for wreaths, bouquets, &c.; Mr. F. Robinson, Sale, for fancy Pansies; H. D. Leake, Esq., for Calceolarias, Mr. W. J. William, Stockport, for a group of Roses; Mr. J. Hooley, Stockport, for a group of plants; J. F. Campbell, Esq., Woodseat, Uttoxeter, for a collection of new Grapes; The Earl of Ellesmere, Worsley Hall, for pot Strawberries, Melons and Peaches; and P. Thelluson, Esq., Brodsworth Hall, for fine examples of Duke of Buccleuch and Black Hamburgh Grapes. Messrs. W. Wood & Sons' Special Medal for Strawberries was taken by S. Baerlein, Esq.

Third Class Medals were taken by J. Fildes, Esq., Chorlton-cum-Hardy, for a small group of *Nepenthes*; Mr. J. Wallis, Keele Hall, for capital examples of new and old Grapes; T. Earnshaw, Esq., Totley Grange, for Grapes and Tomatoes; Mr. T. S. Ware, Tottenham, for a fine lot of cut blooms of Moutan *Pæonies*; R. P. Gill, Esq., Ashton-on-Mersey, for a nice group of *Aquilegias*; Mr. G. Ireland, of the same place, for Calceolarias and *Gloxinias*; Mr. A. J. Bruce, Chorlton, for show Pelargoniums and Saxifrages; Mr. W. J. Ireland, Nostel Priory, Wakefield, for a well-grown lot of Cape Pelargoniums; and Messrs. Paul & Son, Cheshunt, for an oval group of standard and bush-trained pot Roses.

A considerable number of new plants were exhibited for certificates, and the lion's share of the awards in this division fell to Messrs. John Laing & Co., who

put up an unusual number of seedling tuberous *Begonias*. They received Certificates for the following *Begonias*:—*Alba Magna*, a large and fine double white; *Althæflora*, a full double, like a fine Hollyhock, and of a bright rose colour; *Alba rosea*, a decided novelty among doubles, the flowers being rosette-shaped, with the centre white and the lower petals rose-coloured; *Prince of Wales*, a single crimson flower, measuring quite 6 ins. across; *Duke of Edinburgh*, single, very deep crimson, and measuring 4½ ins. across; *Lillie*, double, with a light centre and Peach-coloured lower petals; *Mrs. Petch*, a very beautiful, single, Picotee-edged flower, light rose, shaded with pink on the margins of the petals; and Mr. Hardy, a variety of *Begonia subpeltata*, with rose-pink blossoms. Also for *Azalea Souvenir de F. Vervæne*, semi-double white; *Caladium excelsa*, delicate blush-white ground, with green veins and deep rose-shaded centre; and *Pteris cretica albo-lineata* Mayi. Mr. B. S. Williams also received Certificates for the last-named plant, *Adiantum schizophyllum* (figured at p. 633), *Azalea pæoniæflora*, and *Davallia tenuifolia* Veitchii; and also for the *Thanatophore*, the new Nicotine vapouriser.

Norton Pansy Club.—The second exhibition of Pansies and other flowers in connection with the Norton Pansy Club was held in the large hall of the King's Heath Institute, near Birmingham, on Whit-Monday, and the quality and number of the exhibits showed that Pansy-growing is slowly but surely gaining favour in the neighbourhood. The exhibition was not confined entirely to Pansies, but a welcome variety was lent to the show by the inclusion of groups of foliage and flowering plants mainly sent not for competition. The principal prize-takers in the amateur classes were Mr. Frederick Hunt, Mr. John Hunt, Mr. G. F. Bullock, Mr. John Simkins, and Mr. C. E. Scarse. In the classes open to members of the club only, Mr. A. Hunt was awarded the prize for eighteen distinct blooms, show varieties. He also took third prize for twelve blooms, fancy varieties, and the prize for hardy Ferns in pots; and in addition to these was a special prize of an electro-mounted salad bowl, painted in pansies, with pair of servers, presented by Mr. C. E. Scarse to the exhibitor of the best collections in the amateur members' classes. Mr. G. F. Bullock was first, and Mr. James Simkins second in the class for eighteen fancy varieties, and Mr. John Hunt and Mr. W. R. Swain were placed first and second respectively in the class for twelve fancy varieties. There were a great number of entries in this class, and the competition was very keen.

Mr. John Hunt won the prize offered for the best six blooms of any one variety, show or fancy, with some splendid flowers of William Dean; and he also carried all before him in the classes for spring or hardy flowers. Mr. C. E. Scarse was placed at the head of all the classes for Pansies and Violas in pots, showing some beautifully cultivated specimens. Mr. R. Austen took the first prize for six distinct Roses, and also that offered for the best single bloom. Mr. James Simkins showed some excellent Pansy blooms; he took the first prize for twelve fancy Pansies, amongst the blooms shown being splendid specimens of Lord Rosebery and Evelyn Bruce. The Norton Pansy Club Silver Medal for the best seedling Pansy, show or fancy, raised subsequently to 1883 by the exhibitor, and named, but not in commerce, was awarded to Mr. James Simkins. The bloom, which was named the Syren, was one of the best new varieties in the exhibition. It had a rich blue margin, with gold uniform colouring, a perfect eye, and fine outline. The professional classes were well filled, Messrs. Paul & Son, of Paisley; Messrs. Pope & Sons, of King's Norton; and Messrs. R. B. Laird & Sons, of Edinburgh, sending collections. Messrs. Paul & Son exhibited an attractive seedling named Alfred Hunt, and Messrs. Laird & Sons showed a new seedling variety christened John Pope. The latter firm, in a collection which they forwarded, not for competition, included two choice specimens named The Gem and William Allen, being brilliant crimsons with yellow bands. Messrs. Pope & Sons also staged an attractive stand, including specimens of My Lady, Thalia, Collinsbury, grand yellow blooms with black blotch; Albert Grant and Bellona, the latter of a fine scarlet hue. Included in the exhibits sent by Messrs. Paul, of Paisley, was particularly noticeable a handsome bloom called Royal Visit, one of the best show Pansies in the exhibition; and another named William Jamieson. They also showed a seedling of considerable

merit named after Mr. C. E. Scarse, the hon. secretary to the club and show.

Messrs. Laird also sent an admirable collection of Violas, including thirty varieties, chief amongst them being Skylark and Countess of Kintore. Three prizes for the best-arranged epergne filled with Pansies, Violas and other hardy flowers, open to ladies only, were won by Miss Cooper, Mrs. Scarse and Miss Innes. Arranged in the centre of the hall were groups of foliage and flowering plants from the conservatories of Mr. Joseph Chamberlain, M.P., and Messrs. Pope.

FLORICULTURE.

CARNATIONS AND PICOTEEES.—My own plants in their blooming pots are now making capital headway, despite the cold nights, and they look thoroughly clean and healthy. The flowering stems are commencing to ascend, and they are tied out neatly and securely to stakes. Not too tightly must this be done; in making the tie it should be done in such a way that the stem may not be prevented from making an upward growth. As a matter of course, in the case of Carnations and Picotees producing blooms intended for exhibition, all shoots running for bloom are stopped, except the leading ones. On this point Mr. E. S. Dodwell states: "Some cultivators remove these entirely from the plant, my practice is merely to pinch out the shoots, and thus, as a rule, a large accession of the increase—i.e., shoots of which layers can be made—is thus obtained"; and, under the head of general directions, our great mentor states: "Top-dress with equal parts of sound loam, sweet leaf-mould and well-decomposed manure, watch persistently for green-fly and remove them with a small brush; if the points of the shoots are much infested, moisten the brush with a little Tobacco-water as needed, syringe frequently and water liberally when required. A free use of the syringe will not only promote a vigorous growth, but will greatly aid in keeping the plants free from thrips and green-fly; either of which, if allowed to get ahead, is certain destruction to a fine bloom."

I need scarcely add that the amateur should remove all decaying foliage from his plants, and so make them look as cleanly and fresh as possible. Then there is the all-important process of disbudding, and on this matter Mr. Dodwell states: "Some discretion is necessary in this operation, and the number of blooms to be left must depend on the variety—whether *full* or *thin* in the flower, and whether for exhibition or for bearing seed. With new varieties, if quite in ignorance of their character, I should feel my way, watching for the appearance of the bud, and being guided by that and the state of the plant as to the number to be left. A little careful observation will soon inform the least experienced. If 'full' and of strong growth, three buds may be left; if 'thin,' two buds; and if on a weakly growth, one bud only. As a rule, the buds to be left will be the main bud and those proceeding from the third and fourth joint, or fourth and fifth, counting from the top; but the operator must be guided in his selection by the appearance of the buds, their vigour, healthiness, and regularity of form. A 'full' flower may be expected where the young bud presents a broad obtuse top; whilst a 'thin' variety is generally indicated by a sharp and long pointed bud."—R. D.

QUESTIONS & ANSWERS.

GODETAS.—*T. Jepson*: You may allow your Godetias to run into flower unchecked or stop them, according as you wish them to bloom early or late. We presume they are sown in the open ground. If so, and you wish for large well-developed plants, that will continue the longest possible time in bloom, thin them out about 6 ins. apart before they become overcrowded; this will encourage a free-branching habit and prolonged flowering from lateral branches. If wanted to flower very late in the season, cut off or pinch out the tops some time previous to flowering. These shoots will throw out laterals, and flower late in the season.

ORCHIDS BOUGHT WITH BEER BOTTLES.—*Chysis*: You will find the story in an article headed "The Qualifications of Plant Collectors," in our number for May 8th, 1886, p. 568.

ORCHIDS STARTING AFRESH.—*A. R.*: As this is the proper season for the Orchids you mentioned to make their growth, they should by all means be encouraged to do so, and not dried off. The unseasonableness of the time when potted doubtless caused growth to commence then. They should now receive the best treatment you can give them with regard to light, heat and moisture, to induce vigorous growth, which will flower in due time. It would ruin the plants to check the fresh growth they are now making.

CUTTINGS OF TREES.—*Omicron*: In propagation generally we find that soft-wooded things strike more readily from cuttings, and in some cases leaves, than those whose tissues are of a drier and harder nature. We would, accordingly, attribute the difficulty of striking such things as Oak, Ash, Thorn and Beech cuttings to the hardness of the wood. Forsythia, Jasminum and Privet allied to the Ash, and having soft wood strike easily from cuttings. Many things in the same family as the Thorn, having softer wood than the latter, root readily.

SOOT.—*Omicron*: Rather than add so many gallons to a peck of soot, we would advise you to put the soot in a bag and place the latter in the tank from whence you dip the water, while watering. If it is undesirable to treat all of your plants in a house with this soot water, two tanks would be necessary. By so doing you will prevent the coarser material from spoiling the drainage of the pots by destroying the porosity of the soil. The manurial properties of the soot would gradually become dissolved in the water. Occasionally renew the soot with a fresh supply.

LIQUID MANURE.—*Omicron*: No exact directions as to the number of gallons of water necessary for a peck of manure can be given, as it depends upon its age, its strength and other matters. The manurial products also take some time to become dissolved or the whole sufficiently liquid to be utilized in watering. The best plan is to place good cow-manure in a tub or old barrel from which one end has been removed, fill up with water and dip out, using additional water to make the manure sufficiently weak before using. You may add the soot if you like, but gauge the strength by the colour of the liquid. The same statement applies to the drainings of the heap, which are strong in dry weather and weak after rain.

VARIEGATED STRAWBERRY.—*E. G. C.*: This variety is known in gardens as *Fragaria chiloense variegata*, and is grown for its variegated foliage only, the fruits being of no value.

GRAPES.—*J. Cooke*: When the Grapes were being thinned, the berries were rubbed by the hand or perhaps by the hair of the head, hence they now show signs of what is called "rust," which you cannot now get rid of; only those berries which have been rubbed in some way will be troubled with it. The small warty excrescences on the leaves show that you keep the house a little too close; more air would be advisable.

CUCUMBERS.—*H. C. J.*: Your plants are clearly affected with the well-known Cucumber disease, of the origin of which but little is known, nor is there any trustworthy remedy for plants once attacked. In all cases of its appearance it is best to burn the plants and roots, clear out the bed, and start afresh with a change of seed, soil and manure.

NAMES OF PLANTS.—*Reginald Young*: 1, Vanda teres, a good coloured variety; 2, Saccolabium Blumei; 3, Phalenopsis tetraspis; 4, Odontoglossum vexillarium, very large, and good in shape; 5, Odontoglossum vexillarium, also good; 6 and 7, Odontoglossum crispum of the right strain. Your *Laelia majalis* producing two flowers on a scape is a sign of good cultivation. It is not usual, but occurs sometimes when the plant is vigorous. *R. C. K.*: Next week. We do not recognise the species at present. *Constant Reader*: *Epidendrum fragrans*. *M. B. H.*: *Cattleya intermedia*. *J. S.*: 1, *Cercis siliquastrum*; 2, *Prunus padus*; 3, *Magnolia conspicua Soulangiana major*. *W. C.*: *Asystasia* (*Mackaya*) bella; 1, *Polypodium Billardieri*? (no fruit on specimen sent); 2, *Platylonia rotundifolia*; 3, *Adiantum Capillus-Veneris*.

COMMUNICATIONS RECEIVED.—*J. McJ.*—*C. A. G.*—*J. B.*—*A. G. J.*—*C. P.*—*W. G.*—*J. R. P.*—*W. P.*—*J. C.*—*Laurus*—*Q. R.*—*C. P.*

LONDON SEED TRADE.

June 1st.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate sale of Mustard and Rape at unchanged rates. In Clover Seeds trade is small; finest samples of Red Clover are being bought by speculators. White Clover has advanced in value owing to the dearth of supplies. Hemp Seed is dearer, Canary Seed unchanged.

COVENT GARDEN MARKET.

June 2nd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.				
Apples, ½ sieve	2	0	5	Peaches....per dozen	6	0	15	0	
Grapes	per lb.	3	0	5	Pine-apples, St.				
Grapes, Chan. Islands,				Michaels, each	3	0	8	0	
per lb.	2	0	3	0	Pine-apples, Eng., lb.	1	0	1	6
Kent Cobbs..	100 lbs.	60	0	0	Strawberries, per lb..	1	0	3	6
Melons	each	1	6	3					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2	0	3	Herbs, per bunch . . .	0 2 0 4
Asparagus, per bdle.	2	0	5	Horse Radish, bundle	3 0 5 0
Beans, French, per lb.	1	6	2	Lettuces . . per dozen	1 6 2 0
Beet, per dozen	2	0	3	Mushrooms, p. basket	1 0 2 0
Brussel Sprouts, per lb.				Onions, per bushel . .	4 0 5 0
Cabbages per doz.	2	0	2	Parsley, per bunch . .	0 6
Carrots, per bunch . .	0	6		Radishes, per dozen . .	1 6
Cauliflowers, English,				Sea Kale . . per basket	
per dozen	3	0	5	Small salading, punnet	0 4
Celery, per bundle . .	2	0		Spinach, per strike . .	2 0
Cucumbers, each . . .	0	6	1	Tomatos, per lb. . . .	1 0 1 6
Endive, French, doz.	2	6	3	Turnips . . . per bun.	0 6

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6	0	18	0	0
Arum Lilies, per doz.	9	0	12	0	0
Azalea	per dozen	18	0	36	0
Cineraria	per dozen	6	0	9	0
Cyclameu.	per dozen				
Cyperus, per dozen	4	0	12	0	0
Dracæna term., doz.	30	0	60	0	0
— viridis, per dozen	12	0	24	0	0
Epiphyllums, per doz.					
Erica, various	doz.	18	0	30	0
Evergreens, in var.,					
per dozen	6	0	24	0	0
Fairy Roses	per doz.	8	0	12	0
Ferns, in var., do	4	0	18	0	0
Ficus elastica, each	1	6	7	6	6
Foliage Plants, vari-					
ous, each	2	0	10	6	6
Fuchsia	per dozen	6	0	9	0
Genista	per dozen	6	0	9	0
Hydrangea	per doz.	9	0	12	0
Lily of the Valley,					
	12 pots	12	0	18	0
Lilium longiflorum,					
	per doz.	18	0	30	0
Marguerites, per doz.	6	0	9	0	0
Mignonette	per doz.	4	0	9	0
Musk, per dozen	3	0	6	0	0
Palms in variety, each	2	6	21	0	0
Pelargoniums	doz.	6	0	18	0
Pelargoniums,scarlet,					
	per dozen	4	0	8	0
Rhodanthe	per doz.	6	0	9	0
Roses (various).	doz.	18	0	30	0
Solanums					
Spireas	per dozen	9	0	12	0
Tulips	per doz. pots				

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Anemones...12 bun.	2	0	4		
Arum Lilies, 12 blms.	3	0	5		
Azalea, 12 sprays	0	6	1		
Blue Bells, 12 bunches.	1	0	2		
Bouvardias, per bun.	0	6	1		
Camellias...12 blooms	1	0	3		
Carnations, 12 blooms	0	9	2		
Cut Tulips, 12 blooms	0	2	0		4
Daffodils, 12 bun.					
Eucharis, per dozen..	3	0	6		
Gardenias, 12 blooms.	1	0	3		
Heliotropes, 12 sprays	0	6	1		
Hyacinths					
Lapageria, red, 12 blms.					
Lilies of the Valley					
12 sprays	0	6	1		
Lilium longiflorum,					
12 blooms	4	0	6		0
Marguerites, 12 bun...	3	0	6		0
Mignonette, 12 bun...	3	0	6		0
Narcissus, 12 bunches	1	0	3		0
Narcissus double,					
12 bunches	3	0	6		0
	</				

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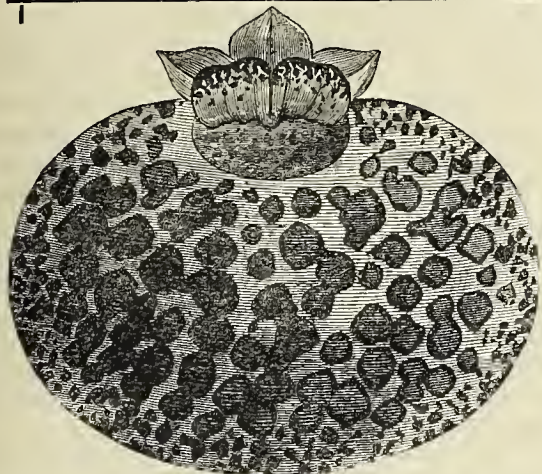
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TANNED NETTING, 2 yds. wide, 1½d. per yd.; 25 yds., 2 yds. wide, 4s., post free; 10s. per 100 yds.; 4 yds. wide, 3d. per yd., 20s. per 100. NEW TWINE NETTING, 1-in. mesh, 1 yd. wide, 2d.; 2 yds. wide, 4d.; 4 yds. wide, 8d. per yd. COTTON NETTING, 54 ins. wide, 9 meshes to square in., 7d. per yd.—best article to protect fruit trees, &c. Hexagon Nets, 72 meshes to in., 4½d. per yd. CLAP NETS, for bird-catching, 30s.—W. CULLINGFORD, Forest Gate, London, E.

RATING OF NURSERIES.

A PUBLIC MEETING of Nurserymen will be held under the auspices of the Nursery and Seed Trade Association, Limited, on Tuesday, 28th June, 1887, at the Horticultural Club, Henrietta Street, Covent Garden, London (by kind permission of the Committee), to take into consideration the excessive rating of Nurseries, and to agree on a combined course of action with a view to the reduction of assessments. The chair will be taken by J. WOOD INGRAM, Esq., of the firm of Messrs. Wood & Ingram, The Nurseries, Huntingdon, at 4 p.m. Nurserymen will oblige by early intimating to the Secretary their intention to be present and also by forwarding to him, in strict confidence (if the amount of the assessment is in excess of the rent), either the amounts of their rents and assessments or the proportion which the difference between the rent and the assessment bears to the rent itself.

MR. F. G. GOODCHILD, Secretary, Nursery and Seed Trade Association, 25, OLD JEWRY, LONDON, E.C.

Ancient Society of York Florists.

THE YORK CHRYSANTHEMUM SHOW will be held in the Fine Art Exhibition building on the 16th, 17th, and 18th of November, 1887. For Schedules of Prizes, &c., apply to J. LAZENBY, Secretary, 8, Spurriergate, York.

CRYSTAL PALACE.—GREAT ROSE SHOW OF SEASON, Saturday, July 9th, postponed from July 2nd. For schedules and entry forms apply to MR. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m., in the Lindley Library, and Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, JUNE 14th.

Admission free to Fellows at 12 o'clock; and to the Public at 1 o'clock, upon payment of One Shilling.

N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

MONDAY, JUNE 13th.—Sale of Leasehold, Nursery Stock, &c., at Willow Vale Nursery, Uxbridge, by Protheroe & Morris.

TUESDAY, JUNE 14th.—Fruit and Floral Committees of the Royal Horticultural Society meet at South Kensington. Sale of Imported and Established Orchids at Protheroe & Morris's Rooms.

WEDNESDAY, JUNE 15th.—Grand Yorkshire Gala at York (3 days). Royal Botanic Society's Second Summer Show. Sale of Orchids in Flower at Stevens' Rooms. Sale of Nursery, Stock in Trade, &c., at Loughborough Road, Brixton, by Protheroe & Morris.

THURSDAY, JUNE 16th.—Sale of Imported and Established Orchids at Stevens' Rooms.

FRIDAY, JUNE 17th.—Special Sale of Orchids in Flower at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 11, 1887.

THE RAINFALL AND THE CROPS.—The steady, persistent rainfall at the end of last week, doubtless unwelcome to pleasure-seekers, yet proved a veritable God-send for the land, and has done an incalculable amount of good. As the result we see hardy fruits swelling rapidly, although the bloom has, as it were, but just fallen; whilst all trees have had such a thorough washing that they get a start—helped above and at the roots below—such as early summer seldom affords. What the effect of this down-pour may be upon agricultural crops we will not stop to enquire; but it is certain that the grass crop of the country—a very important crop too—will be enormously added to, for let the weather prove never so warm, it will not be possible for sun-heat readily to abstract moisture from shaded soil; whilst the subsequent growth of the grass will be rapid and abundant.

So far, in spite of all previous gloomy forebodings, we may look for a large hay crop, assuming, of course, that the harvesting time be favoured with pleasant weather. Upon all other crops—Potatoes, Peas, Beans, Cabbages, &c., besides Corn—the effect has been most marked, and, not least, weeds have made rapid

growth; but then, no labour is better employed than in weed destruction, for the motion of the soil which kills weeds helps the cultivated plants greatly, and the weather which induces weed growth as readily promotes good plant growth also. Those gardeners who bed-out, in the old rut, myriads of tender plants—and had found the weather too cold to permit of the work being performed in May, as usual—have found the recent rain a valuable aid and their labours greatly ameliorated by the ample soaking the soil has received. It is half the battle in bedding-out to give the plants a good start, and they have received that this year.

The chief difficulty, perhaps, incidental to the heavy rain has been found in the resuscitation to life of myriads of slugs, which have, in the cold weather, had a long rest; but slugs do comparatively little harm to established things, and need most watching for among seedlings or newly planted things, especially Asters, Zinnias, Stocks, Marigolds, &c., all of which the pests eat up in quick time if they are not dealt with in a drastic fashion. We prefer dustings of fresh slaked lime, in the evenings, when the slugs have come out in search of food. Two or three such dressings prove most effectual. This season sees not only a wonderful bloom on trees, but also on Strawberry plants; indeed, a more abundant and finer bloom has rarely been witnessed. That means a big crop of fruit, and as Strawberry plants are, perhaps more than any other fruit produced, susceptible to drought, the recent soaking has—for the coming crop of one of our most acceptable fruits—exceeding value.

So far, the season has been one of singular excellence for really hardy plants; it is true they were tried somewhat a few weeks since by drought, but with showers and somewhat gloomy skies, they revived and since have made wonderful growth. We doubt whether hardy plants ever had a better time of it than recently, and the late rains have now so established them, that it is hardly possible that other than an excellent season can be in store for them. It is true, the season which favours hardy plants most—one fairly moist and cool—is not the best suited for tender things; but we cannot have all we want. A hot, dry season may bring most enjoyment, but it can hardly be the most profitable for the land. A really model season is one giving ample sun heat, tempered by occasional cloud and frequent heavy showers, but with more drought in August than in June. There are few matters about which more ignorance commonly exists, than with regard to the need of the soil in the matter of moisture. We have not for the past two or three years had what may be termed an average amount of rain, and sub-soils in many districts are yet dangerously dry.

The general public get to think that a few showers are ample for the requirements of trees and crops, and if the dust be but laid, that seems sufficient. To them a watering of twenty-four hours duration, such as visited us the other day, is regarded as subjecting them to needless discomfort and waste. Really, such soakings are needed monthly in most districts in this country, all the year round, for drainage and other civilising operations have gravely affected the storage capacities of the soil, and we find vast bodies of rain water filtering away with astonishing rapidity. Rain gauges are valuable, but soil tests of some three or four feet in depth are much more so. The least need for abundant moisture is found in deeply-trenched soil; but, unfortunately, whilst trenched ground represents a limited area, untrenched or very shallow-worked ground represents almost all the Kingdom. We have, therefore, ample reason to be grateful for the recent rains, and hope more may be, in good time, forthcoming.

We have great pleasure in announcing that Mr. CHARLES HERRIN, an excellent young gardener, who was for many years at Chalfont Park, Uxbridge, has been selected from a large number of applicants for the vacancy at Dropmore created by the death of the late Mr. Philip Frost. Mr. Herrin has our hearty good wishes for his success in his new home. Dropmore is a grand place, and merits the best possible care and supervision.

THE HEREFORD ROSE SHOW has been unavoidably postponed from July 8th to the 15th.

MR. G. KING, lately gardener at Wolsey Grange, Esher, Surrey, has been engaged as gardener at Glouchess, Loudwater, Rickmansworth.

Messrs. Fisher, Son & Sibray's HANDSWORTH NURSERIES, SHEFFIELD, were visited on Whit-Tuesday by some of the members of the Sheffield Floral and Horticultural Society, and delegates from other societies in the Yorkshire Association, to the number of about seventy in all, and they were much pleased with their outing.

MR. JOHN WILLIAMS, late gardener to E. Fowler, Esq., Ashgrove, Pontypool, Mon., has been engaged as gardener to J. B. Allanson, Esq., Bryn Seiont, Carnarvon.

MR. RICHARD PAINTER, lately gardener at Trevarno, has been engaged as steward to Col. Tremayne, at Carclew, Cornwall.

THE special Jubilee Medal, given by Messrs. W. Wood & Son for the best dish of Strawberries at the late Manchester Show, was won by Mr. Chuck, gardener to P. Thelluson, Esq., Brodsworth Hall, Doncaster, and not by Mr. Baerlein, as stated in our last.

A MOST interesting plant—WORMIA BURBIDGEI, a native of Borneo, and figured in the *Botanical Magazine*, 1880—is now in flower at the Botanical Gardens, Birmingham. The genus Wormia is nearly allied to the family of Hibbertias of our greenhouses, and has large handsome foliage, with large-sized, single, pale yellow flowers of considerable beauty.

A MEETING of the sub-committee appointed to make arrangements for holding a general meeting of the supporters of THE GARDENERS' ORPHAN FUND on July 12th, was held at Chiswick on the 3rd inst., when good progress was made with the revision of the rules and regulations which will be proposed for adoption at the general meeting of the subscribers to be held on July 12th.

MR. W. GALLOP, gardener to H. M. Middleton, Esq., Bradford Peverell, won the five guinea cup, offered at the Bath and West of England Society's Show at Dorchester, for the best specimen Orchid, with a plant of *Odontoglossum pulchellum*, bearing forty-five spikes of bloom. Mr. J. Powell, gardener, Ilslington house, took the ten guinea cup for a collection.

It is proposed to hold an INTERNATIONAL EXHIBITION IN GLASGOW next year, in which sections will be devoted to Horticulture and Arboriculture. Among the subjects enumerated, we note ornamental trees and shrubs, flowers, illustrations of and materials used in floral designs, plant-houses, and garden implements and furniture, &c.

THE JUBILEE MASK AND REVEL, which are to recall the old days of Gray's Inn, will be held, probably, on the first Saturday in July. The scenery is to depict GRAY'S INN GARDENS as they were planted by order of Francis Bacon on the 24th April, 1600. The items are thus set out in Mr. Douthwaite's history of this year:—"66 Elms at 9d. apiece, eight Birch trees at 8d., 16 Cherry trees at 12d., 36 Eglantines at 12d., 18 Apple trees, 200 Eglantines, 1,000 red Roses, and 200 Osiers at £1 15s."

MR. F. E. TRIPP, hon. secretary of the FLOWER DISTRIBUTION BRANCH of the KYRLE SOCIETY, 14, Nottingham Place, W., expresses the hope that although the backward spring has this year diminished the supply of flowers, there may still be some available for distribution among the poor of London. A special appeal is made for plants in pots, which can be used for the wards of hospitals and workhouses; and Mr. Tripp will be obliged if those who are kind enough to promise contributions will not send them to the office, but communicate first with him, when he will give addresses to which they may be sent direct.

SMALL AURICULA GROWERS.

I AM sure I speak the sense of many "Small Auricula-growers" when I say that the three responses accorded to my petition for information have been warmly welcomed on a wide scale. Mr. Fife's notes in THE GARDENING WORLD of this date are so interesting that I venture to ask if he will kindly tell us a little more. Especially I should like to learn whether his frames stand on the ground like Melon boxes, or are raised above it as the late Dr. Horner, a celebrated Auricula-grower, recommended. I suppose the canvas, the carpet, and the tarpaulin were put on in the evening and removed in the morning, for how, otherwise, could the plants get the light so essential to them in the crucial month of March, even if the frames admit *air* freely from below? Light and air, I have always understood, are life and strength to the Auricula at all times, but particularly when the flowering period is drawing near.

The secret of Mr. Fife's success, I therefore gather, lay in raising the night temperatures, and I for one am very grateful for the hint. Tarpaulin, one can see, would keep in the heat as well as keep out the rain, and the ingenious contrivance is worthy of adoption by all who have the time and will take the trouble to tuck up their frames at night, in their canvas sheets, carpet blankets and tarpaulin counterpanes, and to nuttuck them in the morning.

As to the watering, I think it quite likely that I may have been over-timid, as Mr. Fife suggests. The warnings of that most successful of all Auricula-growers, the Rev. F. D. Horner, against stagnant damp in the pots, especially in cold weather, have impressed me almost more than any of his most valuable injunctions, and I have always felt it would be well to err, if err one must, on the side of scantiness rather than excess. The tendency of the plant to rot seems in itself a danger signal against very free watering; but still, as I have said, I probably have been too cautious, and to Mr. Fife I owe a new-born courage.

While on the subject of watering, I should like to ask whether anyone who reads THE GARDENING WORLD has tried the experiment of standing *newly potted* Auriculas in about $\frac{3}{4}$ in. of tepid water before putting them into the frames where they are to be kept close and shaded for a few days? Mr. Horner expressly discourages watering (in the common acceptance of the term) at that time, and I have no sanction of his for the other plan. But I have found that the plants flag less if this half-hour's refreshment is granted them before they go into the retirement so conducive to their recovery, especially if the weather is warm. This year I have not had a single drooping leaf, even after the severe surgical treatment that was in some cases necessary.

Once more I thank "R. D.," "J. K.," and Mr. Fife very cordially, and I look forward with pleasure to hearing more, and perhaps even seeing—who can tell?—some little etching of those nice warm frames, both at bed-time and after the *réveil* has been sounded.—C. A. G., June 4th.

HERBACEOUS AND ALPINE PLANTS IN FLOWER.

ANDROSACE CORONOPIFOLIA.—The pure white starry blossoms of this species have a pretty effect just now in a border at Pendell Court, Bletchingley. They are arranged loosely and gracefully on slender pedicels, which gives the plant a freer and less lumpy habit than most other species in British gardens generally possess. The plant is biennial, but renews itself annually by shedding its seeds around the site of the mother plant. The seedlings make starry rosettes of leaves by autumn, and flower freely in spring.

FRITILLARIA LUSITANICA.—The flowers of this are produced singly on stems about 2 ft. high, and are pendent, bell-shaped, and deep brown, except near the mouth internally, which is mostly yellow, spotted with brown. They are not strikingly ornamental, but present a quaint dignity amongst other spring flowers of gayer and more brilliant hues. Flowering specimens may be seen in the borders at Pendell Court, Bletchingley.

PETASITES VULGARIS (THE BUTTER BUR OR BOG RHUBARB).—A fine sub-tropical effect is produced by a large mass of this British wilding, on the banks of a little stream in "My Garden" at The Grange, Hackbridge. The moisture, within easy reach

of the roots, is productive of growth of noble dimensions, the leaves, borne on stout stems, resembling those of Rhubarb.

CHEIRANTHUS ALPINUS.—On the new rockery at Devonhurst, Chiswick, this showy alpine maintains its beauty as a spring flower. The soft sulphur-yellow sweet-scented blossom is very different from that of the ordinary Wallflower, while the dwarf habit alone entitles it to a place in the flower-garden. *C. oehroleuca* is distinguished by its procumbent, not erect stems.

SAXIFRAGA HUETTI.—Seeds of this plant were sent to the Royal Horticultural Society's garden, Chiswick, some years ago from the Continent. We have elsewhere seen it under the name of *S. Sibthorpii*. The reniform, delicate green, rather brittle leaves are shallowly lobed or coarse toothed; the flowers are bright yellow and freely produced on brittle stems, 2 ins. to 3 ins. in height, and look fine in a mass. In a damp situation it seeds readily, and maintains itself from year to year, although only an annual.

VIOLA PEDUNCULATA.—Altogether we have in this species a very distinct plant, that merits a place in any collection of hardy plants for rockwork. It is so grown at Joldwynds, Dorking, Surrey, and has heart-shaped leaves and golden yellow flowers, with a brown eye and suffused with brown externally.

STRAWBERRY PLANTS FOR FORCING.

THE time will soon be at hand when steps must be taken to prepare plants for next year's forcing, and I think most of your practical readers will agree with me that what is really required is a stout and well-matured crown in each pot. Provided these are obtained, with ordinary care and attention, good results are almost certain to follow. We generally commence layering in the first or second week of July—in fact, immediately good stout runners are obtainable, and from the very first we use good soil. I have seen plants layered in any kind of old potting soil, but on turning them out of the pots I have never found the roots to be so strong and vigorous as when they have been placed in a good rich compost. There are various ways of layering, some people prefer putting them direct into their fruiting pots, while others use squares of turf. We generally use 60-size pots, as we find this plan to answer our purposes remarkably well. The pots are filled with soil to within $\frac{1}{2}$ in. of the top, and taken to beds from whence the layers are procured, and which are tightly fastened with a peg. We select from six to eight of the best of the runners from each plant, and all the superfluous ones are at once removed.

As soon as the pots are filled with roots sufficiently to support themselves independently of the old plants, we then cut them off, and remove them to a shady position, syringing them twice daily if the weather is dry and hot. Potting them into their fruiting pots is the next matter to be taken in hand. If for early forcing 48's will probably be the most suitable size, but, as a rule, 32's will be found the best for later purposes. The soil we use is a moderately heavy loam, and we add to it a sprinkling of soot and either horse or cow-droppings at the rate of one barrowful to five of loam. All the plants receive a thorough drenching with water before potting them, so that no more watering is necessary for a few days, excepting what little they receive when syringing them.

We pot the plants very firm, and place them behind a north wall, until they have sufficiently recovered to withstand the rays of the sun without flagging. We then remove them to an open position, where the plants have the full benefit of the sun and air, and we allow 1 ft. between each plant, so that they have plenty of room to develop themselves. All runners are removed as fast as they appear, and also any side-shoots that may make their appearance, thus leaving the one crown. In conclusion I would remark, that on no consideration should the plants be allowed to receive a check through dryness at the roots, or what is probably worse still, be watered with cold pump water after a hot day. For it is just possible if they are so watered and the autumn proves mild, that many will commence throwing up their flower spikes. To keep them going steadily is our plan, and we find it answer.—*H. Markham, Mereworth Castle.* [Our correspondent preaches what he practices, and is an adept in Strawberry forcing. A sample of his Sir Charles Napiers, to hand last week, was the finest we have seen this season.—ED.]

GARDENING NOTES FROM SCOTLAND.

Scottish Horticultural Association.—The ordinary monthly meeting of this Association was held on Tuesday night at 5, St. Andrew Square, Edinburgh, the president, Mr. D. P. Laird, in the chair. Mr. A. Hutton, F.L.S., Royal Bank, Dundee, read a paper on "The Iris," remarking that the family of the plant was not far removed from that of the Orchid, and that, in some respects, it even surpassed that aristocratic family of plants. After alluding to the geographical distribution, their method of fertilisation through insect agency was described. The Iris was said to afford a special field for the hybridiser, and with reference thereto the close connection between botanical science and the gardener's art was specially referred to. Several other branches of the Iridaceæ were also remarked upon, sketches of the history of the Gladiolus and the Crocus having been given. Several members expressed their opinions on the paper, the chairman hinting that he was glad to hear what Mr. Hutton said about the Orchids; because, there was no question, that Orchids had been made rather much of recently, while the Iris and other herbaceous plants have been neglected. A hearty vote of thanks was awarded Mr. Hutton.

Mr. John M'Hattie, Newbattle Abbey, made a communication on "The Culture of Peaches under Glass." Numerous suggestions were thrown out as to the successful cultivation of Peaches, Mr. M'Hattie expressing himself strongly in favour of culture under glass as against out-door culture. He was cordially thanked for his paper. The secretary, Mr. Robertson Muir, drew attention to a number of interesting exhibits which were shown.

The tenth annual report of the Association, having been printed, was laid on the table. The council had pleasure in stating that the various objects for which the Association existed had continued to make satisfactory progress. During the session thirteen papers were read on interesting and important subjects, and thirty-four new members had been added to the roll. Twenty-five exhibits were placed by various members on the table. Three Certificates were granted to new varieties of plants. The Chrysanthemum Show, held under the auspices of the Association, in November, might be considered as a new departure, and was a complete success.

Dumfries Horticultural Improvement Association.—The monthly meeting of this association was held on June 2nd, Mr. McCreath in the chair. Mr. McKenzie, Maxwell Street, on behalf of Mr. Masson, The Gardens, Mayfield, Dundee, read a paper on the Camellia. He fully described its history and introduction into this country from China and Japan, and showed with much clearness the great usefulness of its flowers during a season of the year when cut flowers, now so much in demand, are scarce. Mr. Masson's remarks on the general cultivation of the Camellia were full and comprehensive, showing that practical observation had been the guide on which he based his remarks.

Strawberry Forcing.—For an early crop of good Strawberries, such as would give a fair recompense to the cultivator—say early in March—one must make an early start in late districts if success is to be attained. I have seen poor puny crops of fruit grown in pots almost as late in the season as the period when out-door fruits ought to be ready for use; and the reason for this is patent to any casual observer, viz.: late runners grown where the sun could not have full maturing power on the plants. If runners can be rooted in small pots during this month (June), and potted firmly early in July, placed in the full sun, and well supplied with water at the roots and overhead till growth is free and healthy, there need be no difficulty in having plants of such size and firmness as should meet every expectation. An evil which is to be guarded against is allowing the roots to run through the bottom of the pots into the ashes, gravel, or whatever they are stood upon. The ripening of the crowns does not take place and flower buds cannot form perfectly. We have here fine runners of such kinds as Vicomtesse Héricart de Thury, President and Sir Joseph Paxton, from plants put in during the early part of September. A nice little crop is showing on these plants, but their chief value is in supplying early runners. The two first-named are among the best we have seen in the north, both for outside supplies and for forcing under glass. They are this season, and have been for some years all that we could desire. Any plants which have been forced may be planted out in well-enriched land during this month, and next year they ought to be of the highest excellence.—*Caledonian.*

THE AMATEURS' GARDEN.

PELARGONIUMS.—Despite their universal cultivation, and the fact that some places are overdone with them, they are essentially the poor man's flower, and respond to the care of the cottager as readily as to that of the nobleman's gardener, who can command his thousands of square feet of glass. The variety of purposes to which they can be adapted, and their accommodating nature, enables them to be employed where other things would fail. Where large plants can be accommodated in winter, huge bushes can be put out in the early part of summer, which flower abundantly and impart a tropical effect to the garden at once. Not every amateur, however, is fortunate enough to possess the means of their accommodation; consequently, large and old plants have to be destroyed or thrown away in autumn, at housing time, to prevent overcrowding. This difficulty may be overcome in another way, and might safely be attempted by those who desire variety but have little space at command. It is well known that the area of soil available for planting is greatly increased by piling up soil into mounds of any desired height, making rockeries or any other similarly-designed structure. In the case of Pelargoniums, a striking effect can be produced with a few barrowloads of soil. Make this up into conical mounds, which may be prevented from crumbling down by the use of neatly-arranged stones, blocks of wood, or boards, so as to be unobtrusive. Plant this sufficiently close with good-sized specimens, so that the whole mound may be completely hidden after a little growth has taken place. Some may feel inclined to use a variety of colours for effect; but it is advisable to utilise one variety only, which will then appear as one huge specimen after the soil is completely hidden. Ivy-leaved varieties, single or double, are very appropriate, look exceedingly graceful as they hang down, and require little attention in the way of training, except pegging the shoots into their proper places until the mound is covered. Those who have not yet tried this method of culture will derive great satisfaction by giving it a trial. Objections may be made to watering; but Pelargoniums flower most freely after being thoroughly started if they are kept on the dry side.

THE ROCKERY.—The early-flowering inhabitants of the rock garden are now displaying masses of bloom, and old established plants should not be disturbed, except trimming in such as are encroaching upon their neighbours to the destruction of the finer and choicer members of the latter. Crocuses, Snowdrops, and similar bulbs will now appear untidy from the grossness of their herbage, and it is a too common practice to cut this off, and wheel it away to the rubbish heap. This practice, however, is not only undesirable, but pernicious and ruinous to the continued welfare of the corms and bulbs in question, weakening the plants, and causing the flowers to become smaller from year to year. A better practice is to tie the leaves up in a knot, and leave them till they have become thoroughly matured. If done with a reasonable amount of care, the knots are neither very conspicuous nor unsightly. Thoroughly clear away all weeds, top-dress where wanted, if this is not already done, and plant out reserve stuff to fill up all blanks. Newly obtained plants may also be planted out, and various things, such as surplus bedding plants, may in many cases be utilised to advantage.

ASPARAGUS.—Those who are ambitious enough, and have at command a piece of good garden ground, may grow their own Asparagus. The season is not yet quite over, and those who are fond of this vegetable may be tempted to continue cutting as long as good heads appear, but there is now less reason for this since autumn-planted Cabbages are now plentiful and good. Owing to the cold backward nature of the season, Broccoli has stood out longer than is usually the case. A good shoot should be left if possible to each stool of Asparagus, so as to ensure good ones next year, by thus strengthening the plant. All the small ones may also be left unless the bed is in any way overcrowded. Now is the time to apply a good top-dressing of salt, which will gradually be dissolved by rain, and carried down to the roots. Those in the vicinity of the sea may use seaweed to advantage, supplying both manure, salt and sand to the bed by an application of this material.—*J. F.*

THE GREAT YORK GALA.

IN the autumn of the year 1858—nearly thirty years since—a few gentlemen connected with the city thought it would be advisable to organise an annual exhibition of plants and flowers, combined with good music and other entertainments, on a scale never before attempted in York; and, in order to do this, a guarantee fund was raised by contribution of £20 each, each guarantor to pay a deposit of £5 to meet any deficiency that might arise in carrying out the scheme, which was adopted at a meeting of guarantors—twenty-nine in number—held at Harker's Hotel, York, on February 7, 1859, when the following officers were appointed:—E. R. Anderson, Esq., chairman; R. W. Bailey, Esq., vice-chairman; Joseph Wilkinson, Esq. (Town Clerk), treasurer; J. Pratt, Jnn., Esq., hon. secretary; Mr. John Wilson, secretary. An exhibition of flowers was decided upon, to be held in the grounds of the York Lunatic Asylum, the use of which had been granted by the House Committee (fruit being excluded at first), together with a grand concert the evening before the exhibition in the Festival Concert Room, a balloon ascent, and a brass band contest. At this meeting it was decided that any profits arising from the concert and the first day's exhibition should be paid to the York Charities.

On the 10th of February in the same year Mr. Tom Smith was appointed joint hon. secretary; shortly afterwards Mr. Anderson declined the chairmanship, and ultimately Mr. Bailey became chairman. The first few months of the society was not without its "rocks ahead," as rumours of the resignation of the secretaries were afloat; but ultimately Mr. John Wilson was appointed the acting secretary, and the City Sheriff, J. B. Atkinson, Esq., the hon. secretary.

THE FIRST EXHIBITION.

The projected exhibition received the approval and patronage of His Grace the Archbishop of York and many of the noblemen and gentlemen of the county. The sum of £150 was devoted to plants and flowers, divided into twenty-seven classes and seventy-eight prizes. The band of the Coldstream Guards assisted at a concert on the Tuesday evening prior to the exhibition, and attended on the first day of the fête. Mr. Coxwell made his first balloon ascent from York, and a brass band contest terminated the evening's amusements. The fête was a decided success, the total receipts amounting to £1,252, including the sum of £74 7s. in donations. The guarantors received back their respective amounts deposited to provide against any risk of loss, and the committee granted 100 guineas to the charitable institutions of the city, which sum was further increased to £120 by the guarantors' generous help.

On the 14th of July in the same year, soon after the first exhibition, the following resolution was adopted in committee: "The object for which the committee was formed having been successfully carried out, and all claims being paid, this committee now to be dissolved."

Appended is a list of the twenty-nine guarantors:—

* Mr. E. R. Anderson	Mr. G. Hopkinson
" Bailey	" Lancaster
* " George Bland	* " Geo. Leeman, M.P.
* " W. Bland	" for York
* " Burdall	* " E. Oates
* " Chadwick	* " J. Pratt
* " W. Collier	* " J. Sampson
" Fender	* " J. H. Simpson.
* " Graham	* " T. Smith
" T. Gray, Newcastle-	" Tom Smith
on-Tyne	* " Thomas
* " C. Harker	" E. Thompson
* " A. H. Harris	* " Weatherley
* " Holliday (Draper)	" J. Wilkinson
* " Holliday (Station-	" J. Wright, Ponte-
master)	fract
* " C. Hudson	

Those marked with an * are dead, and Messrs. Hopkinson and Fender may be also.

THE SECOND GALA.

In December, 1859, and January, 1860, several meetings were held by those interested in the Gala of 1859, for the purpose of organising a permanent society on somewhat similar lines to those of the 1859 Gala and Horticultural Exhibition, but with rather a broader basis, and ultimately the following resolution was adopted:—"That it is highly desirable that a grand Floral and Musical Exhibition, similar to that carried out in June last, should be held in this city in the ensuing summer, and this meeting pledges itself to

assist in carrying this project into effect." To further ensure the success of the projected exhibition, a guarantee fund, consisting of 120 members or more of £5 each, was formed. On the 14th February, 1860, a general meeting of the guarantors was held at Harker's Hotel, and the Grand Yorkshire Gala was settled upon a firm basis of management. The Right Hon. the Lord Mayor, Mr. Alderman Evers, president; John Holtby, Esq., chairman of committee; Mr. Christopher Harker, vice-chairman; Joseph Wilkinson, Esq. (Town Clerk), treasurer; Mr. John Wilson, secretary, with a good committee, formed the managing staff at that time.

The distinguished patronage of Her Majesty and the late Prince Consort was at that time thought to be desirable; and Mr. Wilson, the secretary, obtained this for the society through the influence of the city members, the late Col. Smyth and the late J. P. Brown Westhead, Esq., the following being a copy of Sir Charles B. Phipps' letter to Col. Smyth:—

BUCKINGHAM PALACE, March 23, 1860.

My dear Smyth,—The Queen and Prince have readily granted their sanction to the Floral Fête at York being announced as under the patronage of Her Majesty and his Royal Highness.—Sincerely yours,

COL. SMYTH, M.P.

C. B. PHIPPS.

The distinguished patronage of Her Majesty and the Prince Consort led to the support of the leading families of the county, and the great York Gala soon took a most prominent position as one of the great horticultural meetings of the year.

THE SOCIETY AÉRONAUT.

Mr. Henry Coxwell, the celebrated aéronaut, still living in retirement at Tottenham, made his first ascent at the Gala in 1859, and was engaged every year, including last year (1886), but his retirement into private life at the close of last year breaks off the pleasant associations betwixt himself, the committee of the York Gala and the visitors there; and no man carries with him into private life more affectionate and sincere regard than Mr. Coxwell does from his York friends, and they are numerous. With the exception of two or three occasions, when illness caused his absence, Mr. Coxwell was always present at the annual gatherings, for York was a favourite place of his. In the year 1865, Mr. Alderman Wade, the Lord Mayor in that year, accompanied Mr. Coxwell in the ascent, a most favourable one, and Mr. Wade is, happily, still living and taking an active part in each succeeding Gala. This ascent was made in a new balloon, and the ceremony of christening it was performed by Miss Wade, who was the Lady Mayoress, the name of "The City of York" being given to it.

In a recent letter to the writer of these lines, dated April 28th, 1887, from Seaford, Surrey, where Mr. Coxwell is making a long stay for the benefit of his health, he writes:—"I regret that I shall not be able to be at York, as that week will be one in which I may have, should I continue in my present state of health, to take an aerial outing. I certainly did not anticipate being so well and active as I am, nor can I feel sure about continuing so, but if I do I shall have to, in some form or other, make a display of loyalty in my line, especially as I was born the same year as the Queen, and commenced studying ballooning in the year of Her Majesty's accession. I had the honour at York of taking up the Lord Mayor during his year of office, and I must have made nearly a hundred ascents from that ancient city, as the advance was made from a single to a double and treble ascent, and I have been there for nearly thirty years. It is not my age but my infirmity which has caused me to resign active service, and I do not regret having done so, as it was most painful for me to have occasionally to depend upon others, although the committee most considerably allowed me full latitude and discretionary power."

PRESENTATION TO MR. COXWELL.

An illuminated address from the committee was presented to Mr. Coxwell at the luncheon, in the year 1882, of which the following is a copy:—

Dear Sir,—The committee of the Grand Yorkshire Gala in meeting you on this, the twenty-fourth anniversary of your balloon ascents from the ancient city of York, desire respectfully to offer for your acceptance this permanent record of their high regard for your personal character, and of the high estimation in which they hold your professional services, not only as adding to the pleasure of the many thousands who have witnessed from the grounds in which we are now assembled, but in promoting the interests of scientific

research, as attested by your memorable ascents with Mr. Glaisher, and other occasions of the highest scientific value and importance. During the many years you have been associated with the Grand Yorkshire Gala you have never disappointed us, and for this we feel that we owe to you our heartiest and especial thanks. We earnestly trust that this association may yet be long continued, and that it may please God to bless the declining years of your life with all the solace and happiness, which you could for yourself desire to enjoy.—Signed on behalf of the Committee: Joseph Terry (chairman), Edward Rooke (vice-chairman), Joseph Wilkinson (treasurer), John Wilson (secretary).

June, 1882.

Mr. T. Wright, of the Crystal Palace, succeeds Mr. Coxwell at York as the aéronaut.

The royal patronage was continued to the society in 1861, and fruit was, for the first time, invited for prizes, and fireworks were added to the amusements; and, after the 1861 exhibition, the committee resolved that, after all expenses were paid, a portion of the balance remaining should be distributed amongst the charities of the city and county, the remainder to form the nucleus of a fund for future exhibitions.

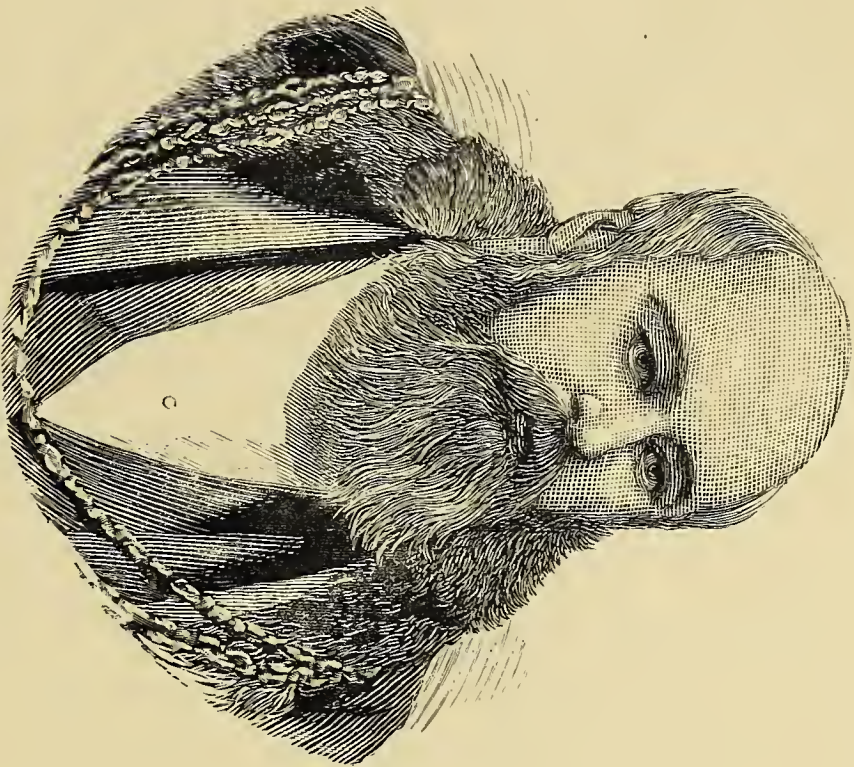
In 1863 a loss of £47 13s. 10d. was immediately paid by the guarantors.

THE RESERVE FUND.

In 1864 the committee resolved that until a reserve fund of £500 was secured, no further sums should be given away, and life membership was created by individual payments of £5. It was also determined that the society should be placed upon a broader and firmer foundation than heretofore, and instead of being reorganised every year, to be of a more permanent character, hence, the creation of life memberships as well as guarantors; and in case of loss at any time, each life member as well as guarantors should contribute to such loss in equal proportions. After the Gala of 1864 the committee were in a position to invest from profits and life memberships in consols, the sum of £500 as a reserve fund. In 1865 it was determined that in the event of any loss arising from that year's Gala, the reserve fund should be appropriated to meet such deficiency, and if not sufficient, to be made good by the guarantors. By the lamented death of H.R.H. the Prince Consort in 1862, the patronage of Her Majesty for the Gala of that year could not be accorded, but that of the Duke of Cambridge, K.G. was secured, and in 1864 H.R.H. the Prince of Wales granted his patronage to the society. From 1859 to 1867 inclusive, the society held a two days' exhibition annually, but in the year 1868 it was extended to three days, and has continued so since then.

THE HORTICULTURAL SECTION.

The horticultural portion of the Gala has extended into an annual disbursement of nearly £600 for plants, fruits, and flowers, and it is not necessary here to say much as to the influence of the society, and the very great attractiveness of the annual floral displays. The great exhibitors of the day go to York. The late Mr. Cole, Senr., was for years a firm supporter of the society, and the Manchester plants not only included his fine specimens, but Mr. Thomas Baines, at that time a celebrated exhibitor at Manchester, also exhibited never to be forgotten specimens, and keen, close competition was the order of the day. Latterly, a very high position as a plant grower and exhibitor has been taken by Mr. Letts, gardener to the Earl of Zetland, and his grand collections always call forth very sincere admiration from practical horticulturists. Neither must we forget the old Pelargonium days when the late Mr. Charles Turner, of Slough, used to take his grand plants to York, and soon showed other growers what to do and how to do it. Before long the late Mr. Henry May, of Bedale, became a great, and at times a successful rival, and now there is, probably, no other exhibition extant at which such a magnificent display of superbly grown Pelargoniums can be seen as at York. Messrs. Rylance, of the Ormskirk Nurseries, have been and still are very successful exhibitors; but the great grower of the present day (and for some years past), is Mr. Eastwood, gardener to Mrs. Tetley, Leeds, whose magnificent plants are truly wonders of high culture. The fruit part of the annual exhibitions is now a special feature, good exhibits are numerous, and a high order of excellence prevails. We have not space to devote to other special features, only to say that Orchids are coming to the front at York. Thanks to the exertions of the secretary, Mr. Wilson, and friends in organising good



THE RIGHT HONOURABLE THE LORD MAYOR OF YORK
(Mr. Alderman Terry, J.P.).



MR. JOHN WILSON,
Secretary of the Grand Yorkshire Gala.

sums for special prizes, and this year he has, in conjunction with the City Sheriff, S. Wright, Esq., obtained in subscriptions the sum of 50 guineas for special Orchid prizes, in addition to the society's usual prizes.

SPECIAL PRIZES, &C.

Mr. Wilson for several years gave £5 for special prizes for white and yellow Roses, and other objects; good support has been given by Mr. B. S. Williams, Messrs. Backhouse & Son, William Dove, Esq., and other friends. Mr. B. S. Williams, of the Victoria Nurseries, London, has been a steady and generous supporter of the society for many years, and on several occasions has given special prizes of £10. He and Mr. Baines, to whom we have already alluded, have been two of the judges of plants for many years.

The large sum of quite £12,000 has been paid in prize-money and for judges' services during the existence of the society, and the total amount given away to the Charities is a little over £1,000. The amount invested is £1,725, and the rent annually paid to the Bootham Asylum for the grounds has been, with two or three exceptions, £50. The annual average number of visitors during the three days is about 40,000. First-class bands are always engaged, and other outdoor amusements are provided. We have already spoken of a balloon ascent on each day, and on each evening there is always a fine display of fireworks by Mr. James Pain, the celebrated pyrotechnist, of London, who made his first display at the York Gala in 1876, and with so much success that he has supplied them annually for the three nights of the Gala to the present time. Last year's display was especially brilliant, calling forth the warmest praise from all; and in this Jubilee year Mr. Pain is again engaged to supply this very attractive portion of the outdoor amusements of the Gala.

PRESENTATIONS, &C.

Presentations have, during the progress of the Society, been made to officials—first to Mr. Holtby for his past services as chairman, when a handsome candelabra was presented to him. In June, 1869, a gold watch and Albert guard were presented to Mr. Wilson, the secretary, by the exhibitors; and in June, 1879, an illuminated address and purse of £40 was also presented to Mr. Wilson by exhibitors and friends. In 1873 a silver candelabra was presented to the then Lord Mayor, Mr. Alderman Steward, chairman of the committee, by the exhibitors and friends, as a souvenir of his year of office as Lord Mayor. Mr. Henry Steward was a well-known earnest amateur, who was greatly respected throughout the country; for his name was known far and wide as a keen cultivator of Auriculas, Tulips, Picotees, Carnations, and other florists' flowers, and he was also a most successful cultivator and exhibitor of Pelargoniums. He was truly esteemed by his fellow florists, as well as by the citizens of the good old City of York he loved so well. His sister, Miss Steward, who during Mr. Steward's Lord Mayoralty so gracefully presided at the Mansion House as Lady Mayoress, is still a supporter of the Gala and a successful exhibitor.

The following gentlemen have been the chairmen of committee: R. W. Bailey, Esq., 1859; John Holtby, Esq., from 1860 to 1868; Mr. Alderman Steward, from 1869 to 1876; Mr. Alderman Terry, J.P., from 1877 to the present time. Vice-chairmen: Christopher Harker, Esq., from 1860 to 1870; William Dove, Esq., J.P., from 1870 to 1876; Mr. Alderman Terry, J.P., from 1876 to 1877; Mr. Alderman Rooke, from 1877 to the present time. Both the present chairman and vice-chairman of committee are active members of the management; and Mr. Wilkinson has been the treasurer of the society from the beginning; Mr. Wilson also holding the secretaryship all that period.

SUPPORTERS OF THE GALA.

The committee of the Gala is under great obligation to the directors of the York United Gas Light Company for their liberality in supplying gas for the inflation of the balloon on economical terms, thus really rendering a benefit to the Charities. The North Eastern Railway Company has also rendered great assistance to the society by its admirable arrangements for unloading and re-loading the railway trucks containing plants within 100 yds. of the Exhibition ground, and by running so many excursion trains to the Gala. Gardeners and others from a distance have had great facilities given

them for visiting the Gala at cheap fares. Other railway companies having their termini in York also run excursion trains.

The central position of the site for the Gala is another element in its success, for the Bootham Asylum grounds are near to the railway, just outside the city walls, easy of access to all, and are so well adapted to the requirements of the Gala. The House Committee and Mr. Horne, the secretary, have always courteously afforded every facility to the Gala committee, and the inmates under the care of the attendants visit the Exhibition on the second and third days.

A GARDENERS' HOLIDAY.

That the Gala is rendering great service to horticulture we cannot for a moment doubt, for a very plain proof is visible on the second morning of the Exhibition especially, when many hundreds of gardeners—young men in particular—visit York for the Gala, and take an active interest in the exhibits. No other nursery in the kingdom receives so many gardeners, with their wives, children, and, in many cases, sweethearts, as do Messrs. Backhouse & Son; for on the second day certainly business is suspended, and every employé has more than enough to do in attending to the thousands of visitors and directing them in their rambles through this extensive and admirably kept nursery. Backhouse's nursery is one of the sights of York to the young gardeners as well as older ones on the occasion of the great annual "outing" to the Grand Yorkshire Gala.

York, like many other places, had its annual fair held at Whitsuntide; but the Gala has become so great an attraction for outdoor amusements of a much more refined character, that the old Whitsuntide fair, with its giants, dwarfs, fat women, learned pigs, Circassian ladies, and other wonders, are now fortunately obsolete. The Gala is now regarded by the citizens and the public generally outside the city as one of the great events of the year, and the tradesmen make the afternoon of the third day a general holiday.

THE SECRET OF SUCCESS.

The primary cause of the great success of the York Gala may be honestly set down to active, unselfish, hearty management. There are no exhibitors on the committee, and, therefore, no selfish interests are pushed forward. The committee is an extensive one, and consists of the leading citizens of the City, and few changes take place in its constitution, save when death robs it of a member, or the addition of others who will strengthen it. Old familiar faces who have for a long number of years been warm supporters of the Gala and are on the committee, are at their posts on the Gala days, and it is a great pleasure to meet them then.

There is no more active member than Mr. Councillor Milward, who takes a principal part in directing the arranging of the plants, flowers, and fruits annually, for on the general effect of the exhibition so much depends. The exhibits (and their arrangement is a very heavy matter) are always ready for the judges in good time, and during the work of the judges, the tents are thoroughly cleaned up, and a good example is set to many other less pretentious exhibitions. Another great charm at the York Gala is the high-class music—and there is plenty of it—for only first-class regimental bands are engaged.

THE LORD MAYOR OF YORK.

The present occupant of the Mansion House, the Right Honourable Joseph Terry, is a very popular Chief Magistrate. Courteous to all, earnest in all he undertakes, and with the true characteristics of an English gentleman, he is ever ready to undertake his share of work for the benefit of his fellow citizens, and for any great object which may require his aid. York is, as everyone knows, a very old municipality, and the records of the corporation take us back to a very early period of English history. Amongst our English municipalities, there are but two whose Chief Magistrate is a Lord Mayor, and, in all probability, the oldest title is that of York. Mr. Alderman Terry has taken an active part in municipal matters since 1860, when he joined the corporation as Councillor for Monk Ward. In 1870, he was appointed to the distinguished office of City Sheriff; four years afterwards he was elected an Alderman, and in the same year he was raised to the honourable position of Lord Mayor of the good old city. Shortly afterwards was made a Justice of the Peace, and has ever since been a regular attendant in the

performance of his magisterial duties, excepting unfortunately when his health necessitated his absence from York. Mr. Terry is in other ways also a prominent person in York. He is a trustee of the York Charities; a vice-chairman and director of the Yorkshire Fine Art and Industrial Exhibition; a vice-president of the York Institute of Science and Art; and a manager of the York Savings Bank. As Lord Mayor he is, by virtue of his office, the president of the Grand Yorkshire Gala, and for several years he has been chairman of the Committee, and his active genial co-operation has made him very popular with those who have officially, in one way or another, been connected with the Gala. Mr. Terry is in a large way of business at York—the head of the firm of merchants and export confectioners, Joseph Terry & Son, and his firm has built up a world-wide reputation, in our Colonies especially, where high honours have been gained respectively at the Melbourne, Adelaide, and New Zealand exhibitions in 1880, 1881 and 1882. Mr. Terry was, as we have previously stated, elected Lord Mayor in 1874, and he was again unanimously elected Lord Mayor in 1885, and by the unanimous vote of the City Council he was again re-elected as Lord Mayor for this Jubilee year of 1887. The Lady Mayoress, Mrs. Terry, is a genial and greatly respected dispenser of the courtesies and hospitalities of the Mansion House, and that long life and happiness may attend the Lord and Lady Mayoress, is a wish that will find a hearty and cordial response.

MR. JOHN WILSON.

The secretary of the Grand Yorkshire Gala has held that office since the formation of the society, and he is a native of York. His father died when the son was only nine years old, so that Mr. Wilson has had to carve his own way in the world. He was brought up to the profession of a law stationer, and carried on this business successfully for forty years. He has on many occasions acted as local assistant secretary to various associations visiting York, such as the Archaeological Society, the Social Science Congress, and the Sanitary Exhibition. The first event which brought him more prominently before the public was his connection with the late M. Jullien in organising his grand voucher balls and promenade concerts, taking up this work on the death of his lamented friend, Mr. John Robinson, a well-known teacher of music in York, and a great lover and cultivator of Pansies, and other florists' flowers. Mr. Wilson still holds the following appointments:—Secretary to the Grand Yorkshire Gala since 1859, secretary to the Yorkshire Rifle Association since 1861, and assistant secretary to the Yorkshire Fine Art and Industrial Exhibition. It is particularly in his association with the Gala as its able secretary, that the name of John Wilson is known far and wide amongst horticulturists, and to his untiring energy a good deal of the success of the Gala is due, as he has kept himself in almost constant communication with horticulturists in the interests of the horticultural part of the Gala especially. Not only has he personally given special prizes, but he has on several occasions worked heartily in organising special extra prizes in order to bring out some subjects of interest, especially Roses and Orchids. Mr. Wilson remained a bachelor until about two years since, when he married Mrs. Beck, the widow of H. B. Beck, Esq., M.D., of Bermuda, and daughter of S. Gordon Warner, M.D., of Trinidad, West Indies, in whose family the celebrated "Essex" Ring has long been a cherished heirloom. Thomas Warner, to whom it was presented by James I, placed it on his shield of arms with the motto, "I hold from the King." This ring is figured in Jones' *Ring-lore*.

During Mr. Wilson's secretaryship, two presentations have been made to him by the exhibitors and friends, who have felt desirous of showing him how truly his efforts to maintain the prestige of the Gala have been appreciated, and as some acknowledgment of his courtesy to them.

SWEET-SCENTED HOLLY.—It does not seem to be generally known that the common Evergreen Holly, so much admired and sought after for Christmas decoration, should possess another quality besides furnishing the coveted and ornamental scarlet berries. The flowers of male trees have a strong but agreeable odour that may be perceived at some distance when walking on the lee side of the tree while a gentle breeze is blowing, or on all sides at a shorter distance when the air is perfectly still; the odour resembles, to a certain extent, that of Hawthorn, although not decidedly so.

HORTICULTURE AT THE MANCHESTER JUBILEE EXHIBITION.

THE possibility of fixing, as the site of the above exhibition, a spot where the Botanical Gardens could be made an adjunct was, without question, a very fortunate circumstance for the promoters. Seeing that all art, not only the department specially distinguished by that name, but mechanical art as well, has its foundation in living nature, what could be more fitting than that the illustrations of first principles supplied by trees, plants and flowers should be allowed a place alongside of the most beautiful and useful adaptations of them? It would be difficult to name any great law, applied by the constructors of machinery of any description, that has not some setting forth in the life-history of vegetation. It is in plants also that we have the first hints of everything which falls to the lot of the architect and the mason, to undertake and to carry forward to useful completion.

That the fine arts, emphatically so denominated, have their first principles illustrated in plants and flowers, scarcely needs repeating. "Who," says the poet, "can paint like nature?" Another way of saying that nature is the first and foremost of all artists in colours, and in the perfection of their intermixture. The poet might have gone on to say, "Who can produce such exquisite sculpture as we find in vegetable nature?"—sculpture, moreover, that is a little less durable than marble, if not often quite as durable; the cones, for instance, of many kinds of Pine Trees, and the cone-like fruits of different Palms. Sculpture of the most delectable kind is also set forth in the seed-pods of many a little herbaceous plant; but over and above these minute points of agreement between the productions of scientific skill—of highly cultured taste and power in the use of the colour-brush on the one hand, and of the simple performances, on the other hand, of ingenious nature, an immense point is gained for all who will visit the exhibition in having the same trials alike of art-work and nature-work concentrated, and side by side. It is a case, most truly, of "Look upon this picture, and upon that;" each one the presentment of the other. The grand gallery or avenue of approach forms one of the most charming features in the exhibition, and is just now most attractive.

The building is 120 yds. long and 30 yds. wide; on either side are raised banks, which are planted with Rhododendrons, Hollies, and Coniferae, and when we state that the whole of this vast area is planted by Messrs. John Waterer & Son, of Bagshot, Surrey, we need not say that the material is of the very best. In the gardens several plots are set apart for the exhibition of hardy shrubs. It would be most invidious—seeing that equal credit is due to each exhibitor—to name any one firm to the exclusion of the rest. Messrs. Fisher, Son & Sibray, of the Handsworth Nurseries, near Sheffield, have some fine Rhododendrons and Hollies; Messrs. Dickson & Robinson, of Manchester, have a tastefully-arranged collection of plants suitable for growing in the district; and the same remark applies to Messrs. Dickson, Brown & Tait and Messrs. G. & W. Yates, of the same city; whilst Messrs. Richard Smith & Co., of Worcester, make an artistic display. The whole of the Botanical Society's range of glass is thrown open for several hours during the day, and the vast number of visitors seem to enjoy the floral treat provided for them. The Mendel house is at the present time very attractive with Azaleas, greenhouse Rhododendrons, and that lovely annual, Schizanthus. The Orchid houses are gay with some hundreds of Cattleyas in bloom: *Odontoglossum*, *Lælia*, *Cypripedium*, &c., &c.; and the new Fernery, Palm and aquatic houses come in for a large share of attention. We understand that a Rose show is to be held in the Jubilee Exhibition building, on the 22nd of July.—*Alpha*.

AN ERRATIC LABURNUM.—We are most familiar with the yellow drooping racemes of the Laburnum during May and June, but some of the garden productions seem to vary in this respect, flowering late in summer, while a specimen in "My Garden," at the Grange, Carshalton, Surrey, flowers in May and June, and again in September, October and November. It is a variety of the common species, *Laburnum vulgare*, with stouter, more erect branches than usual. Varieties of different habit might be selected from seedlings. There is a pendulous variety in gardens, and another with deeply-cut Oak-like leaves.

GARDENING MISCELLANY.

Watering Seed Pans.—I think if your correspondent, "C. A. G.," will get from a chemist a spray distributor—price 6d.—as used in sick rooms, she will find it answer admirably for bedewing her seedling Auriculas, and it will not indent the soil; or if she will stand the pots in water up to about 1 in. of the soil, the contents will get saturated in a short time, and the seedlings will not be disturbed.—*T. F., Reading*.

Charlock (The Irish Rashough Weed).—Probably this is known to all your readers, especially those having a home farm as well as a garden to superintend. I should like to ask, through your columns, the best method of extirpating it? It is an annual, but seeds freely, the seed having the peculiar property of being almost indestructible by heat, or cold or time. I have at present three fields of Oats that had been ploughed deeper than usual, bringing up the not usually stirred sub-soil, and with it a profuse seed crop of this weed, that must have been there for years. I see no means of getting rid of it, except by doing more harm than good to the crop; though I should like very much not to allow it to seed. I have seen it denied that this seed can remain dormant in the ground at great depths, and the growth ascribed to the wind blowing it into the fields; but in this case there was none growing convenient previously.—*W. J. Murphy, Clonmel*.

Toxicophlæa spectabilis.—Among really good plants of recent introduction, very few can compare with the subject of this note, and yet how seldom it is seen, except in a few well-kept gardens. Why is this? Simply because there are so few who will take the trouble to try anything fresh—no matter how well recommended it may be. When visiting the gardens at Eaton Hall, near Chester, a few days ago, I saw some magnificent plants from 2 ft. to 4 ft. high covered with clusters of its pure white sweet-scented flowers, which are not only produced from the terminal corymbs, but also from the axils of the leaves, thus forming a long branching raceme of bloom from 12 ins. to 18 ins. in length. Mr. Selwood, the head gardener, assured me that it was one of the easiest-grown plants on the place, and that his employers prefer it as cut flowers to any others he can give them. It requires the temperature of a warm greenhouse, and the compost most suitable for its cultivation is good fibrous loam, peat and leaf-soil in about equal parts, with some silver sand. The plants should be well cut back after flowering so as to keep them bushy, and a little extra heat and moisture will assist them in breaking freely.—*W. B.*

A Large Mahaleb Cherry Tree.—Notwithstanding the fact that *Prunus Mahaleb* grows to a larger size in Britain than on the Continent where it is a native, we seldom see trees of great size in this country. Possibly, this is owing to its being planted in shrubberies where it is not allowed free scope for development, but gets pruned to prevent it from overcrowding its neighbours. A variegated form of no great beauty also usurps the place of the typical form. There is a fine tree at Devonhurst, which at one time belonged to the Royal Horticultural Society, Chiswick. It measures 35 ft. in height, and has a broad spreading head, covering a circular space 58 ft. in diameter and, consequently, 174 ft. in circumference. The flowers are small, but were produced in great profusion, and the tree ripens fruit. Not only are the flowers strongly scented, but the leaves, wood, and fruit as well. Several large limbs were wrenched off the tree by the terrible storm just after Christmas last year.—*Taurus*.

Fruit Prospects in North Northumberland.—In spite of low night temperatures hitherto experienced almost continuously up to the present time (June 6th), and generally accompanied by white frosts, I think all our hardy fruits this year are likely to be much over an average. To begin with Apricots, these are something quite out of the common run, the fruits being set so thickly as to make the branches resemble so many ropes of Onions. I never, in all my experience, remember seeing such a "set" before. We have here three trees which cover about 70 ft. run of wall, and after leaving what will ultimately be a very heavy crop, something like about 3,000 were taken off. Peaches, which seldom pay for the space occupied,

have also done well. Protection was given to these two crops as soon as the trees were showing bloom, though only in the shape of a double fold of herring-netting, which remained on till the crop was fully set; but it was placed at such a distance from the wall as to give room to walk beneath. Plums are likely to be a fair average crop, and Cherries an exceedingly heavy one. Raspberries are now coming into flower, and seem promising enough, which also seems likely to be the case with Apples. Pears have set a heavy crop, and a great deal of thinning will be required. Gooseberries and Black Currants we can speak of with some certainty, both being good crops, the latter rather extra. Red and White Currants are only now in flower; but, I think, look fully up to former years, provided frosts keep off. These always crop very heavily with us. Strawberries are throwing up extra strong stalks this season. Potatoes are growing away very fast now, but coming with more irregularity than I have ever noticed before.—*R. Stevens, Paston*.

A Rich-coloured Cereus.—Under the varietal name of *J. T. Peacock*, a very distinct and striking-flowered variety is blooming at Sudbury House, Hammersmith, in Mr. Peacock's collection, after whom it is named. The stems are dwarf, stout, and triangular, furnished with numerous tufts of small spines on the angles. The outer petals are scarlet, while the inner are of a lively rose with scarlet mid-ribs; but what is very singular, these colours seem to play into one another, or those of the inner petals become altogether changed, according to the standpoint of the spectator or the direction of the incident rays of light. The flowers are of medium size or large for the particular species to which it belongs, and very ornamental. Some of these large and day-flowering Cacti might be more frequently cultivated than they are.

Magpie Pansy.—Few bedding Violas are more distinct in their way than the subject of this note. It would seem to have become a general favourite in gardens soon after being raised, judging from the frequency with which one meets it, even at the present day. From this, two things may be taken for granted, namely, that cultivators generally like it, and that its constitution is such that it outlasts many of the more recent productions of raisers. There is a distinctness and quaintness about it, moreover, which one can hardly fail to appreciate. Individual flowers vary, but in general terms it may be described as plum-purple boldly striped with white in the longitudinal direction of the petals. Where these two colours meet or merge, a distinct violet shade is really noticeable, that harmonises well with the two leading and more strongly contrasting colours. It flowers so profusely all summer, that barren shoots for the propagation of it are difficult to obtain. Now is an excellent time to secure them, although autumn-struck cuttings will furnish tolerably good stuff. It is now very gay at Parkside, Ravenscourt Park, where it is planted with good effect round the narrow borders skirting the walks, and backed up by espalier Apple and Pear trees.

Adiantum pedatum.—A fine specimen of this hardy Fern may now be seen in prime condition at Parkside, Ravenscourt Park, Hammersmith, where Mr. Aitken grows a number of the more popular Ferns for decorative purposes. The specimen in question was recently introduced from North America, but is a very old inhabitant of British gardens, having been imported as early as 1640, before Ferns became popular and were cultivated to the extent they are at the present day. It was the first Maidenhair grown in this country, with the exception of *A. Capillus-Veneris*, our native species enjoying a cosmopolitan range of distribution and universally admired. The pedate fronds of the Canadian species under notice are circular in outline, or nearly so, owing to the numerous radiating pinnæ that extend on every side. These are very membranous in texture, and the whole frond is deciduous, which accounts for the hardness of the species.

Coleonema rubra.—The white-flowered species is much more frequent in gardens than this one, and, although the flowers alone, under good cultivation, are sufficiently numerous to render the plant ornamental, it is sometimes cultivated for the sake of its foliage, which is agreeably scented, contrary to the rule with many other members of the Rue family. The leaves of *C. rubra* are much longer than those of *C. alba*, but furnished with glands similar to those of its congener, and on the upper branches of a specimen at The

Grange, Hackbridge, Carshalton, stand erect close to the branches. This character may not be constant, but is certainly very noticeable. The numerous rosy red flowers are even more conspicuous and attractive than those of the white-flowered species, and recommend it to the attention of growers. No special treatment is required beyond what is given to Australian shrubs generally.

Gloxinias.—Having read with some attention a small paragraph in THE GARDENING WORLD of April 16th, about Gloxinias blooming six months from the time of sowing the seed, I thought some of the readers would be interested in hearing that some seed I sowed early in February last, have produced strong young plants, some of which were already in bloom by June 3rd. The plants have only had ordinary stove treatment, and the weather has been anything but favourable, owing to the lack of sunshine. The seed was obtained from Messrs. Veitch, of Chelsea.—*K.M.S.*

Canna Ehemanni.—The large deep blood-red or crimson flowers of this hybrid Canna always command the attention and good-will of cultivators who have tried it. Like one of its parents, namely, *C. iridifolia*, it produces several spikes from a spathe, so that when one series of flowers decays, it is a mistake to cut down the stem. If allowed to remain, Mr. Hudson, of Gunnersbury House, Acton, finds that it will produce about 200 in the course of a single season. When one branch of the inflorescence has finished flowering, it is succeeded by others from time to time all through the summer season, before the stem producing them has become exhausted. For decorative and flowering purposes this is one of the best of all the Cannas.

Golden Madame Desgrange Chrysanthemum.—Very few cultivators at present grow Chrysanthemums so as to have them in bloom at this season, we therefore give all the more welcome to a fine spray of the above variety, sent by Mr. Alex. Grigor, The Gardens, Fairfield, Aberdeen, who is able to supply his master with Chrysanthemum blooms throughout the year. The spray bore two fully expanded flowers between 4 ins. and 5 ins. in diameter, and several others in bud or partly expanded. The flowers were of a clear clean-looking, deep canary-yellow, and very handsome; they were also possessed of a moderately strong but not disagreeable odour, which would doubtless find favour with some Chrysanthemum fanciers. The foliage accompanying the spray was of good substance, and of the deepest green.

Maule's Quince (Pyrus Maulei).—The Quinces have numerous seeds in each cell of the fruit, while a true *Pyrus* has only two. Maule's Quince resembles *P. japonica*, but is smaller in all its parts. It is a much more recent introduction, and for small gardens more suitable in several respects. It flowers in April and May, producing bright orange-red flowers in clusters along the previous summer's wood. It produces fruit in great abundance—a quality which cannot be said of the Japan Quince, and this is smaller, deep yellow, and possessed of a very powerful odour which it emits for months, a few of them pervading the whole room in which they are kept. Both flowers and fruit are very ornamental. A specimen of this Quince may be seen at Chiswick in the Gardens of the Royal Horticultural Society.

Yellow Portugal Broom.—The typical and white form is known in every garden, and admired for the great profusion of its flowers in the early part of summer. Botanically the white or Portugal Broom is *Cytisus albus*, but the above-mentioned form is most frequently cultivated in gardens under the name of *Genista præcox*. There is a fine specimen on the rockery in the Royal Horticultural Society's Gardens at Chiswick, which now and every summer is a mass of flowers of a pale canary-yellow colour. The small leaves are never very conspicuous, but the green, twiggy, much-ramified branches always compensate for this deficiency whether in summer or winter. It also ripens fruit abundantly.

Pavetta montana.—The Pavettas closely resemble the *Ixoras* in structure, but differ in the longly-exserted style and stamens; and the flowers being white, the general appearance of the plants is very distinct from *Ixoras* for horticultural purposes. The subject under notice is grown at Gunnersbury Park, Acton, where it is subjected to the same cultural treatment as the *Ixoras*, which are also well grown there. It forms a low bush or shrub, with large, oblong elliptic, bright green leaves and broad umbellate cymes of white flowers; these are very pure while kept dry, but they dislike wetting, which blackens them in a short time, and should, consequently, not be syringed.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.—*Catasetums*, *Cycnoches* and *Mormodes* are among the most beautiful, curious in structure and varied in form, of any class of Orchids, and yet they are very rarely to be found doing well in collections. The failures with these, however, as in most other cases where plants are not done well, may rather be traced to a misconception of their habits and requirements, than to any real difficulty in growing them; the fact is, the whole of these things require a distinct period of growth, with a liberal supply of rain-water at the roots from now and throughout the summer, and a well-defined period of rest in a cool and dry atmosphere after the leaves have turned yellow; in fact, all who regard them in precisely the same light as the deciduous *Dendrobiums*, and treat them in the same manner, cannot fail to get good results with the *Catasetums*, *Cycnoches* and *Mormodes*, whose wonderful flowers are certainly well worth any trouble one can take to obtain them.

Moreover, these plants when not properly grown are superlatively miserable in appearance, and those who have them should give them the attention they deserve or get rid of them. Good fibry peat, with or without a little sphagnum moss added, suits these plants well, and when properly managed as to periods of growth and rest, they succeed equally well in either pots or baskets. In the growing season they will stand a good amount of heat and a very liberal supply of water at the roots (not overhead), but in the winter or resting season a shelf in an airy position in a temperature ranging between 50° and 55° is all that is necessary, and there they will pass a long period without a drop of water being given to them, and come out in great vigour when the season of growth arrives. Several articles on this subject with enumerations of all the best species, appeared in vol. i, p. 812, vol. ii, p. 12, with an illustration of *Cycnoches chlorochilon*, and p. 28.—*James O'Brien.*

The Moth Orchid of Sumatra.—Last year a fine coloured variety of *Phalænopsis Sumatrana* flowered at Kew, but when shown alongside of another now in flower, contrast makes it evident that the colours of this form are much more intensified. The flowers are large, with a glossy-shining look about them, and the sepals and petals are heavily barred transversely with reddish brown on a white or yellowish white ground. The terminal lobe of the labellum is heavily bearded with white hairs, the economy of which is not very evident. The oblong-leathery leaves are bright green, similar to those of *P. violacea*, *P. Luddemanniana* and *P. speciosa*, with which it compares very favourably. Both the above-mentioned specimens may be seen in the stove.

The Mossy Masdevallia.—On superficial observation there is nothing very striking in *Masdevallia muscosa*, except that the flower-stalks are covered with coarse, rough short hairs, that give them a mossy appearance, and in all probability suggested the specific name. The flowers resemble, in general appearance, those of *M. xanthina*, but are larger and much the same in colour, whilst the sepals are prolonged into tails about 1 in. long and reflexed. The most remarkable and interesting fact concerning this Orchid is, that the labellum is highly sensitive. It is spatulate, cut short at the apex, and yellow with a purple blotch at the tip. When a small insect or other object touches the labellum but lightly, the latter commences to move upward slowly, then all at once it closes with a jerk, making a prisoner of the insect, excluding possibility of escape except in the case of a very small one, which might crawl out between the apex of the petals and the anther. Possibly this is the design of the contrivance to secure fertilisation.—*J. F.*

Scuticaria Hadweni.—In gardens, this is occasionally grown as a species of *Bifrenaria*. The two known species have long, pendent, thong-like leaves, similar to those of *Oncidium Jonesianum*, but generally much longer, as in *S. Steeli*, attaining a length of 3 ft. to 4 ft., presenting a striking contrast to the general run of Orchids. The flowers also possess great merit, both from their size and colour, and are produced singly on very short peduncles, so that when the plants attached to blocks are hung up to the light the flowers are near the eye. They are about 4 ins. in diameter, with chocolate-brown sepals and petals, much darker than usual and banded with yellow at the base. The labellum is spotted with brown and purple on a white and yellow ground. It is flowering in the collection at Sudbury House, Hammersmith.

The Fox-brush Aërides.—An Orchid so well known as to be grown almost universally in collections seems to call for no special comment, but branching spikes are more the exception than the rule. Indeed, from general experience one would naturally say that *Æ. Fieldingi* naturally produces simple racemes only, but a well-flowered plant at Pendell Court, Bletchingley, the English residence of Sir George Macleay, bears at the present time four good-sized lateral branches on a long primary raceme, besides two other racemes on the same plant. Mr. Ross, the gardener, may be congratulated on his success with this as with several other Orchids more difficult generally to flower successfully.

Brassavola Digbyana.—Cultivators as a rule succeed with this noble species rather indifferently. Mr. Ross, at Pendell Court, Bletchingley, has flowered it consecutively for the last three years, apparently without any special treatment, beyond keeping the plant somewhat drier after the annual growths have been made. The specimen in question is a large one, with many pseudo-bulbs grown in a well-drained pot of the ordinary kind. Last year, and previously to that, the plant was located in the Lily house, but after re-potting was removed to another stove with a cooler temperature, where the watering would be more under control and personal supervision. It is now flowering again, and one never fails to be interested in its noble and extremely curious flowers, whose sepals and petals expand with a pale greenish hue, but afterwards become nearly white. The great deeply lacerated or fringed labellum is pure white, and is no less interesting than the tube of the perianth, which elongates from 4 ins. to 6 ins. above the ovary.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

BALSAMS.—The first batch of Balsams should now receive their final shift; generally speaking, a 12-in. pot will be found large enough, unless extra fine specimens are desired, and then, of course, larger may be used. Once again let me mention, that pressing of the soil should be avoided. The compost cannot be too rich; at the same time it should be light and porous, or success cannot be attained. Remember, that a Balsam, when perfectly grown, should retain its seed lobes until flowering is over, no matter how large the specimen may be: one seldom sees such plants as Mr. Green, of Lower Cheam, used to stage. Useful plants for staging purposes can be obtained by growing them out of doors during the summer months; but being grown in a moist warm temperature, freely ventilated, is the way to fully develop them. Stopping must not be resorted to, as the symmetry of the plant is spoiled by such treatment. To have a good show of them, the earlier flowers must be removed as they become large enough, and the lateral growths should be tied out to the sides of the pots; they quickly regain a perpendicular position, but to assure thorough furnishing of each plant, they must be kept turned at least twice a week. The great enemy of the plant is red-spider, therefore, until the flowers commence to open, a free use of the syringe must at all times be made use of.

THE EARLIEST CAMELLIAS should now have completed their growth, and, consequently, be ready for removal to some partially-shaded position out of doors. When I say partially, I mean placed where the sun does not reach them, say from 10 a.m. until 4 p.m., otherwise the foliage is apt to become scorched. The placing them out of doors answers a double purpose—that of freeing them from scale, which they are much subject to; and also of giving extra substance to the foliage. Care must be taken that the pots or tubs stand upon a cool bottom, and if not of coal-ash let bricks or tiles be placed under each, that worms may not enter the soil. An occasional dose of soot-water will be found of the greatest benefit to these plants.

IN THE STOVES the syringe should be freely used, and the houses frequently damped down during the day; of course, avoiding as much as possible the wetting of Orchid flowers, and also of Gloxinias. The earliest batch of these are now in full beauty, and placed at equal distances along the stages add greatly to the beauty of the house; the later batches, including this season's seedlings, are on the shelves near to the glass, where they make a much more sturdy growth than if they are kept on the stages, and flower more profusely. Having, within the last few days, been treated to a greater amount of sun, the houses in this department must be more freely ventilated, and extra shading afforded to any of the more tender occupants.

THE FRUIT HOUSES.

EARLY PEACH HOUSE.—Where the fruit is ripe or ripening, a much more buoyant atmosphere must be maintained, and damping down must only be done at mid-day; in fact, this process should, as much as possible, be avoided, a mulching of dry litter or made grass being spread over the inside borders to prevent evaporation. As the fruit is ripening, watering of the borders should be discontinued, so as to give a higher flavour to the fruit.

FIGS.—The same remarks apply also to the earliest house of Figs; but great care must be taken that these do not suffer for want of water at the roots, or the second crop will be sure to fail. I need hardly add that the use of the syringe must be withheld in both cases while the fruit is ripening, to be resumed as soon as the crop is gathered.

MELONS.—Avoid watering Melons which are about ripening their fruits, or cracking will take place; shade them in preference.

THE KITCHEN GARDEN.

BEANS.—We have made another sowing of Peas, also of French Beans; and a second one of Scarlet Runners. This second sowing is often of the greatest value in dry seasons, and should never be neglected. We have also prepared the square ready for the planting of the main crop of Celery, which must be done within a few days. We have not yet commenced the thinning of

CARROTS, bedding-out having occupied so much of our spare labour; but we hope before these lines are in print to have done so. Keep the hoe constantly at work amongst all growing crops, not only to keep weeds in check, but also to admit air to the roots of the crops; a crushed surface is at all times detrimental to their well-being.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Reading Horticultural.—The spring exhibition of this society took place on June 2nd, as usual, in the Abbey Ruins, but, unfortunately, the day proved very wet, the rain coming on at a time when the company were arriving. This was very unfortunate, as the spring show held last year was under similar depressing circumstances. The tent looked somewhat thin, though there were many good and bright features; unfortunately for Reading, several residents, such as Mr. W. Lees, the gardener at the Wilderness, Reading, have given up showing, and others do not come forward to supply what is thus lost.

On this occasion there was but one collection of nine stove and greenhouse plants, Mr. James, Castle Nursery, Lower Norwood, being first with some good specimens. Mr. Parham, gardener to H. J. Simonds, Esq., Caversham, Reading, was the only exhibitor of six plants, having a fine piece of *Vanda teres*, *Anthurium Scherzerianum*, *Lantana Le Grand*, which makes a good exhibition plant. The best specimen was a fine *Clerodendron Balfourianum*, shown by Mr. Baskett, gardener to W. J. Palmer, Esq., Reading. Mr. James was the only exhibitor of nine Azaleas, having well-grown and flowered specimens. Mr. T. Lockie, gardener to the Hon. G. Fitzgerald, Oakley Court, Windsor, had the best six, showing very nice neat specimens; Mr. Dockerill, gardener to G. W. Palmer, Esq., Reading, being second. Mr. Ashby, gardener to W. Fanning, Esq., Whitechurch, had a very fine group of hardy *Rhododendrons*, very striking and showy, and was the only exhibitor. *Fuchsias* were quite poor; Mr. Ashby had nine good specimens of show *Pelargoniums*; and Mr. Sumner, gardener to J. H. Millard, Esq., Reading, a good six; first prizes were awarded in each class. *Gloxinias* in sixes were superbly shown by Messrs. Baskett and Dockerill; by the former especially, and it would be difficult to imagine anything much better in plant and flower. They were simply superb. *Calceolarias* were admirably shown by Messrs. Lockie, Baskett and Dockerill; finely grown and bloomed; the flowers of the best quality.

Orchids were a most satisfactory feature, the best seen at Reading for years. The best three came from Mr. James; second, Mr. Pound, gardener to G. May, Esq., Reading; two equal third prizes, and an extra prize was awarded in this class. The best specimen Orchid was a very fine piece of *Dendrobium densiflorum*, with twenty spikes of bloom, from Mr. Parham; Mr. Lawrence, gardener to Mrs. Owen Knox, Caversham, with a fine piece of *Od. vexillarium*, being second.

Groups of plants, arranged for effect, are always a leading feature at Reading. Mr. James was first with a light and graceful semi-circular arrangement; Mr. Woolford, gardener to Alfred Palmer, Esq., Reading, being second; and Mr. Parham third. In the class for a smaller group, Mr. Pound was first; and Mr. Balchin, gardener to B. Simonds, Esq., Reading, was second. Mr. James had the best six *Ericas*, showing nicely-grown and bloomed plants. Foliage plants were a good feature, and a very fine group of flowering and foliaged plants not for competition was shown by Mr. W. Lees, gardener to Mrs. Marsland, The Wilderness, Reading; and Mr. Turner sent, from Slough, a group of charming show *Pelargoniums*. First Class Certificates of Merit were awarded to Magnate, Excellent, The

Czar and Goldmine, and to Fancy, Ambassadors, all beautiful and distinct new varieties of great merit; also to Azalea Madame van Houtte—a fine specimen coming from Slough. Messrs. James Carter & Co., High Holborn, had a group of their Queen's Royal Jubilee *Mimulus*, in fine condition, to which a First Class Certificate of Merit was also awarded.

Some excellent Grapes were shown; Mr. Turton, gardener to J. Hargreaves, Esq., Maiden Erlegh, had the best two bunches of Black Hamburgh, admirably finished; Mr. Ashby being second, and Mr. Cook, gardener to J. Taylor, Esq., Rendcomb Park, third. Mr. Ashby had the best two bunches of white Grapes, showing admirable examples of Foster's Seedling; Mr. Cook being second, and Mr. Baskett third. Strawberries in dishes of thirty-six were remarkably good; Mr. Goodman, gardener to C. Hammersley, Esq., Bourne End, Great Marlow, had a wonderful dish of La Grosse Sucrée; Mr. Waites, gardener to Colonel Talbot, being second with capital Sir Joseph Paxton. Mr. Turton had the best six Peaches, staging capital Early Ascot; Mr. Goodman being second with Royal George.

VEGETABLES were scarcely up to Reading mark, owing to the season and cold nights. There was a good competition for Messrs. Sutton & Sons' special prizes for collections of eight varieties; Mr. Lockie being a good first with Suttons' Ringleader, and Suttons' Ashleaf Potato, Suttons' Ringleader and American Wonder Peas, Moore's Vegetable Cream Marrow, Hathaway's Excelsior Tomato, Ne Plus Ultra French Beans, and Cauliflower; second, Mr. Goodman, who ran Mr. Lockie very close indeed; third, Mr. Booker, gardener to H. Littledale, Esq., Reading; fourth, Mr. Read, gardener to F. Wilder, Esq., Purley. Mr. Ashby had the first dish of twelve Kidney Potatoes, having Suttons' Ringleader in good form; and Mr. Lockie the best dish of Round, showing excellent Suttons' Eclipse. Cauliflowers, Lettuces, Asparagus, Rhubarb and French Beans were well represented. Mr. Lockie had the best collection of vegetables, Mr. Read being second. A First Class Certificate of Merit was awarded to Messrs. Oakshott & Millard, seed merchants, Reading, for Reading Defiance Cabbage, an excellent early garden variety.

CUT FLOWERS.—These consisted of Roses, Mr. Goodman having the best twelve; and Mr. Elliott, gardener to J. Hibbert, Esq., Braywick Lodge, Maidenhead, being second. Mr. Lawrence was first, both with twelve show and twelve fancy Pansies, showing desirable blooms of each; Mr. Shrimpton, Englefield, being second. Mr. Goodman had the best twelve bunches of stove and greenhouse plants; Mr. James being second. Mr. Phippen, Oxford Road Nursery, Reading, had the best twelve bunches of hardy flowers; Mr. Sumner being second.

The best bridal bouquet came from Mr. Phippen. Mr. Pound had the best three button-holes; Mr. Phippen being second. Miss Phillips, Reading, had the best three pieces for table decoration, setting up three charmingly-arranged vases; Miss Barrett, Jesse Terrace was second. There was also a class for two pieces arranged with wild flowers and foliage, Miss L. Phillips, Reading, being first; Miss N. Cole, Reading, second; and Miss Barrett, third.

Royal National Tulip Exhibition.—Owing to the great pressure on our space this week we are compelled to hold over for a week a detailed report of this exhibition, held at Manchester on Saturday last.

FLORICULTURE.

THE NORTON PANSY CLUB.—In your notice of this exhibition on Whit-Monday, your correspondent gives an indistinct description of Mr. Simkins's beautiful seedling fancy Pansy, Syren, which obtained a Certificate, as well as the Silver Medal, for the best named seedling (three blooms) not yet sent out. It is a flower of very fine form and substance, full size, rich dark blue-violet top petals, with an immense, solid, clean-cut blotch, and even medium margin of white in the lower petals. A Certificate was also awarded to Messrs. Laird and Sons for a grand fancy Pansy, which, if not a seedling from William Dean, is a decided beat upon it. In my opinion this variety will be a great favourite, for it possesses most promising qualities, and it was named John Pope in honour of Mr. John Pope, of the King's Norton Nurseries, a good grower of Pansies. Messrs. Paul & Son, of Paisley, obtained a Certificate for seedling fancy, Alfred Hunt, a flower with good proportions, and an acquisition; also a Certificate for a fine yellow-ground show named William Dean. Messrs. Paul & Son sent—not in competition—a superb lot of blooms, and Messrs. Laird & Sons also, but with smaller blooms from recently planted-out varieties. Some of the local growers, however, had blooms quite as fine as those from Scotland, Messrs. Pope & Sons' stands being very fine indeed. A few Pansies and *Violas* in pots showed improved culture, and it is evident the growers are beginning to understand how to grow them. *Violas*, when well staged, as Messrs. Laird's were, not only make a feature of the exhibition, but they gain also a great amount of admiration.—*W. D.*

QUESTIONS & ANSWERS.

BASKET PLANTS FOR COOL CONSERVATORY.—*Al. Perry:* A great variety of these are obtainable, and will succeed where a very low temperature is maintained. Of course, growth and flowers will only be produced in summer. *Convolvulus maritimus*, if kept growing, will bloom all the summer and has blue flowers; the pink-flowered *C. arvensis* has also been used. *Vinca major* variegata produces long stems, and a well-defined variegation, when grown under glass during winter. *Fragaria indica* is most valuable for its fruit and the long pendent runners producing them. Ivy-leaved *Pelargoniums*, *Tradescantia zebrina*, *Lythrum Graefferi*, and several Ferns, such as *Asplenium lucidum*, *Woodwardia radicans*, *Adiantum cuneatum*, *Polystichum angulare*, and *Selaginella caesia*, may be used with good effect.

CELERIAC.—*W. P. T.:* The Turnip-rooted Celery is not grown like that used for blanching. It is a variety of the common Celery, cultivated for the sake of its thickened rootstock or stem. Raise in the same way as ordinary Celery, and plant in rows after being well hardened off. Hoe between the lines, give frequent waterings all through the summer, and cut away all lateral shoots and roots except the main one, which should be encouraged to develop.

CELOSIA CRETICA.—*E. A. D.:* This showy species is a true biennial, and must be raised from seeds annually. Seeds sown now, or a little later on, will flower finely next spring and summer, according to the time they are put in and the treatment they get in winter with regard to temperature. They may be sown in boxes, pans or pots, according to the quantity required, and potted off singly into small pots when fit to handle, using 32's for the last potting. So managed, they will make fine medium-sized plants for greenhouse work. The plant is hardy, except in very severe winters, but grows much taller and coarser when planted out.

CAMPANULAS FOR WINDOW.—*Amateur:* Several may be used very effectively for this purpose; but there are a few that merit a place above others. *C. isophylla* is one of the most suitable for this purpose, either the blue or white form, and the pot in which it is grown may be suspended with a cord or piece of wire. *C. fragilis*, *C. garganica* and *C. Portenschlagiana*—best known as *C. muralis*—may be grown in the usual way, and require plenty of light.

TREE PEONIES INJURED.—*W. P. G.:* The reason why these get injured so frequently when planted in the open air in the south of England is that fluctuations in the weather during winter cause growth to become active, and whenever late frosts occur the young shoots and flower-buds get killed, or so far destroyed as to be useless. In the north growth is held in check till all danger of severe frost is over. Protection by mats, tiffany, or something that will keep out several degrees of frost, will do much to ward off the danger.

POLYGONUM VIVIPARUM.—*Collector:* The specimens of these you mention are perfectly normal. Instead of producing fruit, the lower flowers develop little tubers or buds, by which the plant reproduces itself and extends its area of distribution. It is pretty common where it does occur in Alpine districts.

NAMES OF PLANTS.—*Levenshulme:* 1, *Cattleya Mossiae*; 2, *Oncidium crispum*; 3, lost; 4, *Trichopilia snavis*; 5, *Odontoglossum crispum*, a very fine variety, with deep rose-coloured sepals and petals. (The box containing the above was smashed, one or more of the flowers lost and the letter gone; we have only guessed at the sender's name by the post-mark). *W. J. E.:* *Pulmonaria officinalis*. *R. J. G. Read:* 1, *Claytonia sibirica*; 2, *Erinus alpinus*, naturalised in some places in the north of England. *R. C. Kingston:* *Epidendrum densiflorum* var. (We should be much obliged if correspondents would send a pseudo-bulb and a leaf, in the case of such large and difficult genera as *Epidendrum*—containing some 400 species.

COMMUNICATIONS RECEIVED.—*W. T.:* D. P. L.—J. L.—E. J.—J. C. K.—A. W.—O. & M.—J. D.—R. D.—Scot.—A. Grant.—W. J.—C. B. G.

TRADE CATALOGUES RECEIVED.

B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, N.—New and General Plant Catalogue for 1887.

JOHN LAING & Co., Forest Hill, London, S.E.—Jubilee List of Begonias, Orchids, Roses, &c.

JOHN JARDINE, JUNR., Portland Gardens, Kilmarnock.—Florists' Flowers and Bedding Plants, Seeds, &c.

LONDON SEED TRADE.

June 8th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report no change in state of market for agricultural seeds. Supplies of Mustard continue large. Rape Seed is scarce and rather dearer. Clover Seeds unchanged; stocks of Red and White are small. Bird Seeds and Blue Peas realise prices current last week.

COVENT GARDEN MARKET.

June 9th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	2 0	5 0	Peaches....per dozen	4 0	12 0
Grapes per lb.	3 0	5 0	Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3 0	8 0
per lb.	2 0	3 0	Pine-apples, Eng., lb.	1 0	1 6
Kent Cobbs... 100 lbs.	60 0		Strawberries, per lb.	1 0	3 6
Melons each	1 6	3 0			



ORCHID EXHIBITION.

One of the most beautiful sights in London.

ORCHIDS.—The Private View of Mr. WILLIAM BULL'S ORCHID EXHIBITION is open to Patrons of the Establishment every TUESDAY, THURSDAY, and SATURDAY, 10 to 6 o'clock, throughout JUNE and JULY.

Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

ORCHIDS.—The Exhibition will be closed on TUESDAY, JUBILEE DAY.

ORCHIDS.—The Public Exhibition of Mr. WILLIAM BULL'S ORCHIDS is open to the Public every MONDAY, WEDNESDAY and FRIDAY, 10 to 6 o'clock, throughout JUNE and JULY. Admission each day, 2s. 6d.

ORCHIDS.—A vision of loveliness unparalleled in Europe.

ORCHIDS.—"Must be seen to be realised."

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ORCHIDS.—Specimens in flower from Brazil, Colombia, Mexico, Ecuador, Madagascar, Assam, Peru, Costa Rica, Venezuela, West Indies, Burmah, Borneo, and various other parts of the Eastern Archipelago.

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THE LIVERPOOL HORTICULTURAL CO.
(JOHN COWAN), LIMITED,

Have just purchased two of the largest and finest collections of

ORCHIDS

AND

STOVE AND GREENHOUSE PLANTS

in the neighbourhood of Liverpool; these collections include many fine specimens and varieties of

ORCHIDS,

and many grand specimens of

STOVE AND GREENHOUSE PLANTS,

some of which are not excelled by any in the country.

The Company have also recently purchased another very fine private collection of **ORCHIDS**. These collections will be on view at the Vineyard and Nurseries, from Thursday the 23rd inst. Catalogues are being prepared and will be sent post free to all applicants. The catalogue will also include the remaining portion of the "HARVEY" collection and other Orchids. Inspection is earnestly invited.

THE VINEYARD & NURSERIES,
GARSTON, Nr. LIVERPOOL.

ROSES

IN POTS; all the best New and Old English and Foreign sorts, from 18s. to 36s. per doz.

Descriptive List free on application.

RICHARD SMITH & Co.,
WORCESTER.

RATING OF NURSERIES.

A PUBLIC MEETING of Nurserymen will be held under the auspices of the Nursery and Seed Trade Association, Limited, on Tuesday, 28th June, 1887, at the Horticultural Club, Henrietta Street, Covent Garden, London (by kind permission of the Committee), to take into consideration the excessive rating of Nurseries, and to agree on a combined course of action with a view to the reduction of assessments. The chair will be taken by J. WOOD INGRAM, Esq., of the firm of Messrs. Wood & Ingram, The Nurseries, Huntingdon, at 6 p.m. Nurserymen will oblige by early intimating to the Secretary their intention to be present and also by forwarding to him, in strict confidence (if the amount of the assessment is in excess of the rent), either the amounts of their rents and assessments or the proportion which the difference between the rent and the assessment bears to the rent itself.

MR. F. G. GOODCHILD, Secretary, Nursery and Seed Trade Association, 25, OLD JEWRY, LONDON, E.C.

NATIONAL ROSE SOCIETY OF ENGLAND'S

GRAND EXHIBITION will be held in the WAVERLEY MARKET, EDINBURGH, on WEDNESDAY, July 13th, 1887, in connection with the SUMMER SHOW of the ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

For Schedules, &c., apply to SECRETARY, Royal Caledonian Horticultural Society, 18, Waverley Market, Edinburgh.

CRYSTAL PALACE.—GREAT ROSE SHOW OF SEASON, Saturday, July 9th, postponed from July 2nd. For schedules and entry forms apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

Next Week's Engagements.

TUESDAY, June 21st.—Leeds Horticultural Society's Show (four days).

THURSDAY, June 23rd.—Bury St. Edmunds Horticultural Society's Show (two days). Sale of Orchids at Stevens' Rooms.

FRIDAY, June 24th.—Scottish Pansy Society's Annual Exhibition. Sale of Imported Orchids at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 18, 1887.

FLOWER SHOW ELEMENTS.—With the usual summer flower show season opening upon us, we may well take stock of our prospects in relation to the material from which these shows will be made; for it is strikingly obvious to all who frequent these resorts for enjoyment that changes are gradually being worked—insensibly, perhaps, but still such as must in time appreciably wear out the old-stock exhibition, and replace it with one more in accord with the requirements of the age. The old show giants are fast disappearing, and, we believe, for two reasons—first, the public are tired of them; and, second, because most of the growers or exhibitors are tired of them also. Large prizes—really the most valuable offered—served for a time to hold collections of big plants together; but then it was only a question of ensuring

enough prize money to repay the cost of cultivation, and of carting the plants from place to place.

Big plants of this kind, much as they may help to make a show, bring also their revenge in the promotion of a sentiment of disgust in the minds of flower show patrons; for repeated exhibitions of the same old plants year after year become intolerable and a nuisance. What though blanks be left in the tents—we can afford to let these giants die out; they occupy space, both at home and in the shows, which might be much better employed, and they have invariably absorbed far more of their fair proportion of the prize money. No one wishes to see stove and greenhouse plants put aside absolutely; so far from that being the case, there is not to be found a more beautiful or highly decorative section when well done. We simply want moderate-sized plants, which shall show the best properties of each kind in convenient compass, and by having them smaller, shall enable contributors to display double the number and in much greater variety. A collection of eighteen stove and greenhouse plants in 9-in. pots is far away more meritorious and interesting if well grown than is one of nine of the biggest giants in the kingdom. Growers, committees, and spectators at exhibitions would be immensely the gainers.

A grievous defect in many flower shows, which sadly needs correction, is found in the too liberal encouragement of foliage plants, and especially of Palms and Ferns. Palms and tree Ferns, if large and made to overhang fine banks of colour below, are exceedingly effective; but when they do but shade masses, as it were, of other Palms and Ferns, the effect may be cool but far from attractive. To tell the truth, it is an element in flower shows which no one cares for or appreciates; hence it seems like a waste of money to encourage the filling of a big tent with foliage classes. Most show frequenters are tired of Crotons, Dracenas, Coleuses (variegated and green), Screw Pines, and similar elements. These things are grown even at home for the purpose of "padding" the houses. We prefer shows without padding, because the only attractive objects are those which really form the favoured children of horticultural care. We find, in the decorative groups, rather too much of "padding" as it is; but it is endured because it forms literally the shading in a pretty picture.

It seems useless to urge that some new break in these popular exhibition objects should be introduced, as they are at present very like what we have seen for the past ten years. So far, constructive or artistic capacity seems to have reached the end of its tether, and the designer of something new and really novel as well as beautiful is, probably, not yet born. Very likely we shall be told that there is no form of exhibition, let its objects be what they may, which does not, more or less, present a repetition of its predecessors, and that is quite true; but then in few cases have exhibitors such plastic material at their disposal as gardeners have in plants and flowers. The more we get rid of big things, the greater freedom do committees find in schedule re-arrangements, whilst plant growers find their resources increased materially. Will any exhibitor of groups take a line from the costumiers, for instance, and give us arrangements solely in green and white, green and gold, green and grey, or blue, or even in green and scarlet? Groups dressed with flowers of one tone of colour, only leaving the selection of hue to the exhibitor, would be a capital idea, and we shall be pleased to learn of the committee which displays the needful courage in promoting them.

We should like tall Fuchsias again reproduced at flower shows in plants worthy of this fine greenhouse flower. It is often distressing to

note the stilted and deplorable examples of these plants we are sometimes treated with, just as it is satisfactory to meet now and again, but too rarely, with noble specimens. Fuchsias make quick growth, and a couple of years' care will produce a noble example; so that the objections do not apply to big plants of these that are fair to offer in the case of stock giants which have done a weary round of shows for several years. There is also considerable variety in Fuchsias, which is being constantly added to, so that there is appreciable inducement for exhibitors of these to be constantly reproducing good specimens. Turning to such good stock stuff as show and zonal Pelargoniums, we find that remarkable quality and brilliancy of effect can be obtained more readily from small plants than from large ones, and the absence of big pancakes of old sorts of these effective plants is not to be deplored.

It matters not what kind of plants we are dealing with. In most cases it is evident that moderate dimensions, allied to first-class cultivation and great variety, offer the exhibitor far more effective exhibition material than do big plants, and the spectator is the more highly gratified. Cut flowers, fruits, and vegetables are all easily displayed in effective methods if skill in that direction be encouraged. As a rule, tables covered with fruits and vegetables are terribly monotonous and devoid of effect. All that might easily be changed for the better, and we hope in time it will be. Those who would retain popular support for their flower shows must march with the tastes and requirements of the times.

WE understand that Mr. JAKES, gardeuer to Mrs. Perrin, Davenham Bank, Great Malvern, has been engaged by Baron Ferdinand Rothschild, M.P., as gardeuer at Waddesdon Manor, and Mr. JENNINGS, of Waddesdon, succeeds Mr. Jakes at Davenham Bank.

A LIST of the AWARDS OF THE FRUIT AND FLORAL COMMITTEES of the Royal Horticultural Society, made between February 12th, 1884 and May 24th, 1887, has just been published, and can be obtained from the Society's office at South Kensington.

MR. T. EDINGTON, who for the last nine and a half years has been gardener at Woodthorpe Grange, Nottingham, has left that place, and taken an old-established florist and fruiterer's business at 32, Leinster Terrace, Lancaster Gate, Hyde Park, W.

MESSRS. DOBBIE & Co., the well-known florists of Rothesay, Scotland, have secured the stock of the NEW FANCY PANSY "SYREN," which has been twice recently referred to in our columns. The raiser is Mr. James Simkins, of King's Norton.

At the meeting of the FLORAL COMMITTEE on Tuesday last, votes of condolence with the families of the late Mr. George Jackman and Mr. Francis R. Kinghorn (former members of the committee) were ordered to be sent to the respective families, and recorded on the minutes of the meeting.

WE are requested to state that through a clerical error, the award of a First Class Certificate to Messrs. James Carter & Co., for their JUBILEE MINULUS, at the late Crystal Palace show, was omitted from the published list of awards.

IT is understood that a scheme for the BOTANICAL SURVEY OF INDIA has been arranged by the Government. The country will be divided into four charges, for the purpose of botanical investigations, each under a botanist of eminence. It is believed that by such an arrangement as that now contemplated, botanical investigations will be more systematically carried on than they have been up to the present time.

A ROSE SHOW will be held in connection with the MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY, on July 22nd, and it is Mr. Findlay's intention to arrange the flowers in the huge central hall of the Manchester exhibition palace at Old Trafford. A more fitting place for such an exhibition can scarcely be imagined; and Mr. Findlay will have a good opportunity of displaying his well-known skill in arranging exhibits in an artistic manner.

MR. F. C. GOODCHILD, secretary of the Nursery and Seed Trade Association, requests us to state that as the Council of the Royal Horticultural Society has called a meeting of the Fellows for the 28th inst., at 3 o'clock, he has—with the view of consulting the convenience of nurserymen and others, who are desirous of attending the meeting, called by the association to discuss the question of the rating of nurseries—arranged to postpone the hour of meeting from 4 till 6 o'clock.

IN our report of the recent HORTICULTURAL EXHIBITION held AT MANCHESTER, we omitted to state that a First Class Certificate was awarded to Pelargonium Duchess of Teck, exhibited by Messrs. Fisher, Son & Sibray, of the Handsworth Nurseries, near Sheffield; and that a Medal was also awarded to the very fine collection of Masdevallias exhibited by Mr. Blair, of Trentham.

THE committee of the GARDENERS' ORPHAN FUND met at South Kensington on Tuesday last, and agreed to the rules and regulations, which will be recommended to the subscribers for adoption at the forthcoming general meeting. We are much pleased to record the fact that the amount promised in donations and subscriptions has been largely augmented since the previous meeting, and the list is now headed by a most handsome contribution from Messrs. James Veitch & Sons, viz., £100. Baron Schroder has also assured the committee of his sympathy with the objects of the movement, and promises it his support. We hope shortly to publish the proposed rules, and also the list of subscribers, and in the meantime shall be glad to hear from anyone who has not yet replied to the circulars they have received.

IN a paper recently contributed to the Chemical Society, Mr. R. Warrington, F.R.S., shows, as the result of sixty-nine experiments with clay or loamy soil from various depths, that the NITRIFYING AGENT IN THE SOIL is present almost without exception down to 3 ft. from the surface; samples of soil from below this depth did not always exhibit the power of causing nitrification, and none of the samples of soil taken 8 ft. from the surface produced nitrification. The nitrifying organism present in the sub-soil is apparently in a feeble condition, nitrification starting much later in solutions seeded with sub-soil than in those seeded with surface-soil. Mr. Warrington adduced reasons for believing that in agriculture, nitrification is practically confined to the surface-soil. The nitrogenous matter present in the sub-soil is, however, nitrifiable if exposed to favourable conditions.

FLOWERING TREES AND SHRUBS.—I.

THE LILACS.

WE owe much to the members of this genus during the months of May and June, for are not the shrubberies resplendent with them at present wherever we may turn our eyes? In most cases, however, they are confined to the lilac or purple and white varieties of the Common and Persian Lilacs, which have been grown in British gardens for 290 and 247 years respectively. It seems rather paradoxical when we talk of red, purple, violet and white Lilacs, but such is the pliability of language. The botanical name comes from *syria*, *syringos*, a pipe; and in Barbary the native name is *Syriux*. This was applied to the Lilac from the fact that the tubes of the best Turkish pipes were made from this shrub, hence the English name of Pipe Tree. *Syringa* was, however, originally applied to *Philadelphus*, the Mock Orange, because the wood of *P. coronarius* was used for the same purpose, and *Syringa* is often used as an English name, causing confusion amongst the uninitiated, and should, therefore, be dropped.

Happily, the Lilacs are perfectly hardy, their propagation easy, and their cultural requirements of the simplest. Any moderately-good garden soil will grow them to perfection; in rich soil they grow vigorously, producing large thyrsoid panicles of bloom, but in those of a sandier or poorer nature, they grow less rampantly but live much longer. All the older and commoner sorts are readily propagated from suckers, which they produce in abundance; and budding and grafting are only resorted to in the case of new and rare varieties, of which it is desirable to increase the stock. Seedlings may be raised for the purpose of obtaining new varieties, and as stocks; these are better than suckers, as the latter are liable to throw up others and rob the graft.

The Lilac can be grown as a small tree by training it to a single stem and removing all suckers; this might more often be done than is at present the case, planting the trees as isolated specimens on the lawn or pleasure-ground. All of the varieties are said to succeed grafted on the common Ash, which might, therefore, be used as stems for the smaller-growing kinds.

THE COMMON LILAC, *S. vulgaris*, is undoubtedly the finest of all the species, and we have evidence of it both from its frequency and the number of distinct varieties that have been raised from it. This must be accounted for partly from the size and fine appearance of its heart-shaped leaves, for the flowers are generally not much superior in point of size to those of *S. persica*, but more given to variation. The flowers are produced in immense terminal and lateral thyrsoid panicles, and appear to occur in shades of lilac, purple and white in a wild state. All tints occur in our shrubberies in a nameless condition; but a few old varieties have been named, together with some of the finer recent productions, especially doubles. Curiously enough the common white variety has much smaller flowers than the purple, but *S. v. alba major* and *S. v. a. grandiflora* are white varieties, with larger flowers. The same is applicable to *S. v. a. virginalis*, a fine variety for forcing, but which, however, does not seem to flower with equal freedom at different places. A double white is also a very desirable variety.

The varieties *cœrulea*, *purpurea*, and *violacea* have blue, purple, and violet flowers respectively. Many Continental varieties, apparently all of French origin, have been introduced lately. Charles X. is a large deep purple variety, producing white flowers when forced in a warm cellar, or other dark place. *Lemoinei*, pale lilac; *Alphonse Lavallée*, sky-blue; *La Gaulois*, dark peach colour; *Renoncule*, azure-mauve, and finely scented; and *Rubella pleua*, vinous-red, are all desirable double kinds, useful to supplement the single varieties already grown, and prolong the season of flowering. The above is only a selection, and does not exhaust the number of varieties that have originated from *Syringa vulgaris*.

SYRINGA PERSICA.—Next to the common Lilac, *S. persica* is of most frequent occurrence in British gardens and shrubberies, and comes from Persia, as its specific name implies. It is the dwarfest-growing of all the species, with small lanceolate leaves, and panicles of lilac, and bluish purple or white flowers. There is not that variation to be found in *S. vulgaris*, but owing to its dwarf and twiggy nature, it is more easily accommodated when desired for forcing purposes or to be flowered in pots. Forced in a cellar or other dark place the flowers are white, but unaccompanied by foliage. On vigorous-growing specimens the flowers are as large as those of *S. vulgaris*. A singular variety named *S. p. laciniata*, with lacinated leaves, is sometimes grown in gardens.

S. JOSIKEA is a large-leaved species from Hungary, and merits a place amongst other tall shrubs for its distinct appearance. The leaves are oblong-elliptic, wrinkled, and several inches in length, and with the exception of *S. Emodi*, perhaps the largest of all the species. Large old plants produce fine panicles of bluish purple flowers, which, however, are devoid of the fragrance of the common Lilac. It is figured in several botanical works, such as the *Botanist*, 24; *Botanical Magazine*, t. 3278; and occurs in botanic gardens as well as some old-fashioned private establishments.

S. EMODI is a native of Mount Emod, in the Himalayas, and bears some resemblance to *S. Josikæa* in size and general appearance. The leaves are ovate or elliptic, about 3½ ins. in length, and nearly 2 ins. broad. The stems are stout and much less twiggy than the common or Persian Lilacs; but the species is wonderfully hardy in the southern parts of the country at least, producing terminal panicles of pale purple or white flowers. There is a figure of it in the *Botanical Register*, 31, 6.

S. CHINENSIS, variously known in gardens as *S. dubia* and *S. rothomagensis*, seems intermediate in character between *S. vulgaris* and *S. persica*, having flowers of a deep violet colour, and ovate-lanceolate, smooth leaves, combining within themselves the ovate or heart-shaped leaves of *S. vulgaris*, and the lanceolate ones of *S. persica*, with the habit of the latter, but somewhat more vigorous.

S. JAPONICA is a comparatively recent introduction from Japan, bearing terminal thyrsoid panicles of

creamy white flowers, which are smaller than the other species, with scarcely any tube to the corolla. It furthermore bears no inconsiderable resemblance to some of the evergreen Japanese Privets. It is a very ornamental shrub, however, and may be expected to become a general favourite when better known. *Ligustrina amurensis* is synonymous with this species.—*Taxus*.

NEW PLANTS CERTIFICATED

By the Floral Committee of the R. H. S.

June 14th., 1887.

IXIOLIRION TATARICUM.

Amongst bulbous plants this is certainly a fine thing, coming from Turkestan, and perfectly hardy. The flowers are borne in racemes on thin leafy stems. The foliage is slender and somewhat similar to that of young specimens of Spanish Iris. The flowers themselves have a funnel-shaped tube with six segments shortly united at the base and reflexed in the upper half; they are of varying shades of blue with a darker midrib, and seem to be affected in this respect according to their age. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

EREMURUS ROBUSTUS ALBUS.

The tall flower-stems of this species are very striking, and in the typical form the flowers are peach-coloured, but in this variety they are pure white. The scape exhibited would be about 4 ft. or 5 ft. high, and of this, 3 ft. 3 ins. were densely clothed with flowers, the uppermost of which were not expanded, nor had the stem attained its full length. Had the whole plant been shown, a very fine effect might have been produced by the addition of the rosette of radical leaves. Exhibited by E. G. Loder, Esq., Floore, Weedon.

MASDEVALLIA HARRYANA LUTEO-OCULATA.

The main body-colour of this fine variety is of an intense blood-red, with a faint suffusion of orange along the principal nerves. This gives place to a decided deep yellow around the orifice or opening of the tube, as the varietal name suggests. The tube externally is also deep yellow, and, altogether, this must be considered a very fine variety. Exhibited by F. G. Tautz, Esq., Studley House, Hammersmith.

CÆLOGYNE DAYANA.

The specimen of this shown carried four long pendent racemes, with from twenty-six to twenty-nine flowers on a raceme, arranged in a two-ranked manner. Taken on the whole, the plant bears some resemblance to *C. Measuresiana*. The leaves are large, lanceolate, elliptic, stalked, plaited and evergreen; the sepals and petals are pale yellow, contrasting strongly with the lip which is heavily blotched and marked, especially on the lateral lobes, with a tawny brown colour on a white ground. Exhibited by Mr. Ballantyne, gardener to Baron Schroder, The Dell, Egham.

ODONTOGLOSSUM VEXILLARIUM RADIATUM.

The most striking feature of this flower centres in the labellum, and is expressed in the varietal name. Ordinarily the base of this organ, especially round the small crest, is occupied by a yellow or white blotch or with these colours intermingled, but in the present instance the blotch is unusually large and deep, almost claret-purple, with radiating finger-like stripes of the same colour; otherwise the flower is of a pale or soft rose colour. Exhibited by Mr. Ballantyne, gardener to Baron Schroder, The Dell, Egham.

PYRETHRUMS.

FLORENTINE.—The flower-heads of this variety are $4\frac{1}{2}$ ins. in diameter, and of a pale rose or blush colour. The central florets are somewhat cut or fimbriated at the margins, after the manner of a Chrysanthemum. The heads are very large and full, being double, according to the popular expression.

MAGICIAN.—Although the heads in this instance are equally double, they are smaller than those of the last, and of a fine rose colour, with minute yellow tips to the teeth of the corolla, which, however, does not affect the general colour materially. The whole head is very compact and quilled, as in a quilled Aster.

FIGARO.—The heads of this fine variety are of a deep red colour and quilled, with the exception of the ray, which is flat. Owing to the length of the central florets, the ray is almost hidden, making a very full or double head.

APHRODITE.—In structural points this form is precisely similar to Figaro, but pure white and very double, constituting one of the best whites in a useful class of plants now represented in gardens by numerous shades of colour. Exhibited by Messrs. Kelway & Sons, Langport, Somerset.

MARGARET MORE.—The flower heads of this variety are about 4 ins. in diameter, and single, and derive their character and novelty from the broad flat rays which are of a fine soft rose, and arranged over one another in three tiers. The centre or disk is deep yellow, affording a fine contrast to the predominating colour. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

SHOW PELARGONIUM, DUKE OF CLARENCE.

This variety, which is likely to become a useful market plant, bears three, five, or more large flowers in a truss. The three lateral petals are of a fine scarlet and white at the base, suffused with pink at the juncture of the two colours, while the upper two are heavily shaded with dark velvety brown on a scarlet ground. Exhibited by E. B. Foster, Esq., Clewer Manor, Windsor.

HEMEROCALLIS MIDDENDORFIANA.

The deep yellow flowers of this hardy herbaceous plant are perfectly distinct from those of the more common *H. flava*, to which at first sight they may be compared. They are larger, and the much broader segments, especially the three inner ones, give the



HEMEROCALLIS MIDDENDORFIANA.

flowers a more substantial appearance. Neither have they the exterior surface heavily suffused with brown as in *H. Dumortieri*. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

POPPIES.

I HAVE a large piece of that wondrously coloured Japan Poppy, *Papaver umbrosum*, growing in the field near the highway, and as we had thousands of people passing by here last week on their way to and from Ascot, their attention was attracted to this brilliant piece of colouring with wonder, as no one seemed to recognise the kind. A grander glow of fiery crimson, especially when seen under the declining sun, could hardly be conceived, the flowers being produced in a perfect mass. The plants are from seed sown last August, and none could be hardier, as weather fails to injure. A few from some seed spilled when ripe where they grew very thinly, have come huge plants, quite 18 ins. over, so that it is evident size of plant has little to do with hardihood.

If anyone wishes to possess a sensational bed of colour, let them plant one with *Papaver umbrosum* in the autumn, and edge it with white Queen Stocks. The experiment will, I am sure, be repeated. The giant Poppy, *Papaver orientale*, is another grand plant, but best suited for borders, especially planted amongst shrubs. It is very hardy, has noble foliage, which no weather injures, and produces grand flowers of a rich orange-scarlet hue. These rank amongst the biggest garden flowers produced. I have saved seed from the finest and richest-coloured kinds, and find they reproduce freely; indeed, new plants seem to show greater size and depth of colour. Our public parks and gardens should display these glorious giant Poppies freely at this time of the year.—*A. D.*

CHRYSANTHEMUMS.*

In this paper I intend to confine myself to a few remarks on the varieties of *Chrysanthemum sinense*, the large *Chrysanthemum*. As far as I have been able to learn, the large-flowering, the Japanese, and the Pompon varieties of the *Chusan Daisy* have all originated from the same species, but of the Pompons I have no time to speak. The cultural notes on the large-flowered section will apply equally to them as regards soil and treatment, but the mode of training is generally different. Here we have the plant lending itself to what may be called "bush training," and for the Pompons that form of training, I think, is the most suitable.

At the outset, I may say that I have no "royal road" to success to point out to you, without all the careful and constant attention which is so essential to getting good plants and blooms; but may mention that it is only by close and careful attention, from the time the cuttings are put in until the flowers are fully expanded, that you may ever hope to attain satisfactory results. You cannot give the plant all the attention in one day that it ought to receive in one week. Not only in *Chrysanthemum*-growing do these remarks apply, but to plant-growing in general; and it is this close attention to the small items that ultimately lead to success.

PROPAGATING BY CUTTINGS.

Let us begin with the cuttings. We have here a great difference of opinion as to when they ought to be put in, everyone claiming that their mode is the right one. Some variously recommend them to be put in from November to March, which shows what an accommodating plant the *Chrysanthemum* must be. I do not dispute that good results may be obtained from either early or late cuttings, and localities may have something to do with it. Now, let us suppose that our plants have done flowering and have been cut down. Remove them to a cool house where frost is excluded, and place them close to the light, allowing them to remain there for two or three weeks to admit of the young growths becoming hardened and stubby, as they are apt to become drawn with the plants standing close together when in flower. This will bring us, say, into the second or third week of December, when most of the cuttings of the general collection will be in a good condition to strike. The best cuttings to select are those of short stubby growth, having the leaves closely set on the stem, avoiding those with a flower-bud on the top, or those from the old stem. Sometimes the latter cannot be avoided, as some of the varieties are shy in sending up suckers. Where nothing better is to be obtained, those cuttings from the stem may be taken with every prospect of their making good plants.

Having got ready clean well-crooked pots—I prefer small 60's—fill them with any light material suitable for cuttings, and on the top put about $\frac{1}{4}$ in. of silver-sand; this, as the cuttings are put in, falls into the hole made for them, and being surrounded by the sand are not so liable to damp. This, I think, may be explained by saying that the sand allows the air to circulate round the cutting, and the air would be so beneficial to the plant as soon as young roots are formed. Into each small 60 we may put six cuttings, which will give them plenty of room until they are rooted. Others, again, prefer to put the cuttings singly into thumb pots; but a great drawback to this system is the amount of room the pots take up, and I am convinced that equally good plants may be obtained from cuttings put in, say six in a small 60, as can be got from cuttings put in singly. After the cuttings are in the pots, the best place to put them is on a shelf in a cool house, where they can be near the glass, although cuttings are generally protected from the sunshine; this, with the *Chrysanthemum*, is unnecessary, and though the cuttings may flag it will do them no harm.

POTTING OFF THE CUTTINGS.

The old plants may now be thrown away, or a selection made of the most suitable varieties and put into a cold frame, to be planted out in the spring, in any border or odd corner, to produce flowers for cutting in the autumn. The cuttings will now require no more attention, except keeping them watered, and giving plenty of air on all favourable occasions. By the beginning or middle of March the cuttings will be well

*Read at the Hammersmith Cottage Gardening and Horticultural Society, 2nd June, 1887, by Mr. Alexander Wright.

rooted, and ready for potting singly in small 60's. For this purpose use equal parts of turfy loam, leaf-soil and rotted manure, with some silver sand, and to this may be added an eightieth-part of bone meal. Pass the whole through a $\frac{1}{2}$ -in. sieve, taking care not to have the soil too wet, as it often happens at this season. The plants may now be placed in a cold frame and kept close for a few days, when plenty of air should be given on every favourable opportunity, gradually hardening the plants, so that by the middle of April they may be placed outside, as the great object to study now is keeping the plants sturdy and from becoming drawn.

FOR DECORATION OR EXHIBITION.

Now let us turn back and see on what system we are to grow them, whether it be on single stems for cut blooms, taking from one to four flowers from each plant, or whether we intend cutting the plants back about the end of May or the first week in June, and taking up three or four stems, and from each stem three or four flowers. This latter system I think the better suited to make a show of flowers arranged in a group or bank. Again, the plants may be pinched when about 6 ins. high and allowed to break, and then pinched again, so as to form bushes. Perhaps we may want some standards, when the plants will not require to be pinched until they have reached a height of 2 ft. or 3 ft. Each system has its admirers, some preferring to see stiff-trained specimens, others again preferring to see them with a natural, free and graceful appearance. For all that has been said on the subject, each individual person will have his own fancy, and I say let him indulge it. Whatever system we decide to adopt, that will require its

SPECIAL KIND OF TREATMENT.

By the beginning of May the general collection of plants will be ready to move into 32 and 48 size pots, the larger and strong-growing varieties being put in the largest size and the smaller and weaker growing-ones into the smallest size. Now we may use the soil a little stronger, say two parts turfy loam, one part rotted manure (horse-droppings as prepared for a Mushroom bed being about the best that can be obtained), and 1-60 part of bone meal. We hear a great deal about the value of cow-manure for potting purposes, and its reputed cooling properties, but I myself greatly doubt them; I find after long use of it as a manure that its cooling effects are simply that as the manure decays it merely destroys the porosity of the soil, preventing the circulation of air, consequently the water does not evaporate so quickly, hence it is called a cooling manure; but this is just the thing we want to avoid in plant growing. By using horse-droppings we, in a great measure, evade this choking process, the horse-droppings keeping the soil more open, consequently, the air getting to the roots of the plants, they are in a better condition, for we must not forget that fresh air and food are as necessary to plant life as to animal. I think also there would be more nutriment in horse-droppings as plant food than what could be found in cow-manure.

THE PLANTS IN THE OPEN AIR.

After the plants are potted, select a good open situation to stand them in, and, if possible, where 2 ins. or 3 ins. of ashes have been laid down, as this prevents worms getting in the soil. Have a small stake put to each plant to keep them from getting broken about by the wind. This will now keep the plants going until they are ready for the final shift into their flowering pots; and here we have a great difference of opinion when that ought to be done—some recommending the beginning of June, others again up to the end of June or beginning of July.

(To be continued.)

HARDY RHODODENDRONS.

It must not be supposed that the raising of hardy Rhododendrons is confined entirely to the county of Surrey. There has just reached me from Messrs. Isaac Davies & Son, Brook Lane Nursery, Ormskirk, two trusses of their new and singularly distinct variety, Mrs. Isaac Davies, the ground white, the central of the three upper segments having a very dark maroon blotch, with small side spots of claret; the segments on either side are also profusely spotted with claret, the two lower segments slightly so with pink. The flower is large and of fine form, borne on bold and

striking trusses, and most highly perfumed. It is a new variety, to be distributed next season, and from its exceedingly novel character should find a place in the most select collection.

Other fine varieties raised by these growers are Afghan Chief, crimson-scarlet, with dark spots; Blue Beard, rich bluish lilac, maroon blotch, distinct and very free; Charles Kingsley, bright rose, extra fine; Countess of Dudley, blush-white, dark maroon spots; Commodore, deep rosy crimson, with dark spots; Claribel, white, brownish spots, early and very free; Crusader, bright rosy scarlet, extra fine; Duchess of Albany, deep bright rose, brown spots; regarded as a great improvement upon Mrs. John Waterer; General Graham, deep glowing scarlet, extra fine; Grace Darling, white, fine truss; Isaac Davies, deep velvety crimson, extra fine; Highlander, dazzling crimson-scarlet; King Orry, bright scarlet; Kepler, clear scarlet-rose, extra fine; Loyola, dark plum; Lord Tennyson, purple, shaded with maroon; Lavinia, rosy lilac, pale centre; Model, deep purple, large and full; Mary of Anjou, blush-white, very dark maroon blotch; Marksman, deep brownish crimson, black spots; Nymph, pinkish white, crimson spots; Princess Dagmar, white, thickly spotted with maroon; Senator, very dark purple, with light centre; The Giant, rose, large flowers; The Giantess, rosy, bronzy blotches; and William Davies, bright velvety crimson-scarlet, with dark spots; a somewhat late variety.

The foregoing list by no means exhausts all the fine varieties raised by this enterprising firm; for many years past they have been engaged in this work. The utmost hardihood of character is one of the peculiarities of these northern-raised seedlings, and they are thus well adapted for exposed situations.—R. D.

MR. DODWELL ON THE CARNATION AND PICOTEE.

A SECOND edition of Mr. Dodwell's most useful book has just been issued, the demand for it having made this necessary. The book contains an introduction to the second edition, and also an appendix giving the names of the best new flowers of the past year, thus bringing the lists up to date. In the introduction Mr. Dodwell refers to the great success which has attended the establishment of the Oxford Carnation and Picotee Union, and describes it as "purely the work of an amateur, or as I think it better described, the independent element in floriculture has clearly demonstrated the power of florists, not merely to stand, but to run alone, and greatly I rejoice in the fact. Speaking as a florist of experience, I say it lacks nothing vital to the progress of floriculture—it commands funds, skill, numbers and an enthusiasm not to be surpassed." We have previously expressed our high opinion of this useful book. It is adapted for the veteran and the novice alike; it sets forth the experience of the old cultivator, and there is nothing in the way of hasty compilation or slipshod execution about it. We have had too much of teaching from raw recruits; here is the matured experience of an old campaigner, who having taken part in many a battle, has laid aside armour and arms, and records his exploits and experiences as incitements to others to take their places in the ranks.

The warm sunny weather is bringing on the Carnations and Picotees with great rapidity. One grower remarks that the progress is so great that it taxes the cultivator to the utmost to keep pace with them, as they require constant attention. Disbudding must be performed as soon as the young buds can be taken off. Some discretion is necessary in performing this operation, and the number of blossoms to be left must depend on the variety, whether full or thin in the flower, and whether for exhibition or for bearing seed. This is, to a large extent, a matter of experience; but then young growers are always seeking counsel. Mr. Dodwell states: "If 'full' and of strong growth, three buds may be left; if 'thin,' two buds; and if of a weakly growth, one bud only. As a rule, the buds to be left will be the main one and those proceeding from the third and fourth joint, or fourth and fifth, counting from the top; but the operator must be guided in his selection by the appearance of the buds, their vigour, healthiness, and regularity of form. A 'full' flower may be expected when the young bud presents a broad obtuse top; whilst a 'thin' variety is generally indicated by a sharp and long pointed bud."

ORCHIDS AT ST. ALBANS.

To the vast establishment at St. Albans must certainly be credited the introduction of many rare plants, such as *Lælia elegans* and *Cypripedium Spicerianum*, in sufficiently large quantities to place them within the reach of all, and thus to popularise Orchid culture as well as the introduction of a great number of showy new species, such as *Vanda Sanderiana*. These have put quite a new face on Orchid culture, extending the flowering periods of some of the great sections so as to have some or other of them in flower all the year round. Take for example the following Cattleyas, which are Messrs. Sanders' introductions: *C. Percivaliana*, *C. Gaskelliana*, *C. Lawrenceana*, *C. Schroderæ* (erroneously called *C. Trianae Schroderæ*), the numerous forms of *C. gigas*, *C. Trianae* and spring-flowering *C. Mossiæ*. These have so woven together, so far as their seasons of flowering go, that an almost uninterrupted display of them can now be had rich in bloom at certain seasons, but never entirely without flowers.

Among the latest arrivals we found very fine importations of *Cattleya Bowringiana*, a very fine winter-flowering species; *Odontoglossum Harryanum*, a new and unexpected triumph in *Odontoglossums*; *Cymbidium macrocarpum*, of which much is expected, by the large flower-spikes and evidence of large flowers. *C. Parishii* is well known and not unreasonably covetable. *Cypripedium Sanderianum* is one of the most distinct and quaint of *Cypripediums*—something like a *C. Stonei* with the tails of *C. caudatum*; *Cœlogyne Sanderiana* and *C. Fostermannii* are two species said to be very fine; *Odontoglossum Schilleriana* (true) is a very neat and pretty species; *Sobralia virginalis*, pure white, and *S. xantholeuca*, golden yellow, *Oncidium macranthum*, and *O. loxense* are all desirable species.

In an establishment of such extent, many of the houses being 250 ft. to 300 ft. in length, it is impossible to note any but the more prominent plants in bloom. We were therefore attracted by the houses in which the main displays were to be found. In the first place we were struck by the beautiful appearance of the Mexican corridor, with many scores of plants of *Odontoglossum citrosum* suspended overhead, their beautiful pendent racemes of large waxy flowers, descending from 2 ft. to 3 ft., and presenting a fine sight with their varied flowers—some pure white, some white with rose lip, others all different shades of rose, and both white and rose varieties dotted with crimson spots, all having yellow centres of some shades. Next came the *Cattleya* houses, and before critically examining the flowers, our attention was arrested by the robust condition of the plants, and especially by the great profusion of air-roots sent over the pots.

Mr. Godseff, the manager, is pursuing his method of keeping these plants tolerably dry in the pots, but in rather moist but well-ventilated houses. He says that when Brazilian plants especially are kept too wet and close at this season, they make far less root than they do when kept rather dry; and he is quite right. Many hundreds of *Cattleyas* are in bloom, principally *C. Mossiæ* and *C. Mendelii*, many of the fine varieties amongst which would have caused quite a sensation a year or two ago. It is difficult to imagine anything more rich in colour, or beautiful in the frilling of their deep labellum, than these plants present. Among them was a fine form of *C. Mossiæ Wagneri*, a very pure white; *C. M. Reineckianum*, a blush kind, very pretty; *C. M. matutina*, with very large flowers; *C. Lawrenceana*; *C. Acklandiæ*, and the charming rosy-lipped *C. Schroderæ*, which is as distinctly a species as *C. Gaskelliana*, or any of the rest, and quite as near *C. Mendelii* as it is *C. Mossiæ*—in fact, it is invaluable as filling up a gap in the flowering time between those species.

The *Odontoglossum* houses were next visited, and although the praise of their occupants has often been sounded here, not a word too eulogistic has ever been said about them. There are thousands of spikes appearing among the great sturdy and cleanly grown plants, on a few of which we noticed three stout spikes to a bulb. A glance along the main house leaves it no secret why the charming *O. Alexandræ* and its fine spotted and hybrid forms are such general favourites. Some superb things are in flower, among them being *O. crispum roseum*, *O. c. punctatissimum*, and many forms of *O. Ruckerianum* and *O. Andersonianum*; but the chief place must be accorded to *O. c. triumphans*,

which has a stout spike of very large fleshy flowers of a clear white, the chief peculiarity being that the sepals are petaloid—that is to say, they are almost equal in breadth to the petals, and, like them, are fringed. This peculiarity is found in a more or less degree in many of the plants received in one of their consignments, Mr. Sander says; but has never been so pronounced as in the grand example mentioned. *O. c. trismegistum* is a noble and gigantic white, which was sold last week by Messrs. Protheroe and Morris for 60 guineas. In another house is a good show of *O. vexillarium*, *O. Roezlii*, *O. triumphans*, *O. Pescatorei*, *O. nævium*, *O. facetum*, the orange-coloured *O. retusum*, &c.

The rockeries, with water running over them, on which are planted and growing—not merely living—fine masses of *Lælias*, *Cattleyas*, *Cymbidiums*, *Cypripediums*, &c., mingled with foliage *Begonias* and other handsome-leaved plants, are one of the sights of the St. Albans "Orchideries." Here fine examples of *Lælia purpurata* and numerous showy *Cattleyas* are flowering. *Calanthe veratrifolia* also has nine spikes, and *Aërides Ballantinei*, a charming and fragrant species, has a large number of them. Suspended overhead, or arching over the rocks, are good specimens of *Oncidium Marshallianum*, *Cœlogyne Massangeana*, *Dendrobium clavatum*, *D. hercoglossum*, *D. Griffithianum*, true, and fine; *Oncidium maculatum* *Russellianum*, very pretty and sweet; and a fine lot of *O. hastatum*, displaying numerous varieties, of which three are very fine—namely, *O. h. purpurescens*, with almost wholly claret-coloured flowers; *O. h. atratum*, with claret-coloured lip and variegated segments; and *O. h. flavescens*, with straw-coloured lip, the lobes of which are curiously broadened and rounded, unlike any other. Both these last-named are mentioned in *Folia Orchidacea*, from dried specimens, but never before introduced.

The *Cypripediums* in flower are *C. caudatum nigrum*, the largest and darkest of *C. caudatum*; *C. superciliale ornatum*, a very nice thing; *C. Dominianum*, and some other hybrids; many specimens of *C. Lawrenceanum*, *C. ciliolare*, *C. Argus*, *C. niveum*, &c. Amongst *Phalænopsis* are *P. speciosa*, *P. Schroderiana*, *P. Luddemanniana*, *P. Sanderiana*, *P. grandiflora*, and a new form with the pink tint of *P. Sanderiana*, but with the brown and yellow spotting of *P. Stuartiana*. The *Masdevallia* houses also have a good display, and among other rare plants we noted a new pure white form of *Dendrobium purpuratum*, *Angræcum Scottianum*, *A. articulatum*, *Epidendrum dichromum grandiflorum*, *E. alatum*, *E. selligerum*, *E. Tovarense*, and *Cattleya Warneri*. These are all clean and healthy, for the St. Alban's Orchids prove that cool treatment secures clean well-flowered plants without the aid of the plant cleaner, who often does as much damage as the insects. Growing plants clean is infinitely preferable to cleaning them, and can always be accomplished if the temperature of the houses and other sanitary arrangements receive due attention.

GARDENING NOTES FROM SCOTLAND.

Watering.—In gardens where rain-water can be saved it will be found that plants of every description will thrive by liberal applications of it, while watering with hard mineral-tainted water will positively do mischief. Did space allow, we could give some curious details of lawn watering, and the shocking results of giving daily dribblings of water from deep wells, &c. We prefer leaving kept grass alone when such water has to be applied; but a thorough soaking once a week to go deeply into the soil has a very opposite effect to surface applications, which are rapidly dried up by the sun and wind. Fruit trees—especially those lately planted—may be greatly benefited by a good soaking of water, and then mulched to retain the moisture about the roots. A quantity of the dry surface soil drawn off to allow water to descend freely, then the dry soil thrown back over the wetted portion and finished neatly, is a favourite practice of ours when ordinary mulching is not given. Bedding plants we have not watered this season, excepting Stocks, Pansies and *Calceolarias*. All things turned out of pots were well saturated before

removal, and the dry surface soil kept from the roots in the process of planting. If the beds are dry we would give them a soaking all over, and when dry enough to use the hoe, a good loosening of the surface soil would go a long way to meet all the wants of the plants. Rich firm soil requires little watering compared with poor sandy ground. As vegetable planting is now being pursued vigorously, it may be necessary to follow promptly with the watering-pot. If the work is well done at first little trouble is afterwards experienced. Celery requires abundance of water, and a good mulching is most helpful in saving labour.—*Caledonian*.

Early Summer Flowers.—While the herbaceous borders are every day becoming more interesting by fresh additions of inflorescence, and are now proving how valuable they are where there is a demand for cut flowers, glass structures lose, to some extent, their interest, compared with the periods when there is little outside in the way of flowers to give supplies in a cut state for the decoration of rooms, halls, &c. Our object at present is to refer to some common things which are easily managed and can be grown to perfection with little trouble. East Lothian Stocks are favourably known for their display of finely-coloured and highly-scented flowers during late summer and autumn, and if these are planted out now on extra well-prepared ground, they can easily be made to form a double service. In the autumn, when heavy rains and early frosts destroy the flowers, rendering Stocks, along with many other things, unsightly, the flowers can be removed and the plants carefully lifted and potted, being watered so that the roots are well settled in the fresh soil, then kept cool and airy in frames or similar protection. These come into flower at a most opportune time, and the supply of flowers from a dozen or two is enormous. For some months past our demand on Stocks has been very heavy, and many of the plants, from 1½ ft. to 2 ft. through, are yet flowering freely. At the present time, when Stocks of the class indicated are being planted out, they should be most liberally dealt with; rich firm soil is very suitable for all purposes. The Shrubby *Calceolaria* is another plant which can be grown for a double purpose. These often fail because the ground is poor, light and shallow; with deep tilth they grow and flower all the season through. Coddled plants are almost sure to fail. We have had for some time past, large plants 2 ft. to 3 ft. through, in a mass of flower, which did good service in the open borders last season. Associated with some hard-wooded plants, now in flower, and the numerous kinds of double *Petunias*, *Pelargoniums*, *Primula obconica* (which flowers all the year round), *Hydrangeas*, &c., these *Calceolarias* have a most telling effect, and yellow kinds stand well in a cut state.—*Caledonian*.

St. Leonard's Hill, Dunfermline.—The residence of Erskine Beveridge, Esq., occupies a prominent position in the immediate vicinity of the town as the visitor enters it from the Queensferry Road. The grounds are not what can be termed of great extent, but they are laid out with admirable taste and judgment. Mr. Beveridge is an ardent lover of all things horticultural, and as a natural result all was found in the best of order on the day of our visit. The conservatory was gay with *Pelargoniums*, healthy well-cultivated specimens; and the Orchid houses, although not so full of bloom as they had been, contained many plants making excellent growths and promising to fulfil their mission in due season. Among the varieties we observed in flower were the following:—

Cattleya Mossiae, several spikes with three flowers on each, *C. Harrisoni*, *Phalænopsis amabilis*, *P. Luddemanniana*, *Aërides Fieldingii*, *Sobralia macrantha*, *Cypripedium Lawrenceanum*, *Masdevallia Lindenii*, *M. Harryana*, *M. ignea*, *M. Wagneriana*, *Lycaste Deppei*, *Epidendrum vitellinum majus*, *Odontoglossum Alexandre* (in choice varieties) and *Tricopilia coccinea*. We were pleased to note that herbaceous plants were receiving some attention; a beginning has been made, and we have no doubt that in a short time the collection will form another source of interest to the visitor to St. Leonard's Hill.—*L.*

Chrysanthemums in June.—Mr. D. Campbell, The Gardens, Weavil, Fifeshire, seems to be able to flower Chrysanthemums all the year round. When calling there a few days ago, one could not help being struck with the sight of a well-grown plant of *Belle Panle*, covered with a profusion of fair average flowers, specimens of which I send you. The plant from which the flowers were cut was struck in April, 1886, and has been flowering, more or less, for the past three months. The prolongation of the Chrysanthemum season may not be considered of any great advantage; but this merely shows that it is possible, even in bleak Scotland, if thought advisable.—*D. P. L.*

THE AMATEURS' GARDEN.

THINNING ANNUALS.—Those annuals that were sown in proper season will now require attention, both in the matter of weeding and thinning. This is a matter concerning which too much can hardly be said, as many cultivators of these hardy and truly ornamental subjects, either through ignorance or neglect (I should hardly like to say the former), suffer their plants to become ruined, or comparatively so. The more likely reason for this state of matters is that through stress of work at this busy season beds and borders of annuals are allowed to make shift as best they can, from the generally concurrent opinion that they are the least valuable of bedding plants coming under the gardener's care. This is a grand mistake, however, notwithstanding the fact that seeds may be saved in abundance from one's own beds, or may be bought at a mere nominal price. Another practice sometimes pursued, but which is equally reprehensible, is to mix the seeds of some half a dozen different species and sow these in lines, presumably for the sake of effect and variety. These widely diverse subjects more frequently than otherwise act injuriously on one another, so that it is at all times preferable to grow them in separate lines or areas.

In the thinning out of annuals much will have to be left to the skill or judgment of the cultivator, who can soon learn the habits and requirements of the bulk of the species deserving of cultivation in gardens. Both the height and habit of growth will have to be taken into consideration. Procumbent and trailing species generally occupy a considerable area and should be accommodated accordingly. Tall-growing kinds ought to be thinned out to 6 ins. or 8 ins. in the lines, and if they make vigorous growth these distances are really too small. Such things as *Rhodanthe Manglesi*, *Malcolmia maritima* and *Linum grandiflorum* do not branch much nor attain great stature, and may, therefore, remain at distances of 1 in. to 3 ins. in the line, unless the character of the soil may ensure a better growth, when the superiority of well-thinned plants over those that have not been so treated will surprise those who make the experiment. Not only is the cultivator rewarded with a greater amount of bloom, but it is much finer and the flowering is extended over a much longer period. It is quite evident that six or eight plants occupying a space that should more properly be reserved for one, must starve one another in the struggle for existence.

The truth of these remarks will be more forcibly brought home to those who sow certain annuals such as *Tagetes signata*, *T. patula*, *T. erecta*, *Saponaria calabrica*, *Phlox Drummondii* and others in pans, pricking them out in boxes or frames, and afterwards planting them at 9 ins. to 12 ins. apart, or even more, in the open ground. These completely occupy the space allotted them, and flower persistently till cut down by frost.

CAULIFLOWER, &c.—Omit no opportunity after showers of rain, when the atmosphere is humid and favourable for growth, to have all Cauliflowers, Brussels Sprouts, Cabbages and similar things from the seed-beds planted in their permanent quarters. Should the plants be small, which need not now be the case, except where late sowings were made through failure of earlier-sown ones, never hesitate to take advantage of favourable weather, thus saving an immense amount of labour in taking out trenches, watering and other things necessary to start the plants into fresh growth in dry weather.

CELERY.—Where appliances and plenty of means are available, Celery for an early supply will have been planted out ere now, but the season is not yet too late for good stuff to be obtained from plants put out now, if well attended to in the matter of watering. Indeed, in the more favourable parts of the country useful material for a late spring supply can be had from seeds sown in the early part of this month. A width of 3 ft. or 4 ft. from centre to centre of the trench is suitable for small gardens, and good heads may be obtained from such. The trenches should also be 12 ins. or more in depth, and about 18 ins. in width at the bottom, or as nearly so as convenient. Into this work a considerable quantity of manure, and plant the Celery immediately, giving a good watering to settle the soil about the roots. Every Cauliflower, or what is better, Lettuce, may be planted on the top of the ridges, to be used before earthing up the Celery.—*J. F.*

PRIMULA JAPONICA.

A VERY suitable plant for the decoration of the cool greenhouse or conservatory is the subject of this note. The genus *Primula*, large and extensive as it is, does not contain a more robust-growing species than the one now under consideration. [Except *P. imperialis*, which grows a yard high.—Ed.] This particular Primrose is not only handsome in itself, but of the easiest possible culture. It is a native of Japan, and was introduced into this country so late as 1871. I take this fact in explanation why it is not more commonly known among the class to which I belong—namely, amateur gardeners.

The leaves, which are of the usual type, are in this species exceptionally vigorous, and being produced in great profusion, become quite a feature in themselves. The flowers—and these are very striking—rise from the leaf-rosettes on long scapes, whorl above whorl, varying somewhat in colour, and ranging from deep crimson to pinky-white. Under glass the leaves are larger and more delicately coloured; the flowers also take on purer tints, that is to say, their beauty is enhanced by reason of the protection thus afforded from biting winds, and frequent frosts, which seem to be the concomitants of our fickle climate.

I can speak with certainty as to its hardiness, as I have six free-blooming clumps in good condition, which have received no protection during the last two winters. I placed them outside at first with some timidity, but the result has emboldened me to further experiments. A nice collection is now on view in the greenhouse at Kew, where by the judicious arrangement of these plants in groups, a very fine effect is obtained. Flowering specimens may also be seen on the rockery, at that establishment, apparently doing well in a variety of situations. After flowering, propagation may be effected by division of the crowns, and for greenhouse or cold frame culture should be potted up in good fibrous loam and leaf-soil, with a due regard to drainage, using rather large pots.

Top-dress in early spring when the new growth appears, and you will not be able to quarrel with yourself when the leaves develop and the flowers unfold, for the gratification of yourself and friends.—*C. B. G., Acton, W.*

THE INTERMEDIATE HOUSE.

This house is often ignored by many professional and amateur gardeners; but the use to which it can be applied is almost next in importance to the propagating house. By using an intermediate temperature, many plants can be grown that otherwise could not be cultivated successfully in a stove or greenhouse. A house should always be set apart purposely for the cultivation of plants that will not grow well in the stove, and for which the greenhouse is too cool. This should be termed the intermediate house. Sufficient piping should be put in for heating purposes, so that the temperature of the structure can be regulated to any degree desirable, from a cool stove heat to that of a warm greenhouse.

This structure answers admirably for the reception of any kind of young soft-wooded plants as soon as they have been potted from the cutting-pot, where they soon establish themselves. After the spring months are over, the house may be utilised for the cultivation of such plants as *Bouvardias*, tuberous-rooted *Begonias*, young *Fuchsias* making up into specimens, young stock of tea-scented *Roses*, or any other kind of plant requiring rather more heat and moisture than is afforded by the ordinary greenhouse. This house should, at all times of the year, have the heat kept running through the pipes, and the temperature should be regulated by means of ventilation, principally from the roof. This causes all plants grown in this structure to keep sturdy in their habit—a system of growth which cannot be too much impressed upon the minds of amateur growers.

The house can always be used for some purpose of plant-growing both winter and summer alike. After the spring and summer stock has been disposed of, it may be used in the autumn for placing young *Pelargoniums* in (zonal and other kinds), after potting from the cutting-pot, till such times as they are established in their small pots, from whence they will have to be removed to their winter quarters; also for hastening any kind of plants that may be required for bringing into flower during the early winter months. *Azaleas*, *Rhododendrons*, *Deutzias*, *Cape bulbs*, &c., are always

better if they are placed in an intermediate heat before being finally introduced into the stove to bring them into bloom. The eyes or crowns are not so apt to go blind when put in this house first for a few weeks, as what they would be were they placed in an excessive stove-heat direct from the frame-yard or pits.

Many would find the use of this structure a great benefit to them for the cultivation of the Chinese *Primula*, both double and single, and through the winter months for preserving many kinds of plants in flower after they have been brought on to flower in the stove. Nearly all the varieties of the winter-flowering *Begonias* will succeed well in this house up till very late in the autumn; and for the ripening of the stems and foliage of *Poinsettias*, no better place can be found. All kinds of flowering plants look more comfortable when nicely arranged in the intermediate house in the winter season—during their blooming period—in fact, the use of this one structure alone can be put to is almost endless.

The intermediate house has its abuses as well as its uses, and one of these is to attempt to make the house grow the plants before they have been properly prepared for their introduction into its interior; another is to keep the house so close as to cause all the plants in it to become weak and sickly, those in charge forgetting that the ventilators will open, and thus cause a free circulation of air on all favourable occasions. This last evil is often the cause of the failure of this structure amongst many amateurs; but if heat and ventilation are both properly applied, plants of whatever description will benefit largely by their use.

I consider that in every place where any pretension to plant-growing is carried on, some means should be found to find a house of this description, and I would advise amateurs who may have only one or two greenhouses, to find means to make a part of them into places where an intermediate heat can be maintained.—*W. G.*

GLOXINIAS AT GUNNERSBURY PARK.

THE numerous forms of *Sinningia speciosa*, cultivated in gardens and universally known as *Gloxinias*, and which are obtained by selecting seeds of the best varieties, have been—like the *Begonia*—greatly improved within the last few years. The old-fashioned drooping or horizontal flowers were disliked by the florist, and wherever seedlings presented themselves with bold upright flowers, the others were vigorously weeded out. The result is that, in a good strain, very few horizontal flowers now make their appearance. The truth of this will be apparent on an inspection of a fine bank of plants in one of the stoves at Gunnersbury Park, Acton. Scarcely two plants seem to have their flowers alike, and, with few exceptions, these belong to the erect, nearly regular type. The self-coloured flowers generally seem to possess the greatest substance; but, as a rule, spotted ones and those of two or more well-defined colours are generally admitted to be the most attractive. Few of the seedlings in question are named, which is less necessary seeing that a large stock of attractive and meritorious varieties can be got up in a very short time.

Great value is laid upon the spotted flowers by many cultivators, and a number of them here were notable for the density and delicacy of their markings. The ground colour of all the spotted ones is white, and the densely arranged minute markings covering the throat and limb are in one case violet, in another rose, and a third delicate rose. The flowers of this latter variety are very large, as is frequently the case in spotted flowers, with the lobes of the corolla somewhat reflexed. By an inspection of a flower it is evident that while the corolla and style become erect and nearly regular, the stamens still retain their declinate position. A striking feature in *Begonias* is the facility with which one colour plays with another, and rose-purple or violet gives place to a distinct blue. Amongst them were several pure white forms, or, at most, only spotted with purple in the throat.

Those flowers are generally very attractive, which have the brighter colours arranged in distinct zones parallel with the margin. Possibly the best of these was a large seven-lobed flower with a large purple blotch corresponding to the basal part of each lobe, while around this a distinct violet band ran parallel with the pure white margin. Another very little inferior in point of beauty was spotted blue on a white

ground in the interior of the throat, with a blue band following the outline of the lobes. Akin to these latter varieties was a white, furnished with a deep rose band at the orifice of the tube; but a rich crimson fading to rose at the margin, recalls a similar occurrence in the Alpine *Auricula*. More singular than this, however, was a violet-purple suffused with blue at the margin, while another flower on the same plant was a pale blush-coloured self.

Colours would seem to have some bearing upon or relation to the shape and direction of the flower, as a drooping porcelain-blue flower was marked longitudinally with a deep indigo-blue band along the lower side of the tube. In one of these horizontal flowers a singular feature presented itself in the shape of an extra petal of doubtful morphological value. More singular still was a blue self with a double corolla, placed one within the other hose-in-hose fashion. The origin of this it would be difficult to make out, seeing that the calyx was present and in no way abnormal, while the inner corolla was also very perfect. Seed of this is to be saved with a view of reproducing the sport.

The above are merely a few of the flowers noticed at random in the group, and serve to show what can be obtained from a good strain of seed. The plants are last year's seedlings, and although grown only in 48-sized pots, are noticeable for the number of flowers, in all stages of development, upon each plant. There is a greater proportion of blooms to the foliage in this case than when grown in large pots.

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MOST, or all of the species of *Aphelandra* are useful decorative plants, being classed amongst the choicest of stove decorative subjects. The flowers are showy enough in themselves, and the profusion of bracts that accompany them are generally highly coloured. When to this we add a third quality, namely, variegation of the foliage—and that of a natural kind—surely the cultivator of choice things has reached the climax of his aspirations, leaving little else to be desired. The present new species, announced this season for the first time by Mr. William Bull, of Chelsea, combines all the three qualities just mentioned, and in that respect takes rank with *A. Margaritæ* and *A. fascinator*, but is relatively a much stronger grower, and certainly one of the finest introductions of its kind that has been made for some time. It is a native of Brazil, and has already been certificated at South Kensington. The inflorescence consists of a spike about 12 ins. in length, furnished with large, somewhat boat-shaped, golden yellow bracts imbricating in four rows. From the interior of these the flowers—also of a fine golden yellow colour—issue in four rows. The leaves, which are large and broadly oblong, resemble *A. aurantiacæ* in size and vigour; but are distinctly variegated along the mid-rib, the primary, and often, more or less, the secondary branches. The cultural treatment necessary in this case is, no doubt, precisely similar to that by which the others are successfully grown.

MULCHING.

AFTER most refreshing showers, which seem to have been very general in the northern districts, vegetation has greatly improved. Where water is scarce, and there is a desire to make the best of circumstances, it is well to mulch liberally vegetables, flowering plants and fruit trees. Though the practice is not so general nor so needful in the north as in the southern parts, yet one can often apply a good surface dressing with great benefit. We do not recommend a quantity of dry litter to be blown about by the wind, or unsightly applications to mar the neatness and uniformity of well-kept gardens. Cocoa-nut fibre does well for many purposes, and half-rotted leaf-soil is also good for mulching; but for many things where nourishment to the roots is desirable, well-rotted cow-manure is one of the best dressings. In the absence of such material the surface soil over the roots may be slightly broken up, and a quantity of soil laid over loosely; evaporation would thus be arrested and drought kept out. A free use of the hoe to break up cracks and form a loose surface is also advantageous where no other steps are taken to nourish or protect the roots. Mowings from lawns, &c., are often used for mulching, but such materials are not very desirable, as weeds are brought where they are difficult to destroy.—*C.*

CHOICE HARDY PLANTS AT JOLDWYNDS.

WHOEVER visits Sir William Bowman's interesting place in Surrey cannot fail to be impressed with the wonderful amount of variety included in a small space. This has reference to the hardy flower garden only, and is accomplished not only by the selection and massing of the choicest members of the vegetable kingdom, but also by the nature of the ground and the skill with which it is laid out. The soil naturally is a red clay intermixed with sand, and that part made into a hardy flower garden about three years ago, occupies the sunny slope of a hill, where it is naturally very moist. In order to meet the requirements of a vast number of plants collected from all parts of the world, and affecting various soils, situations, and adapted to different degrees of moisture, Sir William Bowman, the worthy proprietor, has laid out the ground in a series of mounds enjoying different aspects and elevations, and which are so abrupt in places as to require building with rough unhewn blocks of stone, over which *Arenaria balearica*, *Linaria hepatica* and many other creeping things grow and flourish, to the advantage of both plant and bank. Several terraces, steep declivities, a grotto of some size and several ponds on the broader part of the terraces, do much to ensure a richness of variety which few gardens possess; and Mr. Cornish, the courteous and obliging gardener, must find his time closely occupied in maintaining the collection and keeping it so clean and free of weeds as when we saw it.

A steep sloping bank abutting the grotto is now ablaze with masses of *Phlox subulata* in different colours, and the striking yellow-flowered, glaucous-leaved *Othonna cheiranthoides*. On the cooler and lower parts, the showy *Polygala Chamæbuxus*, with its purple-flowered variety, seemed quite at home. A broad patch of the rosy-flowered *Rubus arcticus* covered the ground in one place, and appeared very attractive. Close by, in moist soil, *Tiarella cordifolia* reared its racemes of pretty white flowers, above the brown marked foliage; and on the other side of the path, *Phlox subulata* Nelsoni and *P. s. alba* vied with each other in the purity of their white flowers. The latter is Backhouse's variety, and is very dwarf. *Alchemilla conjuncta* finds favour here, as in many other gardens, for the beauty of its finely-lobed silvery foliage. *Bryanthus erectus* is also an interesting Heath-like plant with pale purple flowers.

A long and broad mass of *Lithospermum prostratum*, planted on each side of a walk between high stone-built banks, is now one sheet of the deepest blue, rivalling the Gentians. It is truly a rock plant, and thrives here admirably, as three years ago the plants were only cuttings. Other Borageworts, *Onosma taurica*, and *Arnebia echioides* also do well. Dotted about in an interesting way we also find such things as *Cheiranthus*

alpinus, *Hyacinthus amethystinus*, *Muscari comosum*, *Androsace coronopifolia*, and *Potentillas*. The deep blue of *Veronica saxatilis* makes a fine contrast to the grey rocks, while the pale, almost white flowers of *V. repens* stud the creeping stems that cover the moist stones as with a natural carpet. *V. rupestris* also grown in great quantity will be a mass of bloom presently. One can also note on the rocks numerous forms of *Linaria anticaria*, mostly yellow, and some with a deep brown palate. Great quantities of *Dianthus deltoides*,

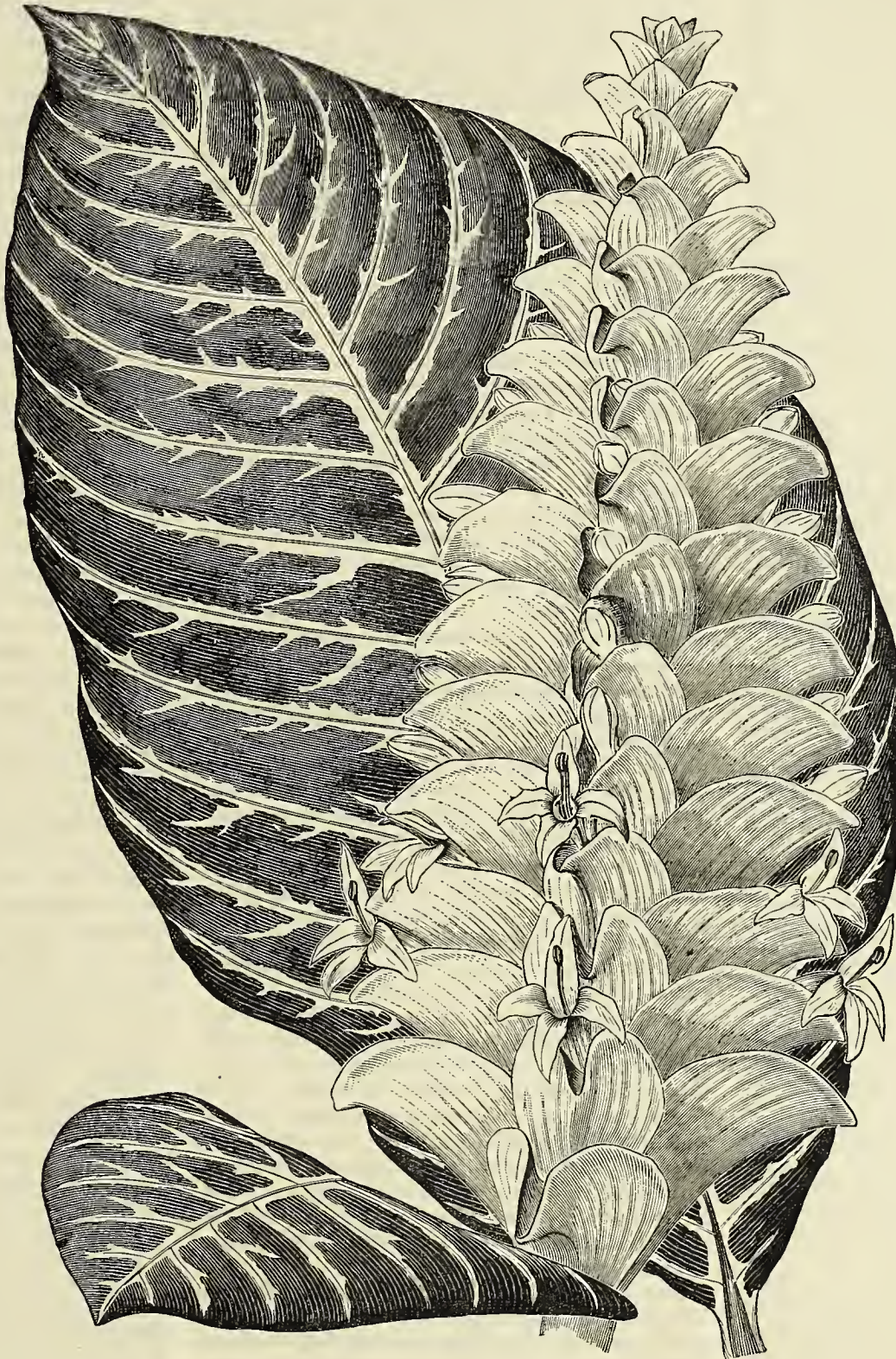
purple, and is perfectly hardy. The Edelweiss, *Leontopodium alpinum*, always an interesting plant, is dotted about the rocks in various positions, and almost in flower. It thrives admirably, but does not seem to be a long-lived plant in our climate, probably owing to the latter being moist and very changeable as to temperature in winter.

One of the leading features of this charming flower garden is an extensive collection of *Primulas* grown in various situations, generally on the cooler side of a

bank, or other protection, but always in moist soil; when fully exposed they are planted on the banks of ponds, or other wet places where their roots can dip into the water. In such places the moisture is continuous, and the plants require no shading whatever. Several forms of *Primula rosea* grown under the latter conditions flowered freely, and are now in fruit. *P. Parryi*, several coloured varieties of *P. involucrata*, and some others enjoy a similar situation, but *P. japonica alba* is at present a conspicuous and very ornamental plant with white flowers and a yellow eye. In another moist sheltered place we noticed a broad mass of *P. farinosa scotica* planted thickly with here and there some individuals of the typical form of the species occurring. The flowers of both are very similar, but the shorter and broader leaves of *P. f. scotica* serve as its distinguishing feature. *P. sikkimensis* grows very vigorously the second year from the seed, but Mr. Cornish has the same experience as most other cultivators, namely, that after this they degenerate in vigour. On the shady side of a high bank a fine bed of *Auriculas*, edged in front with *P. Sieboldi*, and which have stood the winter there unprotected, were flowering vigorously; the former was noticeable for the number of flowers on a truss, and the variety of colours; the latter was conspicuous for dwarfness and size of bloom.

Of special interest was a bed planted with low shrubs and carpeted with *Cornus canadensis*, now in full flower; and when the ripening berries assume their scarlet hue, one can imagine what a fine sight for lovers of hardy plants. Two European *Gesneraceæ*, rare gems amongst rock plants, seemed quite happy and healthy; and, in remuneration for

the protection of a small square of glass, *Haberlea rhodopensis* had produced a number of its pretty pale purple tubular flowers. In a wild state this is a rare plant inhabiting a valley in the Balkans of South-eastern Europe. *Ramondia pyrenaica*, which showed an abundance of flower-buds, was entirely unprotected. These two plants may be looked upon as remnants of the above-mentioned family in Europe, and will always be reckoned amongst the choicest of hardy plants. Hardly less interesting is *Myosotis alpestris*, one of the rarest and finest of British Forget-me-nots; a tuft not exceeding 1½ ins. or 2 ins. in height, was covered with rich blue flowers. The large bracts of



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the Maiden Pink, will make the rocks gay in the course of a week or two with its pretty rose-coloured and white flowers. *Sedum album turgidum*, *S. reflexum*, and Wallflowers hold undisputed possession of the drier and steeper, sometimes almost perpendicular rocks, and the level tops of some other places rejoice in the presence of lively tufts of *Saxifraga muscoides atropurpurea*, *Gypsophila cerastioides*, *Androsace sarmentosa*, *A. lanuginosa*, *Polemonium reptans*, *Lychnis alpina*, *Iberis sempervirens superba*, and the hardy mountaineer, *Dryas octopetala*, with oak-like leaves and large white flowers. *Saxifraga calyciflora* is a very choice rock plant with both calyx and corolla of a deep

Hacquetia Epipactis have now lost their fine yellow spring colour, but a strong clump of the plant was sufficient to show what it had been in March and April. *Hutchinsia procumbens*—a sheet of the purest white—is not reckoned as valuable by some cultivators, because increase is fast and it can be disseminated in a comparatively short time; but it is none the less a highly ornamental plant, invaluable for spring and early-summer decoration of the rock-garden, from the profusion of its flowers, which like many other white Crucifers, are conspicuous from a great distance, especially when grown on a sloping bank. This is very evident when daylight gives place to twilight. A broad patch of *Gunnera magellanica*, in peaty soil kept moist by a continuous supply of water oozing through the ground in the near vicinity, at the base of the bank near the grotto, is now flowering profusely, and, if not very conspicuous, is singularly curious and interesting. The small leaves produced on creeping stems and brown flowers, contrast strangely with those of its giant relatives, *G. scabra* and *G. manicata*. Nor must *Ledum buxifolium* be overlooked, with its small leaves and profusion of pink and white flowers; a line of densely-bushy plants constitute a telling feature in that part of the garden where they are grown. They are more like Heaths or something similar than the other larger and commoner species, but have more expanded and flattened flowers. How dissimilar the large soft red and yellow or orange flowers of *Azalea mollis*, belonging to the same family, in a mixed bed of *Rhododendrons* close by!

Of the taller-growing herbaceous plants many fine things even now are noticeable in flower. Under the protection of a spreading tree, *Vinca acutiloba*, which has been out all the winter without other protection, has already commenced flowering. Numerous young plants from last year's procumbent stems are pushing up all round the parent stool. In the borders numerous fine pyramidal specimens of *Verbascum olympicum*, with its hoary tomentose leaves, is already very prominent, but will be a fine sight presently. *Lunaria biennis*, *Santolina incana*, *Anemone palmata*, *A. alpina sulphurea*, *Aquilegia californica*, *A. glandulosa*, *Cerinth major*, *Glyphospermum Palmeri*, *Tellima grandiflora*, *Trillium grandiflorum*, and *Odontospermum maritimum*, swell the list of choice things, which one could hang over and admire for a long time. Three-year-old plants of *Delphinium nudicaule* are now fine pieces, and ripen seeds freely every year. It is a hardier longer-lived plant here than *D. cardinale*, another fine scarlet flowered species. *Polemonium Richardsoni* and *P. cashmerianum* are fine large-flowering species; and of the latter, which is readily distinguished by its greater height, there is a beautiful white seedling variety with a pale violet centre. Some fine plants of the New Zealand Flax, *Phormium tenax*, and its variegated variety, have been planted out-of-doors for the last three or four years, and are now fine specimens.

We were delighted to find *Myriophyllum proserpinacoides* starting into growth again vigorously, after having stood the winter in one of the ponds. Its finely divided, verticillate, glaucous leaves are very ornamental, and the plant generally does duty in the decoration of the tropical aquatic house. A fringing of *Caltha palustris* in full flower adds greatly to the general appearance of this same pond. The Bog Bean, *Menyanthes trifoliata*, is similarly used round the edge of another ornamental sheet of water, and stands out as one of the finest of British aquatics, with its pink finely bearded flowers. These are but a tithe of the many fine things flowering at this place—a paradise of hardy flowers.

THE STRAWBERRY CROP.

It seems impossible for anything to prevent our having a grand Strawberry crop this year. Certainly, we so often get good Strawberry seasons that one specially so seems nothing remarkable, but having regard to the general condition of the plants, the immensity of the bloom, its fine character, and the freedom with which fruits already have set, it does seem as if the present season's produce could break the record of several previous years, and that Strawberries will presently be a glut. The rainfall has so materially helped the plants that it would seem as if no amount of warmth could prevent the fruit from maturing, and where the late rains have been followed if they were not preceded, by heavy mulchings of long straw-

manure or other suitable material, then evaporation of moisture will be difficult.

It may be worth consideration, with a view to the securing of a good sample of fruit, whether it is not worth while to thin out the blooms appreciably; of course, such labour would be tedious, but then how much finer the fruit may be that is retained, whilst an abundance of small fruit would be of little use to any one and would also materially distress the plants. Some features in the weather last autumn specially favoured the maturing of plant crowns and the development of bloom; so much, indeed, is it the case with almost all flowering plants, and especially with those which fruit. I sincerely trust that Strawberry growers may have a fine fruit season. It is, indeed, distressing to see vast quantities of beautiful fruit, which thousands would like to consume, rotting because of excessive moisture. Even if prices be low, a fine season will enable the fruit to be made the most of in all ways.—*R. D.*

GARDENING MISCELLANY.

An Erratic Laburnum at Merlin, Clonmel.—In your last issue (p. 650) you note an erratic Laburnum at The Grange, Carshalton, Surrey, that flowers twice every year. This is not uncommon; certainly not so unusual as to see specimens decked all over with not merely the handsome pendulous yellow racemes of the Laburnum, but interspersed all over the tree also racemes of *Cytisus purpurea*, as may be noticed at Merlin, the handsome residence and gardens of Benjamin Faife, Esq., J.P., near this town. Probably the explanation is that the latter was grafted on the former, and in the mutual sap circulation the floral characteristics were diffused over the whole tree. I have been told this peculiarity is referred to by Darwin in his book on the theory of evolution, but I have not seen it. In bloom this tree would be a sight when seen for the first time.—*W. J. Murphy, Clonmel.*

Crassula jasminea.—Lovers of sweet-scented flowers will find this a gem amongst summer-flowering greenhouse plants. Being a very dwarf-growing variety, it makes itself useful in many ways, besides being useful for cutting purposes. A number of plants kept in small pots make a capital edging to the stage of a greenhouse, interspersed with such plants as *Isolepis gracilis*, the *Crassula* peeping its heads of white flowers from amongst the grassy foliage of the *Isolepis* having a very telling effect. It does not flower well when potted on into large pots, but makes considerably more flower heads when confined to small pots. If the plant is wanted in larger pots, it is well to let it set its flower heads before shifting from the small pots. A dry situation in a house from which the frost is just excluded, is all that it requires during the winter season, and no attempt at forcing must be practised, or it will, as a rule, end in failure. I look upon it as a very pretty plant, and if it should be used amongst proper associates in the decoration of the greenhouse, it cannot fail to be attractive. A few little stakes are all that is required to keep the plant in shape, or if it is desirable the plant may be used for suspending purposes.—*W. G.*

The Oxford Carnation and Picotee Union.—The annual exhibition of this society will take place as usual in the garden of Mr. E. S. Dodwell, Stanley Road, Oxford, on Tuesday, August 2nd. Mr. Dodwell reports that the Union is being strongly supported, and he calculates not only that there will be an excellent exhibition, but also a large gathering of friends and supporters interested in the flower. The usual luncheon and business meeting will follow. The annual subscription is 5s. per annum, and this sum entitles the subscriber to become a participator in Mr. Dodwell's annual distribution of seedlings.

Papaver umbrosum.—A large plant of this glorious Poppy, lifted from the open ground and planted in a pot, is now blooming finely in the roof-shaded forecourt garden of my house. Its brilliant crimson flowers with dark spots are so large and striking, that passers-by stop and wonder what it is. It appears not to be half so well known as it deserves to be.—*R. D.*

Fruit Prospects in North-west Notts.—A good estimate may now be formed of the possible results of the fruit crop, and taking everything into consideration, the prospects are both satisfactory and

encouraging. Undoubtedly, the season is late, but there has been an absence of late frosts, which are so destructive to the flowers. Apples promise a grand crop, especially if the abundance of flower may be taken as a good omen. Pears are about the average, the wall trees and those trained over espaliers being decidedly the best. Plums only fair, while of Cherries there will be a bountiful crop, the Morellos being literally covered with fruit. Of bush fruits, both red and black Currants show exceedingly well, and the same may be said of Gooseberries. Raspberries are looking healthy, with a good amount of flower. Strawberries are pushing forth very strong spikes of bloom, so that good fruit and plenty of it may be expected.—*F. R. S.*

Auriculas in Cold Frames.—"C. A. G." may be glad to know how another small grower of these interesting and beautiful plants succeeds with them in cold frames raised from the ground on stands, which, by night, in winter and spring, are closely matted with double mats and a tarpaulin over them to keep them dry. This covering, except in case of hard frost, is removed every morning. I have had the plants slightly frozen under the covering during last winter, when the thermometer registered 22° of frost, but by thawing slowly and keeping out sunshine, so destructive to frozen plants, they did not suffer. The great drawback to frames in winter, when the plants require attention now and again, is that it is so cold for working at them in the open air, while it can be done more pleasantly and effectively if they are housed. Then, again, the bloom is always later in frames than in a greenhouse where it is easier to bring them on; and as I need to have them on a given date fit for the exhibition table, I have had frequently to remove some of the required varieties into a warm greenhouse to help them on, and with the result that I have always been placed amongst the prize winners.—*Auricula.*

The Market Gardeners' Profits.—The past winter has been an exceptionally bad one for market gardeners. At the best of times they do not expect to make large fortunes in the dull season of the year, but so long as the sale of their produce pays a trifle over the expenses of the winter months, they are satisfied. During the whole of the past winter vegetables sent to the London markets from the suburban districts have scarcely paid for picking, carting to London, and selling, leaving nothing for rent, seed planting, hoeing, &c., &c. The market gardener has been anxiously looking forward to the spring prices to make up his winter's loss, but the climax was reached in the London market last week, prices being about as low as they have ever been. A market gardener within about eight miles of London sent a pair horse van loaded with bunches of greens of the very first quality, plants that have been well grown, and every leaf of which was fit for cooking. These greens cost him 3d. per dozen for pulling and bunching alone; then they have to be carted to the barn, packed on the waggon, and two men and two horses take them to the market, where on Wednesday morning last week they realised the munificent sum of 3d. per dozen bunches. Greengrocers who have only to carry these greens from the market to their shops are charging 2d. per bunch to the consumer. One explanation I have heard of this, is, that as farming does not pay, farmers have turned their hands to market gardening, with a result that they are not only getting deeper into the mire, but are doing their best to sink the *bona fide* market gardener by glutting the market. Only a few weeks back a market gardener not far from me was included in the bankruptcy list, and it is quite evident, unless things take a turn for the better shortly, the bankruptcy list will contain a whole list of these hard-working sons of the soil.—*Practical.*

Lathyrus Drummondii.—Drummond's Everlasting Pea, with its bright red or puce red flowers, does not appear to be so much known as it deserves to be. Three years ago I planted a small seedling in the open ground. It has grown each season so freely that in this space of time it has widened into a bush of large dimensions, and will this season bear hundreds of trusses of flowers. It is already in bloom, and will go on flowering all through the summer. It can be propagated by division of the roots and by means of seeds; but it is not a free seeder. In raising seeds, I find it best to steep them in water for twelve hours, and then twelve hours afterwards to sow them in a pot of light soil. In three weeks or so, at this season of the year, they will germinate. When placed singly in 4-in. pots they soon grow into size.—*R. D.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

HARD-WOODED PLANTS.—It will now be advisable to rid the houses, as much as possible, of all the hard-wooded plants which are sufficiently advanced in growth, such as common Heaths, Epacris, and Acacias, and others too numerous to mention; choose a north border for the placing of them, and let it be well coated with fresh coal ashes, or slugs and worms are apt to be troublesome. In case of any particular plant being unsatisfactory at the roots, let it be placed on bricks or tiles so as to ensure a free passage for water when given. The plants must be kept frequently turned so that they may not be one-sided, and during hot dry weather, such as we are now experiencing, the syringe should be freely used late in the afternoon, after watering has been done.

THE FRUIT HOUSES.

VENTILATING.—With summer at last upon us, care must be taken in the ventilating. Open earlier in the morning, and, as far as possible, prevent the houses from becoming too hot, as there is then a great danger of scalding. The front ventilators should be freely used, and where the fruit is colouring, they must be left open night and day, or the bloom is apt to be deficient. As soon as the fruit is cut from the pot Vines, let them be removed out of doors, and if it is thought desirable to keep them on for another season, they may be securely tacked to a wall in some sunny position where the growth will thoroughly ripen; but it is not advisable to rely upon these for pot-work next season. Generally speaking, the house after being thoroughly cleansed can be profitably used for a batch of Melons, which should be planted when ready, and will be found useful for shooting parties. We have planted another house, making the soil rather firmer than previously to avoid too frequent waterings, which are at all times injurious to the growing of this fruit. We shall make another sowing at once, in case of need.

VINES.—We have completed the thinning of the late vinery; the border has also been pricked up and a good soaking of water given, so that the berries may be encouraged to swell away rapidly. Where Lady Downes prevails, early ventilation is an absolute necessity to prevent the scalding of the berries, for nothing is more aggravating than to find many of the clusters spoiled through this being neglected; but experience proves to us that much of the mischief may be averted if the lights are left open continuously for the next two months, as all danger will then be passed.

PEACH HOUSES.—Keep the fruit in succession Peach houses quite exposed to the light. Do not, however, bunch the foliage too soon, or a great part of it will be destroyed. Much can be done by removing the lower half of the leaves that may obstruct the rays of the sun, which is far preferable to keeping them tied for any great length of time. As soon as the crop is gathered, give the border a thorough watering if necessary, and let the trees be pruned at once.

THE KITCHEN GARDEN.

PLANTING CELERY.—Preparations must now be made to plant out the main batch of Celery. Care must be taken, however, that a thorough soaking of water be given after planting, as this crop will not bear any very severe check. Should it flag much from any cause, shade with leafy twigs for a few days until a start is made. We are busy pricking out all the early and spring Broccoli plants from the seed-beds on to prepared beds, from whence they will be planted out into permanent quarters. We have also thoroughly cleaned the squares of Strawberries, removing all the runners from the fruiting plants, and a good layering of clean straw has been placed round them to keep the fruit clean and free from grit in case of storms.

POTATOS.—Moulding of the Potato squares has also been completed, so that work is now well under hand. Much time must, however, be devoted to watering, as the rainfall this season has been much below the average, and such crops as Peas and Beans make but little headway if neglected. It will be advisable to give a mulching of half-rotten manure before watering, which will greatly tend to keep the roots cool and retain the moisture. Trees on the walls now require pinching back, and the laying in of necessary wood; but avoid overcrowding, more especially of Apricots. Taken all round, we have an excellent promise this season.—*Walter Child, Croome Court.*

THE GRAND YORKSHIRE GALA.

June 15th to 17th.

THIS great annual Floral Exhibition and Gala, of which we gave an historical account in our last issue, commenced on Wednesday last, and gave abundant promise of being once again most satisfactory to its promoters in all respects. The weather was delightfully fine and the exhibition was visited by a great number of subscribers during the day, and on Thursday, as usual, a vast crowd passed through the turnstiles. The main features of the exhibition were the show and zonal Pelargoniums, the groups arranged for effect and a fine display of fruit, concerning which details will be found below. The arrangements, as usual, in the experienced hands of Mr. John Wilson, were all that could be desired.

STOVE AND GREENHOUSE PLANTS.

The classes for stove and greenhouse plants were not nearly so well contested as we have seen here in the days when Baines and Cole were to the front, but no exception could certainly be taken to the winning collections staged by Mr. Letts, gardener to the Earl of Zetland, who, in the premier class, beat Mr. Cypher, of Cheltenham, somewhat easily. His group consisted of noble specimens of *Kentia Fosteriana*, *Encephalartos Altensteinii*, *Kentia Belmoreana* and *Crotons Johannis* and *Queen Victoria*, perfect in foliage and grand in colour, which formed the back-ground of the group; and among flowering plants, large and well-finished examples of *Azaleas*, *Duc de Nassau* and *Cannaert d'Hamale*, *Anthurium Scherzerianum*, *Shuttleworth's* variety, *Phœnocomma prolifera*, *Erica Massoni* major, *E. ventricosa coccinea* minor, *Aphelaxis macrantha purpurea*, &c. Mr. J. Cypher, who was second, was not in his usual form; and the third award went to E. Adams, Esq., Swallow. For six ornamental-foliaged plants Mr. Letts again came to the front with splendid specimens of *Stevensonia grandiflora*, *Cycas revoluta*, a wonderfully fine example; *Croton angustifolius*, *C. Johannis*, brilliantly coloured; *Cycas circinalis*, and *Dasylium acrotrichum*. Second in this competition came Mr. McIntyre, gardener to Mrs. Gurney Pease, and third Messrs. Simpson & Son, York. The best four *Crotons* came from Mrs. Gurney Pease's garden, and consisted of nice specimens of *C. Andreanus*, *C. Hammondi*, and *C. Warrenii*; and the best three Heaths were shown by Mr. Cypher, good bushes of *E. Cavendishii*, *E. ventricosa hirsuta alba*, and *E. tricolor Wilsoni*. For three stove and greenhouse-flowering plants, Mr. Lyon, gardener to Lady Ossington, Newark, came in first with capital examples of *Stephanotis floribunda*, *Clerodendron Balfourianum*, and *Ixora coccinea superba*.

The groups competing in the two classes for miscellaneous plants arranged for effect, completely filled a large marquee, and made an excellent exhibition in themselves. In the largest class, which was for a space not exceeding 250 sq. ft., there was a grand competition, and equal first prizes were awarded to Mr. A. Webb, gardener to J. H. M. Sutton, Esq., Newark, and Mr. McIntyre, gardener to Mrs. Gurney Pease, Darlington, the former of whom had the most tasteful arrangement, and the latter the best quality plants, which about balanced the chances of each. Mr. Webb's plants were very nice indeed, but his grouping was somewhat flat; while Mr. McIntyre's grouping was light, elegant and well broken up. Mr. Lyon, gardener to Lady Ossington, a strong competitor in these kinds of classes, was a very good third, and Messrs. Simpson & Son, York, were fourth; while admirable groups were also shown by Mr. Duncan, gardener to J. B. Hodgkin, Esq.; Mr. Dawe, gardener to Dr. Baker, York; Mr. Stephenson, gardener to Mr. Alderman Makin, York, and Mr. G. Cottam, Junr., Cottingham. In the smaller class, which was for 150 sq. ft., there were only three competitors, and the awards went in the order named, to Mr. McIntyre, gardener to Mrs. Gurney Pease; Mr. Lister, gardener to J. S. Brogden, Esq., York, and Mr. Lyon.

PELARGONIUMS, &c.

The Pelargonium tent was a sight to see and remember, the display, both in point of numbers and quality, being most remarkable; and than the dozen show varieties, which gained the first prize in their class for Mr. Mackintosh, gardener to J. T. Hingston, Esq., York, we have no hesitation in saying that finer have never been seen anywhere. The examples staged in former years by Bailey, Turner, James, Ward, and

Eastwood, superb as we reckoned them to be, all seem to have lacked the perfect evenness of size, beautiful symmetry, and high finish of Mr. Hingston's plants, which in every respect reflected the highest credit on the grower. The plants were all about 4 ft. over, and consisted of the following sorts:—Prince Leopold, La Cygne, Claribel, F. & A. Dickson, Salmonida, Mary Hoyle, Clarissa, Lady Arabella, Kingston Beauty, Triomphe de St. Mandé, Prince of Pelargoniums, and La Patria. Mr. Eastwood, gardener to Mrs. Tetley, Leeds, was a grand second, showing immense specimens, well bloomed, but not so even as the first-named. For six Mr. Eastwood came in first, beating Mr. Mackintosh; but the latter again took the lead with three, showing, amongst others, Miss Minnie Hingston, a fine semi-double white. Mr. Vear, gardener to Miss Steward, York, was third in each of these classes. The zonal classes were equally grand in quality, and here Mr. Eastwood held his own, winning with twelve and six singles, and six and three double-flowered varieties. His plants in the first-named class measured 3 ft. to 4 ft. over, were well bloomed, and carried ample foliage. They consisted of Mrs. A. Mills, Olive Carr, Lucy, and Mrs. Levers, pink; W. Groom and Princess of Wales, salmon; John Watson, R. Clifton, and Rev. A. Atkinson, crimson; and Santley, Renown, and The Shah, scarlet. Messrs. Pybus & Son, Ripon, were a very good second; and among the successful exhibitors in other classes were Miss Steward's gardener and Mr. Mackintosh. Variegated, tricolor, and bicolor varieties were also admirably represented. The Fuchsia classes were not so good as usual, and there was only one half-dozen of any particular merit. These came from Mr. Mackintosh, and consisted of well-grown and large examples of *Lustre*, *Rose of Castile*, *Miss Marshall*, and *Littre*, light kinds, and *Charming* and *Letty Lye*, dark varieties. A considerable number of pot Roses were staged; but they were all poor—in fact, as far behind in quality as the Pelargoniums were in advance.

The display of Orchids was to some extent a disappointment, considering the good special prizes offered. Mr. Cypher, Cheltenham, took the leading award for sixteen specimens, showing small neatly-bloomed examples of *Cattleya Mossiæ*, *Rothschildiana*, *C. M. grandiflora*, *C. Mendelii*, *C. lobata*, *Lælia purpurata*, *Odontoglossum vexillarium*, *Cypripedium barbatum superbum*, *C. Lawrenceana*, *Dendrobium Bensoniæ*, &c. In another class for eight Mr. Cypher was also first; while for four W. Bateman, Esq., Harrogate (Mr. Rollisson, gardener), was first, and Mr. Kendall, gardener to J. M. Weddall, Esq., Selby, second.

Exotic and British Ferns—the latter especially—we thought below the York standard, but in the first-named section there were some good examples. For six Mr. Johnston, gardener to J. B. Hodgkin, Esq., Darlington, beat the gardeners of Mrs. Gurney Pease and Captain Starkie, of York, with among others very creditable specimens of *Davallia Mooreana*, *Mierolepia hirta cristata* and *Davallia Fijiensis*. Mr. McIntyre had among others a perfect specimen, about 3 ft. through, of *Adiantum gracillimum*. Captain Starkie had the best specimen Fern, a very handsome *Dicksonia antarctica*. The best hardy Ferns came from Mr. J. Rodwell, York, and Mr. Simpson, of Selby.

CUT FLOWERS, &c.

Cut flowers were represented by numerous Tea and H. P. Roses—but almost without exception they were of very poor quality—and a fine lot of bouquets, the main prizes for which were won by Messrs. Perkins & Son and Mr. Cragg, gardener to A. Heine, Esq., Fallowfield, Manchester. In the stove and greenhouse cut-flower class another Manchester grower came to the front—viz., Mr. Williams, gardener to S. Baerlein, Esq., Didsbury.

The miscellaneous class was not so large as at some other shows of the same magnitude as York, but it brought out a few subjects of special merit. Among these must be named a group of twenty *Clematis*—fine well-bloomed specimen plants from Messrs. R. Smith & Co., Worcester, including such fine doubles as *Venus Victrix* (a lovely shade of lavender), *Countess of Lovelace* and *Duchess of Edinburgh* (white); and of singles: *Gloire de St. Julien* (pale blush), *Lady C. Neville*, *Profusa elegans* (deep mauve), *Blue Gem* and *Mrs. G. Jackman* (white). Messrs. W. & J. Birkenhead, Sale, Manchester, contributed a very interesting group of various-sized hardy and exotic Ferns, including most of the latest introductions. Messrs.

Dobbie & Co., Florists, Rothesay, contributed a remarkably fine display of Pansies and Violas, consisting of some two hundred blooms of show and fancy varieties, mainly the latter, and some two dozen bunches of Violas. Among the former were some grand flowers, including W. G. Howie, perhaps the best black self yet sent out. The Violas were most beautiful, and, we understand, the larger proportion of them were raised by Mr. Baxter, of Daldowie, who, of late years, has come well to the front in Scotland as a raiser of new Violas. Messrs. Kelway & Son sent, all the way from Langport, a very fine collection of cut blooms of double and single Pyrethrums, which were much admired. Messrs. James Backhouse & Son, York, staged a showy group of Pæonies, Irises and Hardy Rhododendrons; Messrs. Harkness & Son, Bedale, a pretty lot of Violas and Pansies, and Messrs. Kent & Brydon, Darlington, a small group of Pansies, Violas, Aquilegias, &c.

FRUIT AND VEGETABLES.

A better display of fruit in the middle of June we have very seldom seen, all the classes being well-contested, and the quality admirable throughout. In the leading class for a collection of eight varieties, Mr. McIndoe, gardener to Sir J. Pease, Bart., M.P., Hutton Hall, Guisborough, came in first, beating Mr. Dawes, gardener to the Hon. Mrs. Meynell Ingram, Leeds, Mrs. Edmunds, gardener to the Duke of St. Albans, Bestwood, Nottingham, and Mr. Hare, gardener to R. W. C. Neville, Esq., Grantham. Mr. McIndoe had good black and white Grapes, a good Queen Pine, Scarlet Premier Melon, fine Grosse Mignonne and Bellegarde Peaches, highly-coloured Pitmaston Orange Nectarines, and Brown Turkey Figs. Mr. Dawes was strong in his Black Hamburgs and Foster's Seedling Grapes; and Mr. Edmunds in his Black Hamburgs. There were six competitors in this class. The Veitch Memorial Prize, offered for six dishes, was easily won by Mr. Edmunds, who staged grandly-shouldered and highly-finished bunches of Black Hamburg and Foster's Seedling Grapes, a handsome Queen Pine, weighing 4½ lbs., Eastnor Castle Melon, Hale's Early Peaches and Elruge Nectarines, superbly coloured for the season. Mr. McIndoe was second in this competition with good Black Hamburg and Muscat of Alexandria Grapes, Bellegarde Peaches, &c.; Mr. Dawes was third and Mr. McIntyre, gardener to Mrs. Gurney Pease, fourth. For four varieties, Mr. H. J. Clayton, gardener, Grimston Park, Tadcaster, came in first, showing fine black Grapes, High Cross Hybrid Melon, Violette Hâtive Nectarines and Abec Peaches, both of fine quality. Mr. Duncan, gardener to C. H. Wilson, Esq., M.P., Pocklington, came in second, Mr. Edmunds third, and Mr. J. McIndoe fourth. In a collection of eight lots of black Grapes, the finest dish, large bunches of good size and well-hammered berries, came from Mr. Allsop, gardener to Lord Hotham; and with a beautiful sample of Buckland Sweetwater, the same exhibitor won the first prize in the corresponding class for white Grapes. In other single dish classes the best Cherries came from Mr. McIndoe; the best Strawberries from Mr. W. Wallis; the best Figs from Mr. Duncan; the best Peaches from Mr. W. H. Divers, gardener, Ketton Hall; green-fleshed Melon from Mr. Edmunds; Read's Scarlet, white-fleshed Melon, from Mr. H. J. Clayton; and green-fleshed Melon from Mr. McIntyre.

The class for a collection of vegetables brought out only two competitors, and Mr. McIndoe, who came in first, was very closely run by Mr. Crawford, gardener, Newark-on-Trent. Mr. McIndoe had Asparagus, Veitch's Model Cauliflower, Verdant Green Cucumbers, Webb's Sensation Tomatos, King's Acre Marrow, and Webb's Victoria Kidney Beans. A weak brace of Cucumbers put Mr. Crawford only a point or two behind. With a brace of Cucumbers there was a very strong competition, and a capital lot of fruits were staged. The prizes went to Mr. J. Brown, Milford Junction; Mr. R. Hutchinson, Wittlebury; and Mr. Councillor Makins.

PRESENTATION TO THE LADY MAYORESS.

Some of the exhibitors, judges, and caterers who have been connected with the Gala for many years presented the Lady Mayoress (Mrs. Terry), at the Mansion House, on Thursday morning, with a handsome diamond bracelet and a beautifully illuminated address in album form, as a souvenir of the Lord Mayor's year of office, his long connection with the Gala as chairman of the committee, and of the warm regard

felt for him by those who have for a long time been connected with the Gala. Mr. B. S. Williams, of Holloway, made the presentation of the bracelet; Mr. John Wilson read the address; and Mr. Cypher, Jun., of Cheltenham, presented the Lady Mayoress with a magnificent bouquet of Orchids, &c., sent specially from Cheltenham.

The deputation consisted of Wm. Dove, Esq., J.P., Mr. B. S. Williams, Mr. John Laing, Mr. Cypher, Jun., Mr. McIndoe, and other gentlemen.

The arrangements for the presentation had been kept so secret that the Lord and Lady Mayoress knew nothing of the proposed souvenir, and the deputation met with a very kind reception from them.

THE ROYAL NATIONAL TULIP EXHIBITION.

ONCE more have northern florists worshipped at the shrine of St. Tulip, for they came in strong force to the Jubilee exhibition of the Royal National Tulip Society at Manchester on the 4th inst. The prizes in the schedule had been considerably extended by means of special subscriptions, and every grower was naturally enough anxious to secure a share of the spoil. We heard one old grower lamenting, that now there was some "brass" worth winning he was unable to show a single flower, his plants not being in bloom. Still, there was a display of bloom far beyond what could have been expected. Nature had proved a laggard, and had to be helped in various ways known to the growers; but the methods had answered. Mr. Samuel Barlow had managed to get a few blooms forward enough by straining some of them, and so advancing development; but many of his "cracks" wanted more time. There was yet a numerous, bright and attractive exhibition, and not a few of the flowers were seen in excellent form.

They found a location in the temporary exhibition house in the Talbot Road, though, owing to the change of weather, it proved warm under the glass roof; but this rather aided than injured the Tulips. The judging was over by 1.30 p.m., and then followed the luncheon, with the always genial president, Mr. Alderman Woolley, in the vice-chair. The only toast was, "Success to the Royal National Tulip Society," proposed by the chairman, Mr. Samuel Barlow, J.P., who congratulated the exhibitors on a much better show than could have been expected, on a substantial increase in the prizes, and on the fact that three new exhibitors had that day put in an appearance. This was referred to by the Rev. F. D. Horner, who said they were now cultivating some fine varieties that were looked upon with something like wonder by the natives among whom he resided, and who regarded them as "nearly as good as artificial." In alluding to the difficulty experienced in getting the flowers into bloom by a specified time, Mr. Horner said he thought that the "Tulip under glass is the florists' Tulip of the future."

Turning now to the show, there were five stands of twelve dissimilar Tulips—two feathered and two flamed in each class—the principal prize being the cup. Here, as is usual, the Rev. F. D. Horner, Kirby Lonsdale, was first with feathered bizzarres, Commander and Royal Sovereign; flamed ditto, Sir J. Paxton and Orion; feathered roses, Nanny Gibson and Annie McGregor; flamed ditto, Mabel and Mrs. Lea; feathered byblœmens, Mr. Cooper and Friar Tuck; flamed ditto, Talisman and Duchess of Sutherland. The second went to Mr. James Thurstan, formerly of Wolverhampton, and now of the Albany Road, Cardiff, who had a good lot of flowers, consisting of feathered bizzarres, Masterpiece and Asclepius (Thurstan); flamed bizzarres, Polyphemus and Sir J. Paxton; feathered roses, Industry and Mrs. Thurstan (Thurstan); flamed ditto, Aglaia and Lady Catherine Gordon; feathered byblœmens, Eclipse (Thurstan) and seedling 24-6; flamed ditto, Talisman and Duchess of Sutherland. Mr. David Barber, Stanton-le-Dale, was third, and two other prizes were awarded. In the class for six stands of six dissimilar Tulips, one of each class, there were eight competitors, the Rev. F. D. Horner leading the way with feathered Bizzarre, Masterpiece; flamed ditto, Sir J. Paxton; feathered rose, Nanny Gibson; flamed ditto, Mabel; feathered byblœmen, Mr. Cooper; flamed ditto, Talisman. The second went to Mr. S. Barlow, Stake Hill House, with feathered bizzarre, General Grant; flamed ditto, Sir J. Paxton; feathered rose, Modesty; flamed ditto, Mabel; feathered by-

blœmen, an unnamed flower; and flamed ditto, Carbuncle, a fine new variety. Mr. Alderman Woolley, Stockport, was third, and every stand received a prize. Then followed a similar class for half-guinea subscribers only, and here Mr. W. Prescott, Lowton, Leigh, was first with feathered bizzarre, Masterpiece; flamed ditto, Sir J. Paxton; feathered rose, Industry; flamed ditto, Aglaia; feathered byblœmen, Adonis; flamed ditto, Talisman. Mr. R. Woolfenden, Royton, near Oldham, was second with feathered bizzarre, Masterpiece; flamed ditto, Excelsior; feathered rose, Modesty; flamed ditto, Mabel; feathered byblœmen, Mrs. Jackson; flamed ditto, Talisman. Mr. Thos. Simpson, Derby, was third. In the class for three feathered Tulips there were ten competitors, Mr. Alderman Woolley being placed first with bizzarre, Masterpiece; rose, Aliee; and byblœmen, seedling. The Rev. F. D. Horner was second with bizzarre, Royal Sovereign; rose, Modesty; and byblœmen, Mrs. Cooper. Mr. Thos. Simpson was third with bizzarre, Masterpiece; rose, Industry; byblœmen, Prosperpine. There were seven stands of three flamed Tulips, the Rev. F. D. Horner being first with bizzarre, Sir J. Paxton; rose, Lady Sefton, byblœmen, Talisman. Mr. S. Barlow obtained second with bizzarre, Sir J. Paxton; rose, Mabel; and byblœmen, William Parkinson. Mr. Alderman Woolley was third with bizzarre, Sir J. Paxton; rose, Aglaia; byblœmen, Chancellor. Then followed a class for one feathered and one flamed Tulip, for maiden growers, Mr. T. Simpson being first with a feathered bizzarre, Masterpiece; and bizzarre flamed, Sir J. Paxton. The second went to Mr. Isaac Hesford with bizzarre flamed, Lord Lilford; and byblœmen feathered, Adonis. A similar open class next came in order, and here Mr. Alderman Woolley was first with bizzarre flamed, Sir J. Paxton; and byblœmen feathered seedling. The Rev. F. D. Horner was second with bizzarre feathered Masterpiece; and bizzarre flamed, Dr. Hardy. Mr. S. Barlow was third with bizzarre feathered, General Grant; and bizzarre flamed, Dr. Hardy. Twelve stands competed in this class.

Next came the classes for single blooms in each division, and, as is usual, a large number were staged. In the feathered bizzarre class Mr. S. Barlow was first with William Wilson and second with Garibaldi; Mr. Woolley was third with Masterpiece. Duke of Devonshire, Sir J. Paxton seedlings, and John Mills were also shown. In the feathered rose class Mr. Moorehouse was first with William Lea, Mr. S. Barlow was second with Industry, and Mr. J. Thurstan was third with Industry. Julia Farnese, Mrs. Lea, Sarah Headly, and Mrs. Lomax were also shown. In the feathered byblœmen class Mr. Woolley was first with a fine seedling, Mr. W. Dymock was second with a seedling, and Mr. Hesford was third with Talisman. Mrs. Jackson, Violet Amiable and Adonis were also shown. In the flamed bizzarre class Mr. D. Barber was first and second with Sir J. Paxton, and Mr. Simpson was third with Dr. Hutchens. Orion, Duke of Devonshire, San Joe, Pilot, and Excelsior were also shown. In the class for flamed roses Mr. S. Barlow was first with Mabel and second with Annie McGregor; Mr. Woolley was third with Aglaia. Little Rose, Mrs. Lomax, Industry, Mrs. Talbot, and Lady Catherine Gordon were also staged. In the flamed byblœmen class the Rev. F. D. Horner was first with Talisman, Mr. J. Thurstan was second with Adonis, and Mr. S. Barlow was third with Lady Hardwicke. Bessie, Ashmoles 101, Duchess of Sutherland and Mrs. Jackson were also shown. The premier feathered Tulip was a seedling byblœmen shown by Mr. Woolley, and the premier flamed, Sir Joseph Paxton, shown by the Rev. F. D. Horner.

The breeder Tulips—meaning thereby seedlings that have not yet broken into character—was in good force. There were five stands of six flowers, two of each class. The Rev. F. D. Horner was first with bizzarre, Ariosto and Sir J. Paxton; rose, Miss Burdett Coutts and Thomas Parker; byblœmen, Alice Grey and Glory of Stakehill. Mr. J. H. Wood, Royton, was second with bizzarre, Horatio and William Lea; rose, Industry and Mabel; byblœmen, Mrs. Cooper and Alice Grey; Mr. J. H. Thurstan was third. The Rev. F. D. Horner also had the best three, one of each class, having bizzarre, Sir J. Paxton; rose, Thomas Parker; and byblœmen, Alice Grey; Mr. R. Woolfenden, Royton, was second with bizzarre, William Lea; rose, Pretty Jane; and byblœmen, Alice Grey. Mr. S. Barlow was third with bizzarre, Hepworth seedling, very bright; rose, Mabel; and byblœmen, David Jackson.

The best bizarre breeder was Lea's No. 2, from Mr. R. Woolfenden; Mr. W. Prescott being second with Sulphur; and Mr. Barlow third with Excelsior. The best rose breeders was Lord Derby, from Mr. J. Thurstan; Mr. Woolley being second with Mabel, and the Rev. F. D. Horner third with Lady Grosvenor; Industry and Miss B. Coutts were also shown. Beauty of Litchurch was the best bybloemen breeder, shown by Mr. J. Thurstan; Mr. R. Woolfenden being second with Alice Grey; and the Rev. F. D. Horner third with Talisman, Glory of Stakehill, Ashmoles 114, and seedlings were also shown. The premier breeder was bizarre, William Lea, shown by Mr. R. Woolfenden.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*June 14th.*—Hardy plants constituted the leading feature of this meeting, not by virtue of the number of exhibits, but owing to the extensiveness of a few large groups. New varieties of Orchids were also sent, and added greatly to the general interest of the meeting. The number of Iris and Pyrethrum exhibited gives a general idea of the class of plants in season; and the bulk of the former belong to the bearded class, such as *I. germanica*, *I. squalens*, and similar ones. Several Pyrethrums certificated are described in another column.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was awarded a Silver Banksian Medal for a large group of Iris and other hardy plants, including *Lathyrus Sibthorpii*, *Heuchera sanguinea*, and *Hyacinthus amethystinus*. A vote of thanks was given for a basket of Iris, chiefly varieties of *I. squalens*. A similar award was made to Messrs. Barr & Son for a group consisting chiefly of Iris. Noticeable amongst these was *I. variegata Gracchus* with yellow standards and variegated falls. *Hemerocallis Dumortieri*, a large-flowered deep yellow form. A beautiful group of Orchids was exhibited by F. G. Tautz, Esq. (Mr. Cowley, gardener), Studley House, Hammersmith, for which he received a Silver Gilt Banksian Medal. Many fine things were scattered about in the group, such as *Cypripedium caudatum giganteum*, with the petals 28 ins. in length; the curious *Dendrobium Veitchianum*, and *Cypripedium Lawrenciana grandiflora*, for the latter of which he received a vote of thanks. Ten boxes of cut blooms of Pyrethrum exhibited by Messrs. Kelway & Son., Langport, Somerset, showed great variety of colour, and were awarded a Bronze Banksian Medal. A deep red double variety named Melton, and previously certificated, was very fine, as well as a double white named Penelope. Mr. Gordon, of Twickenham, received a vote of thanks for an exhibit of tree Pæonies flowered in pots. A deep maroon variety, Prince Frederick, was one of his best.

Several exhibits of Orchids were also made, and F. Wigan, Esq., Clare Lawn, East Sheen (Mr. East, gardener), was accorded a vote of thanks for a variety of *Phalænopsis grandiflora*, with very large flowers. He also showed *Cattleya gigas Sanderiana* and *C. Mendelii limbata*. E. R. Whitwell, Esq., Barton Hall, Darlington, showed *Cattleya Mossiæ* var. and *C. labiata Warneri*, receiving a vote of thanks for the latter. The same was accorded to E. G. Loder, Esq., Floore, Weedon, for some fine blooms of *Cypripedium macranthum* and *C. calceolus majus*. Major-General E. S. Berkley, Sibertoft, Market Harborough, and E. B. White, Esq., Ardaroach, Garlochhead, both exhibited *Dendrobium polyphelebium*, with fine rose-coloured flowers. Besides those certificated, Mr. Ballantyne, gardener to Baron Schroder, The Dell, Egham, exhibited a fine spike of *Odontoglossum crispum Veitchianum* and a plant of *O. vexillarium vestale*. Very finely-blotched varieties of *Odontoglossum crispum* were exhibited by John Day, Esq., Tottenham High Cross; Mr. Blair, The Gardens, Trentham Hall, Stoke-on-Trent, with a form named *O. c. Blair's* variety; and Messrs. F. Sander & Co., with varieties named *O. c. albanense* and *O. c. Schroderæ* respectively. The Duke of Marlborough, Blenheim, exhibited a fine variety of *Cattleya Mendelii* named *C. M. limbata*, for which he received a vote of thanks; another variety was named *C. M. picturata*. *Cattleya Mossiæ Petersi*, a fine deep rosy purple variety, was exhibited by Mr. A. A. Peters, nurseryman, Brussels. A hybrid *Cypripedium* named *C. Cheltoni* was exhibited by Messrs. Heath & Son, Exotic Nurseries, Cheltenham.

Messrs. J. & Carter & Co., High Holborn, received a Cultural Commendation for a basket of *Gnaphalium leontopodium*, and a vote of thanks for *Stenogaster concinna*. Several uncommon things were sent up from the Royal Gardens, Kew, including *Streptocarpus Dunnii*, *Wahlenbergia graminifolia* and *Salvia scapiformis*. Mr. R. Dean, of Ealing, exhibited an interesting dwarf annual *Chrysanthemum*, named *C. multicaulis*, with radical fleshy leaves and bright yellow flowers borne on scapes about 6 ins. high; he also showed some other *Chrysanthemums* and hybrid *Aquilegias* from the open ground. Some new Carnations were exhibited by Mr. R. Spinks, Victoria Road, Horley, Surrey: *Pride of Horley*, a double white, with a few red stripes, was considered the best. It was finely scented, but a variety named *Mrs. Spinks* exceeded it in this respect—smelling like the old Clove. A fine basket of *Leschenaultia biloba major* was staged by Messrs. W. Balchin & Sons, Hassocks Gate and Brighton. A Cultural Commendation was given. Messrs. J. Veitch & Sons, Chelsea, exhibited *Alsine verna plenissima* and *Anthurium Bakerianum*; the latter being in fruit. *Anemone King of Scarlets* was exhibited by Mr. B. Gilbert, Dyke, Bourne, Lincolnshire; *Ampelopsis Veitchii purpurea*, by Messrs. H. Coilyer & Co., Camden Road Nurseries, Tunbridge Wells; *Rhododendron Fortunei*, Mrs. Chas. Butler, by Messrs. Paul & Son, The Old Nurseries, Cheshunt. For this last a vote of thanks was given. A curious yellow *Primula*, appearing intermediate between *P. verticillata* and *P. japonica*, was shown by Mr. G. F. Wilson, F.R.S., Heatherbank, Weybridge. An assortment of Pansy blooms were sent in late by Mr. Eckford.

At a meeting of the Fruit Committee, Mr. J. T. Lockie, The Gardens, Oakley Court, Windsor, in the competition for Messrs. Sutton & Sons' prizes for a brace of Melons, received the first award for Suttons' Hero of Lockinge and La Favourite. The Earl of Radnor, Longford Castle, Salisbury, was third; the second being withheld.

Royal Botanic.—The second summer show of this society was held, as is usual on such occasions, in the large tent, the corridor, and a long narrow tent adjoining the large one, in which the greatest display was made. A fine effect was produced by intermixing the larger and taller flowering and foliage specimens round the sides of the tents, while the Orchids and several groups of dwarfer flowering and other plants occupied the centre.

Mr. James Cypher, Cheltenham, carried off the first prize in open competition for twelve stove and greenhouse plants in flower. His *Erica Cavendishi* was a huge specimen, and *Bougainvillea glabra* was well-flowered. Mr. D. Donald, gardener to J. G. Barclay, Esq., Knott's Green, Leyton, was second. The latter was first in the amateurs' class for six plants of similar description. Mr. A. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, was second. In the nurserymen's class for the same, Mr. H. James, Castle Hill Nursery, Norwood, obtained the first award, and Mr. J. Cypher, second. Mr. J. Douglas, gardener to F. Whitbourne, Esq., Great Gearies, Ilford, carried off the first prize in the amateurs' class for twelve exotic Orchids; and Mr. F. J. Hill, gardener to H. Little, Esq., the second. In the nurserymen's class for the same, Mr. Cypher was first, and Mr. H. James, second. For twelve exotic Orchids (one plant in each pot), Mr. J. Douglas received the primary award in the amateurs' class, and Mr. F. J. Hill, second. Mr. H. James was the only competitor in the nurserymen's class corresponding to this.

Pelargoniums were well shown in fine condition, Mr. C. Turner being first for show varieties in the nurserymen's class and Mr. J. Cypher second. In the amateurs' class, Mr. F. J. Hill was first and Mr. D. Phillips, Langley Broom, Slough, second. Mr. C. Turner was first in the nurserymen's class for fancies; and Mr. D. Phillips was first in the amateurs' class, while Mr. F. J. Hill was second. For Zonal Pelargoniums, in the open class, Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, was first, and Mr. F. J. Hill second.

Mr. J. Offer, gardener to J. Warren, Esq., carried off the first prize for six exotic Ferns, showing, amongst others, a fine *Adiantum Farleyense*. For six fine-foliaged plants, Mr. D. Donald received the first award in the amateurs' class; and Mr. J. Cypher was first in the nurserymen's class. Mr. H. James carried off the first prize for six distinct Palms in open competition.

Mr. H. James had the best six variegated-leaved plants. For twelve tuberous-rooted Begonias, Messrs. J. Laing & Co. took the first prize, with fine specimens—an easy victory. In open competition Mr. H. James was first for twelve *Nepenthes*, as well as for *Sarracenias*.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, were the only competitors in the collection of annuals and hardy herbaceous nineteenth-century plants. Cut flowers were numerous and fine. Mr. J. Hollingsworth, Turkey Court, Maidstone, was first for twelve varieties of Roses; and Mr. J. R. Tranter, Upper Assenden, Henley-on-Thames, was first for twenty-four varieties; while Mr. A. Gibson, gardener to J. F. Burnaby Atkins, Esq., Halstead Place, Sevenoaks, received the first prize for twelve trusses of yellow varieties, and the same for twelve trusses of any colour. Mr. J. Hollingsworth received the first award for six fine-scented Roses.

Mr. T. S. Ware obtained the first prize for twenty-four trusses of hardy herbaceous plants. For a collection of Iris of not less than twenty-five varieties, Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, S.E. were first; Mr. A. Gibson carried off the primary award for twenty-four trusses of stove and greenhouse flowers, and Mr. J. Douglas did the same for twelve trusses of Orchids. Mr. C. Turner was first for twenty-four trusses of show Pelargoniums; and Mr. D. Phillips was first for twenty-four trusses of zonal Pelargoniums. A fine collection of fresh-cut British wild flowers was shown by Mr. M. K. Dixon, gardener to Sir T. M. Wilson, Searles, Uckfield, obtaining the first prize in open competition; while Mr. W. G. Tranter, Upper Assenden, Henley-on-Thames, was second.

There was a fair display of fruit, but in many cases it was not ripe, although Peaches were generally fairly well coloured. Mr. R. Parker, gardener to J. Corbett, Esq., Impney, Droitwich, was first for a collection of fruit of any number of dishes. Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, was first for one Queen Pine Apple. Mr. R. Parker was first for two Melons; Mr. J. Hollingsworth was first for a basket of any black Grape, of not less than twelve pounds; while Mr. P. Feist, gardener to R. J. Ashton, Esq., Bishopsgate House, Staines, was first for a basket of white Grapes. Mr. J. Hollingsworth was awarded first prize for three bunches of black Hamburgh; and Mr. H. W. Ward the same for the same quantity of any other black. Mr. P. Feist was first for three bunches of Muscat of Alexandria, and Mr. H. W. Ward the same for any other white. Two dishes of Peaches shown by Mr. W. H. Divers, gardener to J. T. Hopwood, Ketton Hall, Stamford, gained the first prize; and Mr. J. Harris, gardener to Sir H. H. Vivian, was first for Nectarines. Mr. J. Worthing, gardener to A. Moss, Esq., Chadwell Heath, gained the first prize for two dishes of Strawberries; Mr. W. Parker the same for two dishes of Figs; and Mr. T. Hare, Wellingore Gardens, Grantham, was first for two dishes of Cherries.

A considerable display was made by the groups of miscellaneous plants. Large Silver Medals were awarded to Messrs. J. Laing & Co. for a group of Begonias, Palms, Orchids and Ferns; to Messrs. Hooper & Co., Covent Garden, for a group of Gloxinias, Palms, Orchids and Ferns. Small silver medals were awarded to Messrs. T. Rivers & Son, Sawbridgeworth, for a collection of fruiting trees in pots; to Mr. W. May, gardener to F. C. Jacob, Esq., Ashurst Park, Stamford Hill, for a group of Orchids; to Mr. G. Elliot, gardener to W. F. Darnell, Esq., Devonshire House, Stamford Hill, for another group of Orchids; to Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, for a fine group of decorative Ferns, Crotons and Aralias; and to Mr. A. Luff, Hetherset, Streatham, for a large group of Gloxinias. Large Bronze Medals were awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for hardy herbaceous plants; and to Messrs. Barr & Son, King Street, Covent Garden, for a collection of Iris, Ixias, *Hemerocallis*, &c. Bronze Medals were awarded to Messrs. Rivers & Son for Roses and dishes of fruit; to Messrs. Hooper & Co. for cut flowers of Iris, *Aquilegias*, &c.; to Mr. D. White, gardener to Mrs. Farnell Watson, Redlees, Isleworth, for a fine group of *Calceolarias*; to the Comte de Paris, Chateau de France, Sheen, Surrey, for a group of hardy Orchids, chiefly European. Certificates were accorded to Mr. John Forbes, Hawick, N.B., for twelve boxes of exceedingly fine Pansy blooms; to

Messrs. Paul & Son, Cheshunt, for a collection of cut Pyrethrums; to Mr. G. Wheeler, gardener to Louisa Lady Goldsmid, St. John's Lodge, Regent's Park, for a group of Fuchsias; and a Cultural Commendation to Messrs. Balchin & Son, Hassocks, Sussex, for a fine basket of *Leschenaultia biloba* major.

Notts Horticultural and Botanical.—Last week the first of a series of monthly meetings in connection with this society was held at the Mechanics' Hall, when a paper was read by Mr. J. H. Walker, gardener to J. W. Lewis, Esq., Hardwicke House, The Park, on "Daffodils and Narcissi: their history, habits and culture." The chair was taken by Mr. J. Booth. Mr. Walker said that one reason why he had selected such a subject as "Daffodils and Narcissi" was that recently he read in a London paper that no less a quantity of cut Daffodil flowers than thirty dray loads were brought into the metropolitan markets in one day, whilst in the same time an equal amount was distributed throughout the other large towns. Another reason was the fact that Daffodils had recently played a very prominent part at the gatherings at Her Majesty's Drawing Rooms and at many weddings connected with the most fashionable members of society—facts which had a tendency to make even the practical gardener thirst for information upon the subject. As to the history, habits and cultivation of this fashionable flower there could be little doubt that it was correct to attribute the introduction of some of the so-called British varieties to the monks; for hardly any plant could be more tenacious in holding upon any particular locality than the Daffodil. They would cling around the sites of ancient buildings and even cottages for centuries, showing by their clustering beauty that once they adorned a garden. Wandering through fields and woods one often came upon clusters of Daffodils, and on examination the remains of buildings and garden grounds were almost sure to be found. These may be accepted as flower marks of a preceding civilisation.

If one genus of plants belonged to the region of poets and poetry more than another, it was the *Narcissus*. Theocritus, Ovid, and Virgil had each written in classic strain the poetic circumstances of its birth; whilst Shakespeare, Wordsworth, Spencer, and Keats, among others, had sung its praises. Scarcely a British poet did not mention the Daffodownillies, Chalice Flowers, Lent Lilies, Jonquils, or *Narcissus*. The old Sicilian botanist, Dioscorides, hundreds of years ago, mentioned several distinct forms. Our oldest herbalists gave rough, but very expressive figures of various species. They heard of one, Olibo Kock, a Spanish monk, bringing to this country, in 1450, a quantity of Daffodil bulbs, which were taken to and cultivated at the old monastery at Battle, in Sussex. After further historical references, Mr. Walker said, that if they took the ordinary conditions under which collections of these plants were found, the first thing probably they would find was, that they were grouped together in a bed or border to themselves. Now this he admitted to be highly desirable as enabling a ready comparison of the several varieties. But no weeds should be allowed to invade these sacred allotments. Where the plants are isolated, let a substitute be found for the weeds in the shape of *Mignonette*, associated with a few of our gaily-coloured annuals. The latter should be cleared off not later than September, a nice dressing of well-rotted leaf being forked in. He objected to lifting the bulbs in the early summer and replanting in the autumn. The margins of shrubberies were the most fitting locations.—An interesting discussion followed, and hearty votes of thanks were accorded to Mr. Walker and the chairman.

Mr. Shaw, gardener to G. Fellowes, Esq., Bramcote, exhibited a magnificent specimen of *Cereus grandiflorus*, or the night-blooming *Cereus*, whose existence, as a flower, lasts but for a single night.

FLORICULTURE.

POTTING AURICULAS.—When visiting Mr. Samuel Barlow, at Stake Hill House, the other day, I noticed that his large collection of Auriculas were all repotted and looking as well as could be desired. More than that, when two or three of them were turned out of their pots, I found that the roots were already through the fresh soil and touching the sides of the pots. That is the condition in which the Auricula likes to be. As

the Rev. F. D. Horner has remarked in one of his articles: "The Auricula, in health, roots deeply and strongly, and loves to feel the side of the pot, and to revel in abundant crockery-work at the bottom." Mind that, ye young beginners in Auricula culture—drain your pots well! I found Mr. Barlow had used some fine yellow loam from his place in Wales; some leaf-soil and grit is mixed with it, and it appears to be the very soil the Auricula likes; but we cannot all of us get such a rich native loam, and the difficulty of obtaining suitable potting-soil presses hard upon some of us.

May is, no doubt, the best month in which to pot Auriculas. When they have done flowering, they take on their summer growth and establish themselves in the pots. Newly-potted Auriculas do not require much water for a week if the soil be moist—that is, it should not be so wet as to cling to the fingers. I think a too early and too free watering after repotting causes injury to some of the plants, especially the less robust sorts, and therefore it is that I advise care in giving water. Mr. Pomroy, Mr. Barlow's gardener at Stake Hill, deserves a word of praise for the excellent condition in which he has the Stake Hill Auriculas at the present moment; and they look so well that it seems impossible they can do aught but succeed. They are in a low span-roofed cold house near the glass, but shaded from the sun as is here necessary.—R. D.

Obituary.

WITH great regret we have to record the death, on June 11th, of Mr. FRANCIS RODNEY KINGHORN, of the Sheen Nursery, Richmond, Surrey. In early life Mr. Kinghorn's name was a household word among gardeners and florists, and for many years he was a much esteemed member of the Floral Committee. He was born at Lennox-love, Haddington, N.B., one of the seats of the Lords of Blantyre, on February 13th, 1813, and was consequently in his 75th year. At an early age he entered the nursery of Messrs. Ballantyne, of Dalkeith, and from thence went to Oxenford Castle Gardens, near Edinburgh, to serve under his elder brother, Alexander, who was head gardener there; subsequently he worked in the gardens of Craigie Hall, near Edinburgh, and at Cally, near Gatehouse, Kirkcudbrightshire. Leaving the latter place at the age of 24, he came to Orleans House, Twickenham, as head gardener to Alexander Murray, Esq. This gentleman sold Orleans House to the late Earl of Kilmorey, but Mr. Kinghorn still stayed on. It was here that he devoted a great deal of attention to the hybridisation of flowers and Zonal Pelargoniums, Countess of Warwick (one of the earliest if not the first), silver tricolors, Flower of the Day, silver edged, and the old pink bedding variety, Christine, were amongst the results of his efforts. Indian Azaleas were ever favourites of his, and Murrayana, Symmetry, Mars, President, Sir Charles Napier and Kinghornii were all raised by him, and in their day were unsurpassed. *Epacris Kinghornii* and *miniata splendens* also owe their origin to him. He raised also some beautiful herbaceous Lobelias, now long forgotten, and took in hand with much success the improvement of the herbaceous *Calceolaria* in the earlier days of its popularity. Mr. Kinghorn did not distribute many of his seedlings himself, the Messrs. Lee, of Hammer-smith, and Messrs. Henderson purchasing his novelties. His Pelargonium "Flower of the Day" was an immense success, and was sent out by the Messrs. Lee. In 1855 he commenced business for himself as a nurseryman, and devoted unceasing attention to his nursery until some four years ago. The business will now be carried on by his only son under the old title.

ANOTHER man well known in the horticultural world a few years ago has also passed away, in the person of Mr. ALEXANDER MCINTYRE, formerly superintendent of Victoria Park. Mr. McIntyre was a native of Netherby, near Carlisle, where his father was a gardener. He was foreman in the Royal Gardens, Kew, for some time, and before going to Victoria Park was gardener at Pampesford, Cambridgeshire, where he laid-out and planted a fine Pinetum. Mr. McIntyre died on the 4th inst.

WE have also heard with much regret of the death, on the same day, of ELIZABETH, wife of Mr. George Fry, of Lewisham.

QUESTIONS & ANSWERS.

PELARGONIUMS, SPOTTED.—W. W.: Spotting of the kind you send is of pretty frequent occurrence on the leaves of Pelargoniums. The root of the evil we should attribute to insufficient ventilation. At this season of the year ample ventilation should be left on all night and globules of moisture on the leaves should be guarded against, as these act like so many lenses, concentrating the sun's rays, and burning holes in the foliage. The show, fancy and decorative kinds are more liable to suffer than the zonal varieties from such causes.

LEWISHAM AND DISTRICT FLORAL SOCIETY.—J. G. D.: Mr. H. Drake, 64, Limes Grove, Lewisham, S.E.

NAMES OF PLANTS.—Glenam: *Cratægus punctata*. R. P. C. G.: 1, *Ribes speciosum*; 2, *Saxifraga aizoon* var. *rosularis*; 3, *Eriogon bellidifolium*; 4, *Saxifraga ceratophylla*; 5, *Viburnum dentatum*; 6, *Veronica gentianoides*.

PAPAYER NUDICAULE.—Anxious: The normal colour of this fine Poppy is yellow, but seedlings frequently occur in a bed, bearing pure white flowers and others deep orange flowers, with all intermediate shades of colour. These variations are not new, and you may collect and sow seeds of each separately if you like. They will probably give you a good percentage of plants bearing flowers of the same shades as you collected, but seedlings so raised are not absolutely constant, and frequently revert to the normal yellow.

COMMUNICATIONS RECEIVED.—G. S. A. (many thanks).—A. O.—J. T. P.—J. G. D.—E. R. C.—J. S. F.—D. B. K.—W. D.

TRADE CATALOGUES RECEIVED.

EWING & Co., Sea View Nurseries, Havant, Hampshire.—Summer priced list of New Roses, Clematises, and other Hardy Climbing Plants, Trees, and Shrubs, &c.

LONDON SEED TRADE.

June 15th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report to-day's market presented quite a holiday appearance. Orders came to hand for small lots of Mustard and Rape, the prices of these seeds continuing low. No change in values of Red, White or Alsike Clovers. There is a moderate inquiry for English Canary Seed. Hemp Seed is unchanged.

COVENT GARDEN MARKET.

June 16th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve			Peaches, per dozen	4 0	12 0
Grapes, per lb. 2 6	4 0		Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3 0	8 0
per lb. 2 0	3 0		Pine-apples, Eng., lb.	1 0	1 6
Kent Cobbs, 100 lbs.			Strawberries, per lb.	1 6	5 0
Melons, each 1 6	3 0				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Asparagus, per bble.	2 0	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6	2 0	Lettuces, per dozen	1 6	2 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel	4 0	5 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English,			Radishes, per dozen	1 6	
per dozen	6 0	9 0	Small salading, punnet	0 4	
Celery, per bundle	2 0		Spinach, per strike	2 0	
Cucumbers, each	0 6	1 0	Tomatoes, per lb.	1 0	1 6
Endive, French, doz.	2 6	3 6	Turnips, per bun.	0 6	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.					

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones, 12 bun.	2 0	4 0	Pelargoniums, scarlet,		
Arum Lilies, 12 blms.	3 0	5 0	12 sprays	0 9	1 0
Azalea, 12 sprays	0 6	1 0	Polyanthus, 12 buns.	2 0	5 0
Blue Bells, 12 bunches.	1 0	2 0	Primroses, 12 bunches	0 3	0 6
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms	1 0	3 0	— single	12 bun.	
Carnations, 12 blooms	0 9	2 0	Roses (coloured)	1 0	4 0
Cut Tulips, 12 blooms	0 2	4 0	Roses, Tea, per dozen	1 0	2 0
Eucharis, per dozen	3 0	6 0	Roses, mixed, per doz.	0 6	2 0
Gardenias, 12 blooms.	1 0	3 0	— Saffrauo (French),		
Heliotropes, 12 sprays	0 6	1 0	per doz.	0 6	0 9
Lilies of the Valley			Spiræa, 12 bunches	4 0	6 0
12 sprays	0 6	1 0	Stephanotis,		
Lilium longiflorum,			dozen sprays	2 0	4 0
12 blooms	4 0	6 0	Tropæolums	1 0	2 0
Marguerites, 12 bun.	3 0	6 0	Tuberose, per dozen.	1 0	
Mignonette, 12 bun.	3 0	6 0	Violets, 12 bunches	0 4	0 9
Narcissus, 12 bunches	1 0	3 0	Wallflowers, 12 bun.	2 0	4 0
Narcissus double,			White Jasmine, bun.	0 6	0 9
12 bunches	3 0	6 0	Pansies, 12 bunches	2 0	3 0
			Pelargoniums, 12 spys.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Hydrangea, per doz.	9 0	12 0
Arum Lilies, per doz.	9 0	12 0	Lily of the Valley,		
Azalea, per dozen	8 0	36 0	12 pots	12 0	18 0
Cineraria, per dozen	6 0	9 0	Lilium longiflorum,		
Cyperus, per dozen	4 0	12 0	per doz.	18 0	30 0
Dracæna term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	9 0
Erica, various, doz.	18 0	30 0	Musk, per dozen	3 0	6 0
Evergreens, in var.,			Palms in variety, each	2 6	21 0
per dozen	6 0	24 0	Pelargoniums, doz.	6 0	18 0
Fairy Roses, per doz.	8 0	12 0	Pelargoniums, scarlet,		
Ferns, in var., do	4 0	18 0	per dozen	4 0	8 0
Ficus elastica, each	1 6	7 6	Rhodantha, per doz.	6 0	9 0
Foliage Plants, vari-			Roses (various), doz.	18 0	30 0
ous, each	2 0	10 6	Spiræa, per dozen	9 0	12 0
Fuchsia, per dozen	6 0	9 0	Tulips, per doz. pots		
Genista, per dozen	6 0	9 0			

ROSES IN POTS

HYBRID PERPETUAL ROSES. Good plants in pots of all leading kinds, for turning out to fill up vacancies, &c.	10/6 per dozen. 75/- per 100.
CLIMBING ROSES. All best kinds, strong plants in pots, with long shoots, for immediate effect.	16/- per dozen.
TEA-SCENTED ROSES. For growing on for the conservatory or planting out of doors.	16/- per dozen.
NEW ROSES. Her Majesty, Clara Cochet, The Bride, W. F. Bennett, Ye Primrose Dame, and all best new varieties of 1886-7.	24/- to 36/- per dozen.

Full particulars in new Catalogue of Roses in Pots, Clematis, Bedding Plants, &c., post free.

GEO. COOLING & SONS,
THE NURSERIES, BATH.

KELWAY & SON.

NOW IS THE TIME TO PLANT

KELWAYS' DAHLIAS

KELWAYS' PYRETHRUMS

KELWAYS' GAILLARDIAS

KELWAYS' DELPHINIUMS.

LANGPORT, SOMERSET.



OUR

Begonias, Pelargoniums, Verbenas, Gloxinias, Ixias, Pansies, and numerous other Plants,

Which is now a grand sight. All are astonished at their near perfection, and the extent and completeness of our stock.

THE GARDEN.

IT is positively indispensable, particularly where the garden is always desired to be seen in the highest possible order, with beauty and attractiveness at the least expense, that both employers and gardeners should visit and thoroughly examine our establishment and stock, and see that our CATALOGUE, ADVERTISEMENTS and ANNOUNCEMENTS are accurate, so that economy, success and less failures would be the result, and the utmost pleasure and encouragement afforded; further, that they should know where all wants for the garden can be best supplied.

SEND FOR A CATALOGUE.

H. CANNELL & SONS,
THE HOME OF FLOWERS,
SWANLEY, KENT.

15,000 TEA ROSES.

Consisting of the following and numerous other varieties, all fine plants, in 5½-in. and 6-in. pots:—

Maréchal Niel	Sonvenir de Paul Néron
Perle des Jardines	Isabella Sprunt
Safrano	Madame Bravy
Reine Marie Henriette	Waltham Climber, No. 2
Comtesse de Nadaillac	Sunset
Sonvenir d'un Ami	Niphetos
Catherine Mermét	Gloire de Dijon
Homere	Madame Cusine
Waltham Climber, No. 1	The Pet
Lady Mary Fitzwilliam	Duke of Connaught
W. A. Richardson	Adam
Perle de Lyon	Alba rosea
Etoile de Lyon	Goubault
Madame Lambard	Waltham Climber, No. 3
Devoniensis	Climbing Devoniensis

12s., 15s., and 18s. per dozen, according to size.
The Company believe their Tea Roses to be unsurpassed by any in the country; they are clean, healthy, and vigorous, and should any purchaser be dissatisfied with them, they may be at once returned.

Prices to the Trade on application.

Lists, with full particulars, post free on application to

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), LIMITED,

The VINEYARD and NURSERIES,

CARSTON, NEAR LIVERPOOL.

RARE ORCHIDS!

SPECIMEN ORCHIDS!!

CHEAP ORCHIDS!!!

PRICE LIST ON APPLICATION.

JAMES CYPHER, CHELTENHAM.

RATING OF NURSERIES.

A PUBLIC MEETING of Nurserymen will be held under the auspices of the Nursery and Seed Trade Association, Limited, on Tuesday, 25th June, 1887, at the Horticultural Club, Henrietta Street, Covent Garden, London (by kind permission of the Committee), to take into consideration the excessive rating of Nurseries, and to agree on a combined course of action with a view to the reduction of assessments. The chair will be taken by J. WOOD INGRAM, Esq., of the firm of Messrs. Wood & Ingram, The Nurseries, Huntingdon, at 6 p.m. Nurserymen will oblige by early intimating to the Secretary their intention to be present and also by forwarding to him, in strict confidence (if the amount of the assessment is in excess of the rent), either the amounts of their rents and assessments or the proportion which the difference between the rent and the assessment bears to the rent itself.

Mr. F. G. GOODCHILD, Secretary, Nursery and Seed Trade Association, 25, Old Jewry, London, E.C.

CRYSTAL PALACE.—GREAT ROSE SHOW OF SEASON, Saturday, July 9th, postponed from July 2nd. For schedules and entry forms apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.

A SPECIAL GENERAL MEETING of the Fellows will be held at 3 p.m. on TUESDAY, JUNE 28th, in the Conservatory, to consider the results of the negotiations and inquiries which have been made by the Council as to the future maintenance and housing of the Society.

N.B.—Entrances, N.E. Orchard House, Exhibition Road; and east side of Royal Albert Hall.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Scientific, at 1 p.m., in the Lindley Library, and Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, JUNE 28th.

SPECIAL PRIZES offered by Messrs. James Carter & Co., Sutton & Sons, and Webb & Sons. See Schedule.

Admission free to Fellows at 12 o'clock; and to the Public at 1 o'clock, upon payment of One Shilling.

N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

TUESDAY, June 28th.—Meeting of Fruit and Floral Committees at South Kensington. Meeting of Fellows of the Royal Horticultural Society at 3 p.m. Special Sale of Orchids in Flower at Protheroe & Morris's Rooms.

WEDNESDAY, June 29th.—Anniversary Festival of The Gardener's Royal Benevolent Institution, at "The Albion," Aldersgate Street, 6 p.m. Richmond Horticultural Society's Summer Show. Croydon Horticultural Society's Show. Sale of Imported and Established Orchids at Stevens' Rooms.

THURSDAY, June 30th.—Shepperton and Thames Valley Horticultural Society's Exhibition at Sunbury Court. East Gloucestershire Horticultural Society's Show.

FRIDAY, July 1st.—Sale of Imported Orchids at Protheroe and Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 25, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—Without doubt this society has passed through many periods of danger and difficulty, although, generally, in a haphazard way, and with no very grave results. Still, we doubt whether at any time it has had to encounter more formidable difficulties than just now present themselves, or has been called upon to grapple with a graver crisis. It may be using strong language to assert that the meeting of the Fellows of the society, called for Tuesday next, will have to determine a question of life or

death, but it looks very much like it, as it is quite impossible that the society can continue to exist under its present methods and courses, and only a drastic change can save it from utter collapse.

In spite of all the efforts put forth to give some life and colour to the society's position, it is painfully obvious that, in the divided counsels at the head, there is little hope for strong or united action on the part of the tail. Were the present Council fully capable of grappling with the difficulties into which the society has so unhappily been brought, and as fully determined to do so, then it would command at once our entire sympathy and support; but we cannot close our ears to the common report which declares that very strong divisions exist in the Council, and that there have been threats of resignations, in part and altogether, all of which afford evidence of weakness such as no body of Fellows, however so well inclined, can well hope to overcome.

Even if the Council would adopt such a drastic course as to resign in a body, we fail at present to discern from whence other and more favourable business elements are to be drawn. The gentlemen who have so far endeavoured to conduct the affairs of the society, personally are estimable, and for the most part are enthusiastic horticulturists, but as business men very few command respect or, indeed, in any way possess the needful attributes. But then we have no great hope that the Fellows now outside of the Council can furnish better men, although there may be such whose qualifications remain unknown. Probably the most able amongst the Fellows, being members of the trade, would feel themselves precluded from accepting office if urged to take it, and a trade Council would but promote inevitable trade jealousies. Really we seem to have no other resource just now than to fall back upon a chairman or president who should play the part of a dictator, if such an one can be found.

In convening the meeting of the Fellows for Tuesday next the Council, so far, does not seem to have very clearly defined the objects in view, or to have frankly taken the Fellows into their confidence. Had that been the case it is obvious that the Fellows would approach the meeting in a much better state of preparation for the discussion which must follow, than they are at present. But in any case we would again deprecate as strongly as possible the offering of wild or impracticable suggestions, or expressions of anxiety to retain any hold of South Kensington. It is absolutely certain that the society must clear out of that location, and it would be much better to quit with dignity than to be expelled with ignominy.

We should rejoice, in common with the great body of horticulturists in the country, if the Fellows could be induced to feel that the proper home of the Society is at Chiswick, and to take early and energetic steps to have its headquarters removed there, even inclusive of the Lindley Library. True, it may be urged, that there is no accommodation in the garden for the clerical staff and the library, but a suitable temporary habitation can be found near at hand, if there is only the will to do it. Chiswick—or we should rather say Turnham Green—is not now a suburb of London, it is really as much a part of the metropolis as South Kensington; whilst railway, tramcar and omnibus services render it readily accessible from all parts. The Council must have seen that Londoners, and South Kensingtonians in particular, have "cut" the society dead, and now absolutely refrain from attending its shows. On the other hand, there is in the district round Chiswick a constituency that, with proper inducements to become subscribers, would

soon put the "society's" finances in a healthy position; and with the great attractions of the gardens, we are certain, that far more persons would attend the meetings, and by their presence give much-needed life to the society's proceedings. The moment is a grave one, and demands the exercise of wisdom and discretion, combined with prompt action. Wise counsels may save the society, but foolishness will certainly destroy it utterly.

WE venture to remind those of our readers who are interested in the welfare of THE GARDENERS' ROYAL BENEVOLENT INSTITUTION, that the forty-fourth anniversary festival takes place at the "Albion," Aldersgate Street, on Wednesday evening next. Baron Ferdinand de Rothschild, M.P., will preside, and we hope he will be supported by a large and influential company representing all branches of horticulture, and that the subscription list will also be larger than ever, in honour of the jubilee year, and to crown with success the strenuous efforts which have been made by the committee and their most energetic secretary, Mr. Cutler, on behalf of the Institution.

A STRAWBERRY FÊTE, with band and promenade, will be held in the Royal Horticultural Society's Gardens at Chiswick early in July, the date of which will be duly announced. Admission as on ordinary days to Fellows and their orders, season ticket holders, and subscribers to the Chiswick Horticultural Society or bearers of their tickets.

THE LEEDS HORTICULTURAL SOCIETY, whose exhibition was opened on Tuesday, sent H.M. The Queen a basket of Roses on Monday, which was graciously accepted, and its receipt acknowledged by telegram.

WE regret to hear of the death of MADAME VAN GEERT, wife of Mr. Charles P. van Geert, nurseryman, Antwerp. Madame van Geert was in the 70th year of her age, and had been a sufferer for some years from paralysis.

THERE was placed in the Jerusalem Chamber of Westminster Abbey, on Tuesday, a magnificent bouquet of Roses, in the form of a sphere, measuring about five feet in circumference. A neatly engrossed card, attached by a silken cord, bears the words: "LANCASHIRE ROSES. A Tribute of Loyalty emblematic of the beauty and charm of Her Majesty Queen Victoria's Life and Reign."

LIME and sulphate of copper have been found in France, when syringed over Grapes, to be a perfect cure for mildew. The solution is thus prepared: From 30 lbs. to 50 lbs. of lime and sulphate; each is dissolved in a barrel containing about 100 gals. of water. The operator dips a small Heath broom in the liquid, and walking backwards sprinkles the vines.

ON the occasion of the marriage on the 8th inst. of Mr. Henry Low, second son of Mr. Stuart H. Low, to Miss Whiter, of Kenninghall Road, Clapton, the *employés* played a friendly game of cricket, in which the married beat the single men by one run, and subsequently all partook of an excellent cold collation, after which came a number of friendly and appropriate toasts, and with song and sentiment a pleasant evening was spent.

AN American exchange states that the once popular FLEMISH BEAUTY PEAR—although by no means an old kind—is said to do well no longer anywhere. No one seems to know why. It would be worth knowing whether there is any locality in which it yet does well.

WE are informed that at the great AGRICULTURAL AND HORTICULTURAL EXHIBITION, held in the City of KANDY during May last, three of Messrs. James Carter & Co.'s customers were awarded the following medals for plants, &c., grown from their seed:—The Gold Medal for the best collection of plants and flowers; Silver Medals for Victoria Prize Calceolaria, for Holborn Prize Primula, for Crown Jewels Begonia, for Marble Prize Gloxinia, for Fuchsias, for Geraniums and for Mont Blanc Cauliflower, and Bronze Medals for first prize Cyclamen and prize Achimenes.

PROFESSOR HILGARD, of the University of California, experimenting with thirty-one kinds of EUROPEAN GRAPES, finds the Gros Verdot the most prolific, seven Vines yielding 555 lbs. Forty Vines of the Black Hamburg gave only 1,050 lbs.

IN the House of Commons on Monday, Dr. Tanner objected to the prohibition which prevented people from taking refreshment-baskets with them into KEW GARDENS. Mr. Cremer also asked for a relaxation of the rules affecting Kew Gardens. Mr. Plunket said there was a very suitable place for picnicking outside the gardens, and the débris from picnickers within the grounds would be troublesome. Dr. Tanner said these difficulties did not occur in other countries, and he protested against Kew Gardens being kept for the aristocracy and the pseudo-aristocracy. Mr. Heaton and Mr. Isaacs held that the public ought to be admitted with refreshments, a portion of the grounds being set apart for the consumption of food.

THE *Southern Weekly News* states that reports to hand from the HOP GARDENS of Sussex, Kent, and Surrey, show a general advance in the state of the bine, the growth having been very rapid. The visitation of fly is reported on all hands, and washing has had to be resorted to in many places, though in some districts it is found to be too expensive to undertake it, seeing the low marketable value of the Hops.

AT the late SALE OF PLANTS AT FAIRLAWN, LYTHAM, a magnificent specimen of Rhododendron, Countess of Sefton, was sold for the merely nominal sum of two guineas, and a fine example of R. Veitchianum went to the same purchaser, the Rev. Canon Taylor, for a similar amount. The plants all round seem to have gone for considerably less than their value.

THE degree of D.C.L. was conferred at Oxford, last Wednesday, on Dr. Asa Gray, the eminent Professor of Botany in the Harvard University, U.S.A. Dr. Asa Gray was described by the Regius Professor of Civil Law as a man who had worked longest and best on the botany and botanical history of the New World. He referred to his great collections of American plants, and his excellent manuals and philosophical discussions of large scientific questions in biology, and said he was now the father of American science, and was all the more valued and respected in his own country because he had been a single-minded follower of truth, and was always simple in life as well as genial in manner.

THE POST OFFICE AND SUNDAY POSTAL LABOUR.—On the 17th inst., Mr. Martin J. Sutton, the managing partner of the firm of Sutton & Sons, Reading, gave evidence before the Select Committee of the House of Commons on Sunday postal labour. He stated that for four months of the year they received from 1,200 to 1,500, and despatched about 2,000 letters a-day, and during the rest of the year from 500 to 800 a-day. They sent out 150,000 catalogues every year, and often as many as 200,000 circulars besides, and their arrangements were made for the despatch of a ton weight of parcels by Parcels Post every day. Their expenditure during the last six months in stamps was £3,411; and during the same time they had used and posted in letters, as remittances, £1,948 worth of small postal orders and £520 worth of stamps, without a single order or stamp having been lost in the post. They had never received or despatched letters on Sundays, and they considered that to this entire restriction of the work to six days of the week was largely due the success of their business, although the delay thus caused had occasionally lost them a customer. His firm had posted as little as possible on Saturdays, with the object of avoiding labour in the Post Office on Sundays. That was a serious inconvenience to them in this respect—that it restricted them to about four days a-week for posting their catalogues, because the Post Office required notice; for as they were posted in batches of 20 tons to 30 tons at a time, they could not be accepted by the Post Office without previous arrangement. If there were not a Sunday delivery they could post on Friday and Saturday as on other days, without fear of throwing additional Sunday work on country postmen; but the varying values of seed often made this premature posting of catalogues a great inconvenience and sometimes a serious loss.

THE *American Gardeners' Monthly* remarks: "It is said that the young hearts of the Sow Thistle (*Sonchus oleracea*) make a delicious vegetable when cooked like Spinach."

THERE would seem to be great variation in the colour of PASSIFLORA CONSTANCE ELIOTT in different gardens, which might have arisen from seedlings raised at different times. The sepals and petals are white, hence the title of the white Passion Flower; but in some instances the corona preserves the same blue colour as the parent, P. corulea.

EARTH-WORMS AND THEIR WORK.—II.

DISTRIBUTION OF WORMS.

The common earth-worm is most abundant in this country in moist ground, especially those rich in humus, vegetable mould or decaying organic matter. It is most common at low elevations: but also ascends mountains to a considerable height. There are many genera of earth-worms, some of which are found in all parts of the world, even in distant isolated islands where it is impossible to determine how they got there. Worms have been found on the Neilgherry Mountains 12 ins. to 15 ins. in length, and Dr. King has also seen a worm in Ceylon 2 ft. long and $\frac{1}{2}$ in. in diameter.

PHYSIOLOGY.

Worms breed, feed, digest their food, enjoy health, and have sickness. In the latter case it may be mentioned that they are attacked by the larva of a fly that preys upon the worm parasitically. When infested with larvæ in this manner, they leave their burrows even during the day, wander about and die. After heavy rain they may be found lying dead on the surface in great numbers, and it is believed their death is merely hastened by the ground being flooded.

They have no lungs or special organs for breathing, but respire through and by means of the skin over all parts of their body. For this reason, it is necessary that their skin be wet or moist at all times, and if kept exposed in the atmosphere of a dry room they soon get killed.

Two methods of prehension are practised by worms in attacking or drawing away food or other material used by them. A leaf is seized between the projecting lips of their mouth, or if it is too broad or thick, the head and mouth are used as a disk or sucker, by which the animal attaches itself to the broad surface of a leaf for the purpose of dragging it away. Worms have no teeth, but manage to pull decaying leaves, and the parenchyma of soft leaves to pieces by suction. Previous to this, however, the leaves are softened by a digestive fluid ejected from their mouths. This is the only known instance of food being digested, or partly so, before being taken into the stomach. This secretion is alkaline, and it has been proved that the digestive fluid in the intestine of a worm is also alkaline, and to prevent the animal suffering from indigestion by the generation of the various acids (known as humus acids) from decaying leaves, it is furnished with a special set of calciferous glands that secrete carbonate of lime. This latter material neutralises the effect of these acids, and so the digestive system is enabled to perform its ordinary functions. The calciferous glands also perform the purpose of excreting the superabundance of lime occurring in soils overlying the chalk. Furthermore, the digestive fluid in worms corresponds to that produced by the pancreas in the higher animals, and acts in a similar manner on the food relished and devoured by worms.—J. F.

A FEW CHOICE HARDY PICTORIAL TREES.

WHEN looking through Mr. Noble's nursery at Sunningdale a few days ago, I made a note of a few desirable hardy trees and shrubs that are valuable for decorative purposes. And here I may be permitted to sound a note of thankfulness that I am able to state that planters of trees in many forecourt gardens to villa residences are using higher class material than they did years ago, when Laurels, a Poplar or two, Mountain Ash, Acacia, Laburnum, &c., appeared to be their highest ideals. Now one sees the double Thorns, Almond, double-flowering Peach, variegated-leaved deciduous trees of a highly ornamental character, &c., and the small gardens are greatly improved thereby. A little more attention might sometimes be given the variegated-leaved trees with advantage, for they put forth at times vigorous green growths of the stock, and these are permitted to grow unchecked until they completely overpower the variegated portions. This is to be regretted, but it is an evil that is too frequently to be noted in suburban gardens round London.

There is the purple-leaved Beech, *Betula purpurea*, having a very distinct purple growth, and very constant. This is propagated by the process of inarching. Some straight-stemmed plants of the common Birch are planted in a circle round one of the purple-leaved variety growing in the open: the branches of the

latter are brought to the stocks, and duly inarched there; some moist clay is placed round it, and some moss wrapped over the clay, and the process is complete. When skilfully performed there are very few failures. Then there is the dark claret-coloured *Berberis vulgaris atro-purpureus*, which makes a charming hardy ornamental shrub, and is in all respects like the common one, excepting in the colour of its foliage, which is also imparted to the flowers and berries, for they are of a darker colour also. This is found to come true from seed.

In the light soil of the Sunningdale Nursery, and full sunny exposure, this *Berberis* was finely coloured. *Spiræa opulifolia aurea* is a good golden-leaved shrub; the type bears white flowers succeeded by red bladdery fruit, and the golden form is constant and highly ornamental. *Prunus Pissardii*, with its deep purple foliage, is another striking ornamental shrub. It will be remembered that Messrs. Paul & Son exhibited it in flower early in the spring, and it has, therefore, gained a double First Class Certificate, one for its foliage, and another for its flowers; and both well deserved. It is said this *Prunus* was sent to England by the Shah of Persia's gardener. What an excellent dwarf-flowering shrub the Chinese *Viburnum plicatum* makes, with its elegant large plaited leaves, and numerous balls of white flowers! In a young state the leaves are plaited together in a curious manner, and they gradually widen out and become flattened as they develop. *Spiræa* or *Exochordia grandiflora* is also a notable shrub, of close free growth, the foliage elegant, and with large white, buttercup-like flowers, which are produced in May. It is a shrub difficult to propagate, the best method appearing to be from layers, but it takes two years for them to root. I think I never before saw *Taxus elegantissima* so beautifully coloured as here, quite small plants growing in the light sandy soil here, grandly coloured, and singularly bright in the full glow of the summer sunshine.

One sees so much to interest them in a nursery like this, but it suffices for the present that I make a note of these interesting shrubs, for they are well worthy the attention of lovers of pictorial trees.—*R.D.*

DRACOPHYLLUM GRACILE.

THIS is a good plant for exhibition or conservatory work during the summer months of the year. Another great quality about it is that the flowers are pure white and finely scented—a fact that may not be known to casual observers. However, such is the case; and being a free-flowering subject, it should be grown by those who are fond of really good things. The constitution of the plant may be termed delicate, as it is very susceptible to any mismanagement in its culture, the least neglect as regards watering or potting being almost certain to end in disaster.

Its roots are capillary or hair-like in character, and should they at any time suffer from the effects of drought, the plant will, in nine cases out of ten, die. The same rule applies to giving it too much water; the soil becomes stagnant, the roots rot, and the plant dies off quickly—in trade parlance, it goes off at the collar.

A considerable time must elapse before young plants can be made into specimens, the growth being so weak in its nature that it requires a great number of shoots to make a specimen plant. Good sandy peat is the best soil in which to grow it, and at all times it must be potted firm; the best time to pot the plant being either in the autumn or early spring months. It does not require a great amount of pot room, but young plants

should not be allowed to become too much pot-bound. The plant requires a considerable amount of time in staking and tying to make it look well; but when this work has been well done, it shows the plant to great advantage; therefore, it behoves growers to be careful in their treatment of it after it has attained to a good size, for one false error as to watering would send the plant and all the valuable time that has been spent in training it into oblivion. When the plant has matured itself and made a good specimen, it always stands well in a collection of stove and greenhouse plants, the purity of its white flowers showing well up amongst other plants.—*W. G.*

CAMPANULA MEDIUM CALY-CANTHEMA.

IN the Canterbury Bells we meet with an old friend



CAMPANULA MEDIUM CALYCANTHEMUM.

suitable alike for the adornment of the gardens of rich and poor alike. The typical form exists in many colours, and shades of blue, purple, rose, and white; but the race illustrated by the accompanying figure may probably be acceptable to lovers of these hardy plants.

Properly speaking, this race is not really double; but the calyx becomes enlarged and petaloid, and numerous coloured varieties may be raised from seed with as much certainty as the normal type. A third race may be noticed describable as the hose-in-hose type, also to be had in a great range of colours, and of which some of the flowers are of enormous size. In this case the second corolla is produced within the first, often giving the flower the appearance of being double. The plant is biennial, and seeds sown now will flower next summer. Those who have plants coming into flower in the open ground may lift and pot them, having previously given the soil a thorough watering to prevent them from flagging through the operation. They are then useful for the conservatory or dwelling-room decoration.

STRAWBERRIES FOR FORCING.

THE Strawberry at all times is a delicious fruit, but when forced and well done, it cannot fail to give the greatest pleasure, both to grower and consumer. We may all have our particular fads and fancies with regard to the different methods of cultivation; but there are certain points which are essential in order to obtain good and successful results. First, good early runners must be secured; second, they must be put into their fruiting-pots as early as possible; and third, great care and attention must be observed in watering and keeping the plants clean and free from runners and weeds. In order to secure good early runners, we must first turn our attention to the outdoor beds, which we will assume are in good condition, with strong plants of not more than three seasons' growth, as young beds throw the strongest runners. As soon as fit, these should be secured, cutting away all the weak ones, and

our plan of dealing with them is as follows:—During the winter months a quantity of good turfy loam is dug and laid in a heap with alternate layers of well-decomposed farmyard manure, and a good proportion of sweepings from the fowl-house. The heap is covered with litter, which causes the whole to heat gently in order to destroy the weeds and insects. This we use both for layering and potting. At the time of layering we select small lumps of turf from the heap, about 3 ins. or 4 ins. square, into which we peg the runners. I consider this plan the best for several reasons. Under the scorching rays of our midsummer sun, the plants that are in pots will become very hot, while those in the turf will be much cooler, especially if put well under the litter with which the beds are mulched. Evaporation is also, consequently, much more rapid when pots are used, and the plants suffer more or less in consequence. During the cool of the evening the plants are gone over and watered with a rose pot, and as soon as they are rooted through the turf (which they will do very quickly if well attended to in watering), we cut them off and pot into fruiting pots, using the soil from the heap before mentioned; and here we have to consider the nature of the loam, whether it is deficient in calcareous matter (a substance which is much relished by the Strawberry), and if so, we add a good proportion of lime, about one peck to three bushels of loam and manure.

The plants should all be in their fruiting pots not later than the last week in July, in order to get the

pots full of roots, and good strong sturdy plants. The size of fruiting pots used are 48's for the first batch to force, and 32's for the later one. As we pot them they are removed to a good open sunny position in the kitchen garden, and shaded from the hot sun for a few days. (I should have mentioned great care must be taken that the runners do not root through the pieces of turf into the ground beneath, as many of the little feeders would be thereby broken off when taking up the runners, to the injury of the plants). After this, great care should be exercised in watering and keeping the plants free from runners and weeds, and keeping them clear of side shoots, selecting only one crown. When the pots are well filled with roots, liberal supplies of manure-water should be given.

By the end of October the plants will be well ripened, and should be shifted to their winter quarters, the earliest batch under glass sheltered from the cold rains, and the later ones packed into leaves in any open space, being previously mulched with a mixture of half loam and strong manure. About the middle of December the first batch of plants should be well cleaned

and watered with strong lime-water, and removed to a pit where the temperature of 40° to 45° can be secured, increasing the temperature to 55° or 60° as the plants come into flower, giving a good proportion of air to keep them strong and sturdy.

The later batches are placed on shelves in the vineries, peach-houses, or anywhere where it is possible to place them, keeping them as near the glass as possible. The plants should never be allowed to get dry during any period of their growth, as this is fatal. As soon as the fruit is set the plants should have a liberal allowance of manure-water until the fruit colours, when it should be withheld, or else the fruit might become tainted, which would be very unpleasant. King of the Earlies and Black Prince are the best for the first batch, as they are good, sure and heavy croppers; these may be succeeded by Keen's Seedling, Vicomtesse Hericart de Thury, Sir Joseph Paxton and President; La Grosse Sucrée is also a good one. The large kinds, such as James Veitch and Sir Charles Napier, are also very useful for later work, and make good dishes of fine fruit.—*Alfred Gaut, The Gardens, Copped Hall, Totteridge.*

TABERNÆMONTANA CORONARIA FLORE PLENA.

For elegance and chastity in flowers, the plant under notice will hold a foremost position. The profusion with which quite young plants will flower, will always cause it to be a favourite; large plants yield flowers that may be counted by hundreds, and will keep up a succession for a considerable time. The flowers being pure white are extremely useful; they are delicately scented (not nearly so powerful as the Gardenia), and being double they are used by florists for bouquet work, and are highly appreciated.

As a rule, ordinary stove temperature suits it to grow in, and a soil composed of equal parts peat and loam, with a fair mixture of sand added. During the period the flower buds are swelling for opening, doses of manure water may be given with advantage, which has the effect of adding largely to the size of the bloom, and keeps the foliage a good dark green colour.

After flowering, a short season of rest is advisable, when the plants should be re-potted and allowed to make their growth before the autumn is too far advanced. The flower buds will be made at the same time, which remain dormant through the winter season.

I have seen this plant grown on a cooler principle, and allowed to stand quite cool all winter—in fact, to lose its leaves and become quite dormant. The gardener in charge told me they always flowered very profusely in the summer season under this treatment, and that the flowers were much stiffer in texture; but no mistake must be made here, as these were very large plants, not young ones, and well established, with stems as thick as good stout walking-sticks.—*W. G.*

CHARLOCK.

BESIDES this name, and that given by Mr. W. J. Murphy (p. 650), Field Mustard is another and very appropriate appellation of *Brassica (sinapis) arvensis*, a veritable pest of the corn-field in some districts. However ironical it may seem, the fields so infested are a beautiful sight when it flowers in June or July, according to the district where it grows, and the season. When the fields are under grass, little or no Charlock appears at all, owing to its annual character, and to the fact that it is essentially an inhabitant of the ploughed field, thriving admirably, and reproducing itself with astounding rapidity, because the loose condition of the soil is favourable to its well-being, and its wilding competitors are fewer.

When the grass field is again ploughed up, the Charlock makes its appearance as formerly, proving that its seeds remain dormant for a considerable period when buried too deeply for germination to take place. There can be little doubt that seeds often reach a greater depth in the soil than the plough goes, which turns them down, and consequently, fields that have been rigorously attended to in the matter of weeding out the Charlock, again produce a prolific crop of the pest when they have been ploughed deeper than usual. Rain and worms would be instrumental in carrying down the seeds into the holes of the latter.

ERADICATION is most easily effected where land is cropped with Turnips, Beet, Potatoes, Beans, or any

other crop where the plants are grown in lines, and so admit of hoeing, or otherwise cleaning. Fallowing the land would also be a certain remedy, stirring it, and destroying several crops of Charlock in a season. The cost of labour would, however, be a serious item, besides losing a crop for the season. In corn-fields hoeing either by hand or horse power is impracticable, so that the cultivator should have recourse to hand-weeding. If done by careful workmen before the corn is too far advanced to be injured by treading, the number of seedlings may be considerably diminished from year to year.

Preventing the seeds from ripening would also be a sure remedy if practicable in the case of all annuals. Machines have been invented for stripping off the heads of such composites as *Chrysanthemum segetum*, *C. leucanthemum*, and others; but a machine that would strip or cut off the flowers of Charlock would also materially injure the Corn, so that weeding, after all, for this kind of crop is the most satisfactory, even if it is the most tedious. Steam-ploughing has been recommended as a result of the experience of some Aberdeenshire farmers, whose fields are annually much infested with Charlock. The soil is deeply stirred by the plough, while the lower part of the furrow is not turned up, so that a fresh crop of weeds resulting from deeply-buried seeds was impossible, although by the ordinary plough this is the case.—*A Northman.*

I FEAR there is no way of getting rid of Charlock such as Mr. W. J. Murphy asks for, but the one he wishes to avoid, *i.e.*, that of trampling down the Oats, in order to pull out the Charlocks. Clipping off the flower-heads before fertilisation is effected with a pair of garden shears or scissors is another way; but, here again, the angle of the shears must be nearly straight, so as to avoid cutting the Oats, and whichever plan is adopted it is a slow and tedious affair. In fields where Charlock seeds are suspected, crops, such as Potatoes, Turnips, or Lentils, and Oats, mown green, will in time get rid of them. I believe, with Mr. Murphy, that these seeds preserve their vitality for many years; indeed, I have heard old farmers cite instances where they have been compelled, as a last resort, to lay down the fields with grass in order to kill the weed, and when ploughed up at twenty years end they have grown up as bad as ever, especially so in sharp soils.—*B. L., Lindley, June 20th.*

NEW PLANTS CERTIFICATED

By the Royal Botanic Society.

June 15th, 1887.

RHODODENDRUM LUTEO-ROSEUM.

The leathery evergreen leaves of this species are oblong or obovate-oblong and shining; flowers of a delicate or soft rose colour changing with age; tube short, with a five-parted revolute limb; the delicate rose tint of the flowers is their most striking character. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

ADIANTUM CAPILLUS-VENERIS MARIÆSII.

This is a free-growing form of the type, with long, arching, slender fronds of a fine green colour; the ultimate segments are long and wedge-shaped. For decorative purposes it will prove very useful. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

DIPLAZIUM HIANs.

The fronds of this species are about 15 ins. or 18 ins. long, ovate or sub-triangular in outline and two to three times pinnatifid or cut. From the leathery character of the fronds they would evidently stand the temperature of a room well. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

JUNIPERUS CANADENSIS AUREA.

The growth of this form is of dense compact habit, and the young shoots and expanding foliage are more or less of a golden yellow tint. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

ABIES CANADENSIS ARGENTEA.

The ordinary form of the Hemlock Spruce, generally known in botanic gardens as *Tsuga canadensis*, is very ornamental in itself, but in this variety the young expanding foliage, and shoots at least, are of a silvery grey colour. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

ABIES EXCELSA MUTABILIS.

A fine pyramidal tree of this was shown and pre-

viously certificated at South Kensington. The expanding foliage and young shoots are of a fine yellow colour. Exhibited by Messrs. James Veitch & Sons. Botanical Certificate.

THUJA GIGANTEA AUREA.

In this form we get a colour obtained long ago in *T. orientalis*. The tips of the branches and the leaves are of a light but distinct yellow colour. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

ILEX AQUIFOLIUM INSIGNE.

If this proves hardy it will be a decided acquisition, with lanceolate, acuminate, spiny, serrate leaves, attaining a length of several inches on good-sized plants. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

SEQUOIA SEMPERVIRENS ALBA SPICA.

The slender stems and branches of this tree are of a pale but distinctly yellowish white colour when making their growth in early summer. This adds greatly to the effectiveness of an already very ornamental tree. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

ODONTOGLOSSUM CRISPUM, BLAIR'S VAR.

The sepals and petals of this variety are heavily blotched or splashed with pale chocolate-brown. The lip is also more or less heavily marked. Exhibited by Mr. Blair, The Gardens, Trentham. Botanical Certificate.

DENDROBIUM POLYPHLEBIUM.

Considering the parentage, the flowers of this hybrid are large. Sepals and petals are rosy purple, and the lip is heavily striped with the same colour, having a creamy white margin. The parentage is *D. Pierardi* × *D. Parishii*. Exhibited by R. B. White, Esq., Ard-darroch, Garlochhead. Botanical Certificate.

VIBURNUM PLICATUM.

This is an extremely useful and ornamental garden plant, with ovate plaited leaves and huge masses of enlarged but sterile milk-white flowers. Exhibited by Messrs. J. Veitch & Sons. Botanical Certificate.

CATTELEYA MENDELII LIMBATA.

The sepals and petals of this fine form are of a warm rose colour. The labellum has a large rich purple lamina, and this colour is continued round the margin or mouth of the tube, which gives it a very distinct appearance. Exhibited by Mr. Bethell, gardener to the Duke of Marlborough. Botanical Certificate.

CATTELEYA MOSSIE, DARNELL'S VAR.

The sepals of this form are pale pink, and the petals are wavy at the margin but of the same colour. The margin of the labellum is also undulated and crisped, and the lamina is furnished with a large rich purple blotch. Exhibited by Mr. G. E. Elliott, gardener to F. Darnell, Esq., Devonshire House, Stamford Hill.

ODONTOGLOSSUM CRISPUM ALBENSE.

Both sepals and petals of this variety are very broad, the latter being deeply cut at the margin. They are heavily blotched with pale brown in the upper part, which gives place to a purple tint on the lower half. The ground-colour is white. Exhibited by Messrs. F. Sander & Co., St. Albans. Botanical Certificate.

MASDEVALLIA HARRYANA GRANDIS.

The flowers of this form are unusually large, and of an intense crimson-red colour; but according to the incident rays of light the colours seem variable, and show a slight flush of orange. Exhibited by Messrs. F. Sander & Co. Botanical Certificate.

COLEUS JUBILEE.

This variety is bold and distinct, with large ovate-crenate leaves of a deep bronzy black colour, with the exception of the centre and principal nerves, which are of a bright red, often irregularly blotched with yellow. Exhibited by Mr. William Chitty, Stamford Hill. Floricultural Certificate.

SHOW PELARGONIUM MARION.

The two upper petals of this fine variety are of a deep velvety maroon, while the other three are soft rose-coloured with a white eye. Exhibited by E. B. Foster, Esq., Clewer Manor. Floricultural Certificate.

BEGONIAS.

DUKE OF EDINBURGH.—The male flowers of this variety are freely produced, and of great size, with round sepals, especially the two outer ones; of a deep crimson colour, and producing a fine effect.

DUCHESS OF EDINBURGH.—The whole flower is of a soft orange-scarlet colour, and very effective. In their rounded outline they approach the florists' ideal.

PRINCESS LOUISE.—The white forms have improved gradually from time to time, until in the present variety they are of good size and substance. The sepals are broad, rounded, and slightly undulated at the margin.

SCARLET PERFECTION.—Double Begonias continue to improve, and this is one of the finest scarlet forms. The outer sepals are much longer than those which fill up the centre of the flower. It is, however, an excellent variety.

TERRA COTTA.—The undulated sepals of this showy double remind one, at a casual glance, of a Hollyhock. The whole flower is quite full, semi-globular, and of a fine rosy scarlet colour.

MARGINATA.—This showy variety is characterised by the presence of two distinct zones of colour in the flowers, which are double. The outer sepals are of a delicate rosy pink colour, while those in the centre are white, but vary in the extent of the flower they occupy, or with age.

ALBA MAGNA.—The flowers of this form are double white, and of great size, as the name implies; but the most striking feature is the presence of several small centres, around which the sepals are arranged.

PRINCESS ROYAL.—This is another fine double white, with a slight tint of yellow in the centre; but this would probably fade away as the flower gets fully expanded.

MRS. APTHORPE.—The delicate Carnation or soft pink colour of this fine double we frequently find amongst the garden forms of the Carnation. The flowers are very large, with a small white centre. The above nine were exhibited by Messrs. John Laing & Co., Forest Hill, London. Floricultural Certificates.

FANCY PELARGONIUMS.

IONA.—As exhibited this was very dwarf and free-flowering. The two upper petals are deep rosy red, the others being suffused rose and violet on a white ground.

AMBASSADRESS.—All the petals of this variety are of a lively bright rose, with a white eye to the centre of the flower. The plant is dwarf and floriferous. Exhibited by Mr. Charles Turner, Slough. Floricultural Certificates.

SHOW PELARGONIUM DUKE OF CLARENCE.

For description, see South Kensington report. Exhibited by E. B. Foster, Esq., Clewer Manor, Windsor. Floricultural Certificate.

PYRETHRUMS.

MERRY HAMPTON.—This is a single of considerable merit, owing to the distinctness of its intense red, almost crimson, rays. The disk is bright yellow.

FLORENTINE, MAGICIAN, APHRODITE, AND FIGARO.—For the description of these four double varieties, see report of last meeting at South Kensington. Exhibited by Messrs. Kelway & Sons. Floricultural Certificates.

GARDENING NOTES FROM SCOTLAND.

Black Hamburg Vine at Auchmore.

—At Auchmore, near Killin, the property of the Marquis of Breadalbane, there is a Black Hamburg Vine, which occupies about double the amount of space of the famous Vine at Hampton Court. It was planted about 1831, and has a girth of stem of 1 ft. 10 ins., rises 6½ ft., and then branches right and left to the extent of 103 ft. each way. From these main rods, secondary canes break at 4 ft. intervals, and these run to the top of the house, about 17 ft. Since 1879 the gardener, Mr. Caut, has kept a record of the number of bunches cut off green, and of those which came to maturity, and the figures this year stand as follows:—Taken off green, 2,018 bunches; coming to maturity, 530 bunches; total 2,548. The average weight of the bunches is about 2 lbs.

Vermin on Fruit Trees.—The present season is such as one would have expected to have been visited by swarms of vermin of various kinds, such as black and green aphids, caterpillars, grubs, &c.; but that has not been our misfortune yet. Several syringings with

a mixture of Pooley's tobacco-powder, sulphur, and soft soap before the blossoms of the trees opened has done a deal to ward off the enemies. On walls we notice the remains of the applications are still visible, and no doubt have made the quarters the reverse of tempting for insect life. On young trees it is particularly desirable to keep growth unmolested, so that the full dimensions of the tree may be attained without let or hindrance. Often, for the sake of a few fruits, the tree has to take its chance and lose time. We would prefer to let the fruit go in order to get the trees established, and then get them to produce crops. As the vermin attacks the points of young growth, there is comparatively little harm done to old trees if there is no wall or other space to fill up. The injured points may be nipped off and the remains fastened close to the walls. Such stopping suits Apricots, Plums, and Cherries well. We notice that some Apricots which have been treated thus of late years are clustered with fruit. Of course, the wood which is left to bear is fastened close to the walls. No outgrowing wood should be tolerated, especially in the north, where the ripening process moves slowly.

ON APRICOTS grubs may be seen curling in the young growths, and should be hand-picked as soon as detected. The vermin may be put into an apron, worn by the operator, tucked up forming a bag, and all the pickings carried to the rubbish heap to be burnt. A man who is active at his work can go over a large amount of wall space in the course of a few hours. Black-fly is found on the points of Cherries, and where they are carefully managed on the spur system, which we think is best for these, the points with the aphids may be picked off, acting as stopping; and in autumn, before the leaves drop, all the cutting which the Cherries require may be done. Young growths which are desired to form permanent branches may be dipped into vessels containing Tobacco-water mixed with a little soft soap to make the liquid stick. These growths should be put into their positions as early as possible, ripening of wood being of great moment, both for the health of the trees, and for fruit bearing next year and onwards.

GROSS WOOD is not desirable, and means, which we will revert to, must be put in practice to arrest its over vigorous progress. We are often consulted as to the reason why certain trees do not bear fruit. Inspection invariably shows that disappointment has resulted either from the destruction of foliage by vermin, or is a case of unnatural watery growth from the action of gross roots, destitute of fibre, growing rapidly into loose rich soil. Where lime is abundant, and used liberally in the soil—along with brick-rubbish, stones, &c., and made as firm as possible, this gross undesirable growth is not likely to take place. We have the best results, on Cherries especially, to show what can be done by root-pruning between June and September.—*Caledonian*.

Colouring of Fruit.—Exposure of fruits to light and air is universally agreed to be of primary importance in securing colour and flavour, and we hold that this should have attention as soon as the fruit is well formed and swelling. Plums often by this practice can be got from green and red to a deep purple next the sun. Peaches are always vastly changed in colour and general appearance by timely attention to exposure. We value ordinary standard-grown Peaches less than those trained to receive abundance of sun, because the former are in a great measure shaded by the branches of the trees which cannot be well placed to admit light. Thinly grown standard trees, of course, can be made to allow the sun to enter freely through them. It is admitted that black Grapes do better shaded than exposed to the sun. They certainly retain their black colour longer when shaded, but plenty of sun about the fruit during the swelling and ripening period is advantageous. Blue tissue paper can then be used to keep the fruit from the light. Those who do not tie down the young growths of their Peaches till the fruit is ripened lose much colouring matter.—*Caledonian*.

The Fruit Crops in Perthshire, this season, promise to be uncommonly good. I send you a sample of Cherries from a south wall at Mongie Castle, Crieff, which have had no protection and yet are nearly ripe. I do not know the variety, but it is ripening much earlier than I ever remember its doing before. Crieff has the honour of producing Scotch earthquakes!—*John Rhind*.

THE AMATEURS' GARDEN.

STONE FRUITS.—Notwithstanding the amount and beneficent effect of the rain that preceded the present spell of dry warm weather, there will be a general outcry for more before long, especially if the drought continues. Under the circumstances, it behoves all good gardeners, whether amateur or professional, to make a free use of the garden-hose, engine, or whatever other means he may have at command, to keep plants vigorous. To none does this apply more forcibly than to stone fruits, especially Peaches, Nectarines, and Apricots. Much of the disease and insect pests to which these trees are subject might be averted or kept in check by a judicious and free application of water in dry weather. During the so-called stoning of the fruit, dropping of the latter would be greatly prevented by a thorough watering of the borders at this time. Insects are liable to make their appearance just now in prodigious numbers, especially on the young and growing shoots. These may be removed shoot and all if not necessary for the extension of the tree; otherwise the garden-engine should be brought to play upon them.

RUNNERS, PEAS, &c.—Where a late supply of these is desirable or necessary, the latest sowings may now be made in suitable places. Late sowings are liable to be affected by drought, and Peas to attacks of mildew. In gardens where the soil is light, it would repay the trouble to take out shallow trenches, working manure into them if necessary, and sow Runners or Peas along the bottom. This will not only ensure a greater supply of moisture at the roots, but they may be heavily watered at any time, if necessary, by the garden hose. Early and second-early varieties of Peas only should be used now. In northern districts where the climate is moister, it is needless to sow thus late, as, except in unusually dry summers, growth generally holds out until frost or cold weather checks it.

HERBACEOUS AND ALPINE PLANTS.—Now is the season when a great mass of hardy subjects should be at their best. Timely attention will do much to prolong their season of usefulness and beauty. Staking of herbaceous plants in those cases where support is required, should not be delayed till the stems become twisted or are blown about by the wind. In such cases their pristine symmetry is never regained by subsequent staking, unless very carefully and tediously done. Stakes, of course, should have been prepared in winter, and now in readiness. Where done at all, it should be done neatly, as nothing is more liable to mar the effect of an otherwise well-kept garden, than rows of naked clumsy-looking stakes. They should not only be arranged in proportion to the size of the plants they are intended to support, but inserted in such a position as to be least conspicuous from walks, grass, or the beholders' standpoint.

Although the rockery is the best place for alpine in British gardens, it must not be forgotten that the atmospheric conditions of our climate are very different from those of their native regions. Exposure of those subjects that like sun, necessitates much watering in order to prolong the season of flowering during protracted periods of dry weather, such as has prevailed for some time past. Both on the rockery and herbaceous border, keep the soil well stirred or loosened up from time to time, which will greatly assist vegetation.

THE GREENHOUSE.—This useful structure and its contents are liable to be neglected during the present glut of hardy flowers; but at no season of the year is harm more liable to be done by a short period or even a day's neglect. In bright weather both foliage and flowers will be much benefited, and their season prolonged, by a shading of some thin material, such as tiffany, that may be rolled up some time in the afternoon, according to the aspect of the house and the amount of direct sunshine. Pelargoniums—both show, fancy, and zonal—have been flowering abundantly for some time, and in addition to shading should receive abundance of air night and day. This is necessary to prevent spoiling of the foliage and undue elongation and spindly growth of the stems. Hydrangeas, Fuchsias, New Holland plants, and countless odds and ends, are now flowering abundantly and well repay attention. Tuberous-rooted Begonias are becoming more and more recognised as indispensable for the summer decoration of greenhouses, and nothing is more satisfactory, both as to growth and the production of flowers, when kept as cool as possible, with abundance of air and shading during the hotter parts of the day.—*F.*

A JUBILEE BOUQUET FOR THE QUEEN.

THE immense bouquet of Orchid flowers prepared for presentation to the Queen, on the occasion of her Jubilee, by Messrs. F. Sander & Co., partook of the nature of a floral design, consisting of a globular mass some 5 ft. in diameter, surmounted by a crown wrought with yellow *Deudrobiums*, such as *D. densiflorum*, *D. suavisimum* and *D. thyrsiflorum*, the latter of which with its golden and white blooms occupied that part of the crown which should encircle the head. Amongst these *Oncidium macranthum*, *O. sphacelatum*, *O. ampliatum majus*, *O. Marshallianum* and *O. flexuosum* were interlaced.

The groundwork of the main body of the design consisted of an endless variety of *Cattleyas*, conspicuous amongst which were many forms of *C. Mossiae* and *C. Mendelii*. A notable flower was the white *C. Wagneri*, cut from a 300 guinea plant, and forwarded by Sir Trevor Lawrence. *C. gigas Sanderiana*, with its huge deeply coloured lip, and *Lælia purpurata* were also very conspicuous. In front of the design, and immediately over the ground-work of *Cattleyas*, were the letters V. R. I., representing Victoria, Queen and Empress. They were wrought with the orange-scarlet flowers of *Epidendrum vitellinum majus*, and each letter was a foot in length.

Into the groundwork of *Cattleya*, bold and prominent flowers such as *Brassavola Digbyana*, *Anguloa Clowesii*, *A. Ruckeri*, *Masdevallia Chimæra*, *M. c. Roezlii*, *Cypripedium Parishii*, and *C. grandis* were inserted. The whole design was beautifully relieved by leaves of *Odontoglossum crispum*, and a wreath of sprays of *Cælogyne pandurata*, *C. Dayana*, *Odontoglossum crispum*, *O. citrosimum*, *O. polyxanthum*, *O. vexillarium*, *O. maculatum*, *O. cordatum*, *Brassia verrucosa*, *Oncidium crispum*, *O. prætextum*, *O. hastiferum*, *Roezlii*, *Aërides Fieldingi*, and the white *Calanthe veratrifolia*. The design was photographed on Monday afternoon by Mr. Stevens, and presented to the Queen at Buckingham Palace on Tuesday, being exhibited in the vase won by Messrs. F. Sander & Co. at the recent Dresden exhibition. In all fifty-two different species of Orchids were exhibited.

SUMMER PRUNING OF FRUIT TREES.

IN all gardens of note, and where good crops of fruit are deemed important, summer pruning will now be receiving some attention; and in the interest of those whose experience in hardy fruit growing is limited, a few remarks on the subject may be of some assistance. At the outset it must be stated that the importance of the work cannot well be over estimated, as on it depends to a certain extent the well-doing of not only the current year's crop, but of that of the succeeding year, and which being the case, it behoves those most immediately concerned to exercise care and judgment, at the same time dispelling all preconceived ideas that the work consists only of shortening back the young shoots of all trees alike, and at one and the same time.

Peaches and Nectarines take the first place amongst stone fruits, both in regard to their value and as being the earliest to push into growth. If they have been properly attended to up to the present time they will have been disbudded twice or thrice, so that all that is necessary for the remainder of the season will be to nail or tie in, as the case may be, all young shoots required for next year's bearing as they advance in growth; and let us here recommend that a space of fully 3 ins. should intervene between each one. This will insure greater certainty of ripening the wood properly, and at the same time allow of sufficient room for the full development of the leaves, thereby producing strong and plump fruit-buds for another season. Vigorous young shoots will frequently push lateral growths, which must never be allowed to extend, but be pinched back to the first leaf—that is, on old and fully-established trees; but with younger ones the case is somewhat different, as the principal object should be to allow them to fill their allotted space and make good trees in the shortest possible time.

Apricots next demand attention, and all that is needful to be done to them is simply to cut back all breast-wood to three or four leaves, and to nail in young shoots for filling up vacant spaces which have been created by older branches dying off.

Plums, both wall-trained and pyramidal, I always

think should be left till the last week in June; and when the crop is under average and the trees in good health, it is advisable not to cut back the young shoots too closely; indeed, two-thirds of their length will be sufficient, the rest to be removed at the winter pruning.

Pears may be treated in much the same way, and as this system differs somewhat from the orthodox plan—or, rather, from that which is so regarded—I may be allowed briefly to state my reasons for advocating it. Given a strong healthy tree of either Pear or Plum, cut back all the young shoots not required for extending the trees, and what is the result? Why, simply that in nine cases out of ten many of the buds which should go to form flowering ones for the succeeding year will be forced into premature growth shortly after being subjected to this close cutting-back process; whereas, if they had only two-thirds of their length cut off the contrary would have been the case. Apples grown on the restrictive system may be treated similarly.

We now come to small fruits, but of these there are only two requiring our notice, viz., Gooseberries and Currants, and of the latter only red and white varieties, whilst of the first named only those trained to walls. Anyone who has not hitherto practised summer pruning as here advocated for Currants and Gooseberries would, I feel sure, after a first trial resort to the plan again. The young shoots are cut back about the third week in June to within four or five leaves of their base, and it only remains to be said that you will be rewarded by larger fruit and more of it than would be the case if they were only treated to the customary winter pruning.

—H. J. H.

HARDY PLANTS FROM TOTTENHAM.

A FINE assortment of herbaceous plants in flower comes from Mr. Thomas S. Ware, The Hale Farm Nurseries, Tottenham. The gorgeous effect produced by such gigantic flowers as *Pæonia albiflora* and *Papaver bracteatum*, might well kindle a love for them in those who have hitherto looked upon hardy plants with indifference. The flowers of the former are pure white, single, and over 6 ins. in diameter when fully expanded; the bed from which they were taken is now a glorious sight. If flattened out, the Poppy-flowers would be about 10 ins. across. *Papaver bracteata præcox* is an early variety. *Helianthus occidentalis* with large yellow flowers would appear to be the first Sunflower of the season; *Helianthus Inula glandulosa*, with orange-yellow flowers, is also a choice kind. The *Hemerocallis* are now fine, and amongst those sent was a large flowering form of *H. flava*, with clear yellow flowers; and *H. Dumortieri*, deep yellow, but heavily shaded with orange-buff externally. Both are excellent border flowers. *Pæonia officinalis lobata* is a deep crimson single-flowered form, which would be acceptable to some. *Lychnis viscaria splendens plena* is a deep rosy red double form of the German Catchfly, and a desirable plant at all times, whether for the herbaceous border or rockery. Another scarlet-red rock-plant of recent introduction is *Heuchera sanguinea*, the best of all the species, and destined to become universally popular. *Delphinium nudicaule* is better known, and a choice species whether for pot-work or planting out. The old-fashioned *Centaurea montana* is still a favourite and very useful plant for cut-flower purposes; the typical blue form was accompanied by the rose and the white—*C. m. rosea* and *C. m. alba* respectively. As a substitute for *Adiantum* foliage for mixing with these hardy subjects, what could be better than *Thalictrum adiantifolium*?

THE SEA HOLLY.

WHETHER planted on the rockery in the herbaceous border, or isolated by itself, the Sea Holly, *Eryngium maritimum*, exhibits great individuality of character when well grown. In most gardens where it does exist, that peculiar treatment is not accorded it which would reconcile it to its inland home, consequently, the state of health and vigour in which we often find it is anything but satisfactory. This is the more evident to those who have seen it in a wild condition on the broad sandy bents and flats on the southern shores of this island, the Isle of Wight, and many places on the west coast.

Its penetrating far-searching roots extend to great depths amongst the sand, otherwise they could not sustain the plant in a flourishing condition on the barren wastes, where it is evidently quite at home and

happy. The rigid nature of the leaves and their glaucous hue have, no doubt, reference to their surroundings, and the unavoidable exposure to which they are subject on the surface of dry burning sand. The spiny nature of the foliage serves as a protection against browsing animals, which would be liable to destroy them where other vegetation is so scanty. Besides the decidedly glaucous leaves, the floral bracts, or involucre leaves, assume such a depth of the steel-blue colour, so characteristic of this genus, under the above-mentioned conditions, that something in the same way might be attempted in the cultivation of the Sea Holly in inland gardens.

When grown at all, how frequently do we see a small piece huddled away amongst other herbaceous plants, enjoying but ordinary treatment, and liable to disappear altogether from the roots being placed in heavy loam or clay. The effect of this system of dot-planting is altogether lost in the case of the Sea Holly, which, to show its best character, should be grown in a bed or mass. In order to favour the glaucous colouration and the peculiar blue tint of the foliage, the natural soil should be removed to a depth of from 18 ins. to 24 ins., and replaced by that of a very sandy nature. Cultivators in the neighbourhood of the sea would be able to obtain sandy material of the most suitable and natural description. Unless in the case of low-lying and particularly wet subsoil, no further drainage should be required than that afforded by the sandy soil introduced. Before they have thoroughly established themselves by sending down long roots, the plants will require frequent watering in continued dry weather. After this has taken place, however, they will be beyond the reach of harm, and require no special attention.—B. B.

RHODODENDRON COUNTESS OF HADDINGTON.

THE subject of our illustration was a fine untrained specimen which flowered a short time ago in the conservatory at Devonhurst, Chiswick, and was photographed by Mr. Charles Henwood, Chiswick. The Countess of Haddington is a hybrid obtained by crossing *R. Dalhousiae* with *R. formosum*, generally known in gardens as *R. Gibsoni*. The flowers are of great size, bell-shaped and somewhat elongated, of a delicate pink when they expand, changing to bluish-white. The leaves are evergreen, oblong, leathery, strongly ciliated at the margin, and dotted on both surfaces with scales when young, but ultimately smooth or nearly so. The plant is grown in a pot, and is 9 ft. in height, by 7 ft. through, and produced about 150 flower heads, carrying in the aggregate about 500 of its handsome blooms. Mr. Wright, gardener to E. H. Watts, Esq., attributes the fine set of bloom to the fact that it was retained in the conservatory last year, instead of being placed in the open air with similar subjects. Already a few of the more forward buds are setting for next year's display.

PASSIFLORA CONSTANCE ELIOTT.

THE numerous species and varieties of *Passiflora* would be more popular, but for the fact that the flowers remain in perfection for so short a time. The only good quality which makes up for this shortcoming is, that they yield flowers in abundance for a very considerable period of the summer and autumn months, after the plants have reached a mature age to fit them to bloom freely. The variety under notice is certainly an acquisition to the many that are cultivated for greenhouse and conservatory climbers. It is described as a hardy plant, but the quality of hardiness must be tested by the part of the country in which it is planted. For instance, here, in north-east Lancashire, the plant would not thrive at all outside, whereas it might flourish extremely well in the midlands, or South of England, and never feel the effects of the variable English winters.

As a greenhouse climber it has proved its good qualities, these being freedom of growth and flowering. The flowers are produced in great abundance, of a pure white colour, and the perfume is delicious. This perfume can only be detected at certain times of the day, the most noticeable period being about the middle of the afternoon, or as soon as the sun begins to decline. I have sought for the scent on many occasions during the day, but I have never found it except

at this particular time. This appears to me to be as soon as the flowers have come to the highest state of perfection, and before they begin to close their petals for ever; for it is seldom the flower lasts longer than a day when grown under glass.—*W. G.*

JUBILEE BEGONIAS AT FOREST HILL.

A MAGNIFICENT display of tuberous-rooted Begonias, in endless tints and variety of colour, is now the all-absorbing feature at Messrs. J. Laing & Co.'s Nurseries, Forest Hill, London. An entire house is devoted to the cultivation of single varieties, and another to doubles, an inspection of which could not fail to surprise those who have not already seen them. The perfection to which this class of plants has been brought within a comparatively few years is in itself a monument of fame to the art of the hybridist and cross-breeder; and for this degree of excellence in a most useful and ornamental class of plants the horticultural world will, for all time, be indebted to the work done at Forest Hill.

It is impossible to do justice to the description of a tithe of the fine things—both as to size, colour, and form—now in splendid condition in the two houses just mentioned; but special reference, in the first place, to the “Royal and Jubilee Begonias” in this the Jubilee year would be most appropriate.

JUBILEE BEGONIAS.

Twelve of the very best double-flowered seedlings, raised at Forest Hill, enjoy this distinctive title; and to those who have not seen them a surprise is in store. There is no comparison between the first doubles that enjoyed the esteem of cultivators and the present race of large, perfectly double, and regularly-formed flowers that may now be had in almost all possible shades of colour at Forest Hill. In connection with these doubles, a most important and noticeable fact is, the naturally dwarf and compact habit, not only of the Jubilee doubles, but all others almost without exception. This is difficult to account for unless by special care in the selection of seed-bearing parents, from which new varieties are obtained. Their superiority over the singles in this respect is very great.

Alba fimbriata is a very dwarf, perfectly double, pure white, particularly distinct and noticeable from the deep notches and crenatures fringing the margin of every sepal. *Marchioness of Stafford* is a creamy white flower of great size, and noticeable from its being furnished with several rosettes or centres to each flower. The largest double white yet produced, named *Alba magna*, is comparable to a *Camellia*. Some varieties with two distinct shades of colour would doubtless be acceptable to many. One of these, *Mrs. Amy Adcock*, is of a fine salmon-red colour, with a white centre. A companion to this variety, named *Alba rosea*, has a perfectly double rosy pink flower with a white centre. Amongst self colours, *Lady Lennox* is a fine double yellow-flowered variety, resembling the yellow *Carnation*, *Pride of Penshurst*. *Jubilee* is a very large,

fully double form, of a fine rose colour and suffused with magenta. *Lord Loughborough* is an excellent variety, of a brilliant scarlet colour; and *Lord Randolph*, a full double flower of great size, is several shades darker, or crimson-scarlet. *Lillie and Little Beauty* are also charming varieties—the former being salmon-coloured, slightly tinted with rose, and having a white centre; while the latter is pink, or slightly paler in the centre. These twelve are well fitted to commemorate the jubilee year of Her Majesty's reign, and at the same time to mark the progress made in improving this highly ornamental class of plants.

ROYAL BEGONIAS.

There are only eight included under this title, and all

with rosy salmon, darkest at the margin with a lighter centre. Already the blooms measure 5 ins. to 6 ins. in diameter. The *Prince of Wales* is an intense crimson-scarlet, and the *Princess of Wales* a fine deep rosy pink. Both have large flowers and are remarkable for their breadth and roundness. The blooms of the former are also borne erect, showing themselves off to advantage. The *Duke of Edinburgh* is a striking dark maroon, self-coloured flower, and has been twice certificated. The *Duchess of Edinburgh* is also a self-coloured flower, yellow, but orange externally, which shades the yellow tint to some extent. This is common to many of the yellows, but detracts little from the handsome appearance of the flowers. *Prince Albert Victor* is an attractive flower of a brilliant scarlet colour, and, to complete the set, a handsome white variety—one of the purest and best—named *Princess Louise*, of large size and perfect outline, lends a charm to a group which, although small, would form a grand and valuable nucleus to anyone commencing the cultivation of these rich and gorgeously coloured flowers, that break out into apparently all shades and tints, except blue and violet.

Several other fine varieties, now flowering freely, might be mentioned here; and although, strictly speaking, not included amongst the list of Royal varieties, might conveniently be so, as the names are significantly appropriate. Her Majesty is a fine white flower, broadly margined with rose and perfectly orbicular in outline. A dwarf variety with dark foliage, named *Sulphur Queen*, has fine flowers of that colour. *Golden Queen* has rich golden yellow flowers and large handsome deep green leaves; it is one of the finest of its kind, and has been certificated. *Earl of Rosslyn* is a very floriferous variety with bright scarlet flowers somewhat shaded with orange, and the *Countess of Rosslyn* has erect, flat bronzy orange flowers of medium size, and white veined foliage similar to *B. Pearcei*. *Primrose Queen*, with primrose-yellow flowers, might also be added to the list of fine things, with large well-formed flowers.

NEW TYPES.

It would seem rather paradoxical to speak of new types in a class already so rich in variety, but it does

not yet seem that we have reached the limits the Begonia is capable of producing. Edged—or as they are called *Picotee-edged*—varieties will probably yet become popular when the public has become acquainted with them. We noticed a seedling of a delicate pink or blush colour distinctly edged with a soft rosy pink, and sharply toothed at the margin like a leaf, which is comparable in this respect to *Alba fimbriata* amongst the doubles. Another distinct variety was a white-flowered seedling with a broad pink margin resembling *Mrs. Petch*, which is simply a broader-margined form. This reaches a climax in *Charmer*, a truly charming variety, fully the outer half of which is a rich rose, with a white centre. A pale yellow seedling, margined with red, and having a large round flower, is also distinct. Crimson-flowered seedlings, with a white eye, are distinguished as *Forbes' type*. A fascinating and pretty variety not yet named is white, with a



RHODODENDRON COUNTESS OF HADDINGTON AT DEVONHURST, CHISWICK.

are figured in the beautiful chromo-litho sent out by Messrs. Laing & Co. last year. They are so entirely different from the doubles, both in habit and general appearance, that Begonias could be very indifferently represented without a goodly number of each. The stems are taller and stronger, the leaves broader, with blooms of such enormous diameter, that they seem to belong to a different type from the doubles. Most of the Royal varieties have already been certificated, some of them twice, and deservedly so. *Queen Victoria* is notable for the immense size of its orbicular flowers, some of which measure over 7 ins. in diameter towards August, when the plants have attained full size. They are of a deep rose colour, with a short globular mass of bright yellow stamens, which are, however, not very conspicuous. This has been twice certificated, as well as *Princess Victoria*, the latter of which has also fine blooms of enormous size, of a pink colour suffused

broad reddish salmon border; it is perfectly orbicular, and of medium size. Another new variety is a seedling with the variegated foliage of Pearcei, and French-white flowers, suffused with yellow. Various other forms of this type are characterised by shades of buff, orange, yellow and bronze, that seem to find numerous admirers. Torey Laing is one of this type, with richly-coloured foliage resembling *Anthurium crystallinum*; and an orange-salmon-flowered variety, with erect flowers, is also noticeable. What we should like to see improved and perpetuated are several seedlings with a decided fragrance of Violets or Roses. A dwarf form, with blackish maroon flowers, is comparable to the colour of Dell's Crimson Beet.

PECULIAR FORMS.

A striking feature of some varieties is the close resemblance they bear to the flowers of other genera, such as double Camellias, Carnations, Hollyhocks and Pæonies. Marie Mallet bears a close resemblance to the double-flowered *Narcissus poeticus*; and Pavillion Jaune, having double white flowers with a deep yellow centre, forcibly reminds one of the Eggs and Bacon variety of *N. incomparabilis*; the most remarkable of all is a double variety named *Viridiflora*. The whole is a strange and incongruous mass of partly petaloid bracts, sepals and leaves. Many of what should ordinarily be coloured in a double flower have developed into small green leaves cut at the margin like the true leaves. Another form has the female flowers double, consisting of a mass of petaloid sepals, multifid stigmas and numerous ovules on exposed placentas.

LATE-FLOWERING INDIAN AZALEAS.

SOMETIMES a good plant of a late-flowering Azalea is very useful for the summer exhibitions, and any variety that will keep its buds dormant till June, and then flower, may be considered useful for this purpose. I find that the following varieties will do so, and, although grown early along with the general stock, if kept cool during winter, show no tendency to come into flower along with the general collection, which flowers during April and May.

Early-flowering Azaleas are extremely useful, as they may be induced to flower at a season when flowers are scarce, and also much more sought after than what flowers are in the present month of June. Your readers may think me a little presumptuous in calling attention to these varieties, that may be of interest to only a few—persons who would want such plants for exhibition purposes—as the bulk of Azaleas will be now over, and houses will be filled with *Pelargoniums* and kindred plants. There are but three varieties to which I wish to call special attention, being all distinct in colour, and may be relied on for June flowering. I attach name and description.

Funny Ivory.—Good habit, flowers of a large size, colour salmon-red, richly spotted with purple.

Madame Gloner.—Flowers pure white, broadly campanulate, arranged in dense clusters, very free, habit of plant good; extra fine variety.

Reine Marie Henriette.—Soft salmon colour, white edge, upper petals marked with deep carmine spots, very large and fine; habit of plant close.—*W. G.*

[Our esteemed correspondent sends us some sprays of Azalea, which, considering the lateness of the season, are very fine both in respect of size and substance. Madame Gloner is a very pure white, with the exception of a pale yellow tint at the base of the upper segment, and it shows a slight tendency to become double. Another variety is of a milk-white, but larger and of greater substance; the name of this has apparently not been sent. Madame Marie Henriette is something in the way of the old Criterion, with the same spotting, but a larger flower and shaded with a much deeper pink colour. Fanny Ivory is of a peculiar shade of red, with a purple blotch, contrasting strongly with all the foregoing.—*Ed.*]

SNOWDROP WINDFLOWER.—Amongst the medium-sized species, *Anemone sylvestris* deserves to be grown in a broad patch or mass, for the fine effect produced by its large slightly nodding satiny white flowers. Internally the white is purer, and the broad cup-shaped blossom measures about $1\frac{1}{2}$ ins. in diameter and is fragrant. Owing to the somewhat rambling nature of its underground stems, it should not be cramped for space, but allowed to develop freely. Flowering plants may be seen on the rockery in the gardens of the Royal Horticultural Society, Chiswick.

HERBACEOUS AND ALPINE PLANTS IN FLOWER.

HOUSTONIA CÆRULEA ALBA.—Those who are fond of English names have a choice of adopting either "Bluets," "Blue Bonnets," or "Quaker Girls." These names, however, are most appropriately applied to the normal blue form. The white variety, for some reason or other, is, however, the most common in British gardens, and flowers continuously, or almost so, throughout the summer. A fine lot of it is to be seen at Sir W. Bowman's seat, Joldwynds, Dorking.

SAXIFRAGA ARETIODES.—Until recently the Primrose-coloured variety, *S. a. primulina*, seemed most common in gardens, but the bright yellow-flowered typical form may be seen on the Saxifrage rockery at Kew, keeping company with the paler form. The flowers are produced in a dense corymb on peduncles only about 2 ins. in height, and the linear leaves are densely aggregated on very short stems.

GENTIANA VERNÆ.—Fine patches of this brilliant blue Gentian may now be seen in many gardens. The best conception that can be obtained of the peculiar intense blue occurring in many members of this genus, is to see a mass of it when the sun is sufficiently warm to open the flowers fully. In dull or sunless weather they close.

VIOLA BIFLORA.—This pretty little Violet is a native of the Alps of Europe, and was introduced to British soil in 1752. The flowers are small, bright yellow and produced in pairs (suggesting the specific name), on stems about 3 ins. high. It is flowering freely in the herbaceous border at Pendell Court, Bletchingley, and has reniform leaves similar to those of our native Wood Violet, but paler green.

EUROPEAN GLOBE-FLOWER.—It is almost unnecessary to add the botanical name, *Trollius europæus*, but such is the name of a showy and useful herbaceous plant that enlivens the upland moors of some parts of this country with its large, globular, soft yellow flowers. Under cultivation it appears to vary, giving rise to slight differences that are noticeable yet difficult to distinguish. Several forms are to be seen in the borders at Pendell Court, Bletchingley.

PEONIA MOLLIS.—While rather difficult to distinguish from *P. officinalis* and *P. peregrina* by botanical characters, its general appearance in a growing state is very distinct. The broad much cut leaves are glaucous, very hairy, or villous, and densely arranged on short stems that terminate in a solitary rose-coloured flower. It is single, and not to be confounded with double-flowered forms of *P. officinalis* and *P. albiflora*, all growing at Merton Lodge, Chiswick.

GREENWEED.—Amongst the various species of *Genista* probably no one is dwarfer or more suitable as a subject for carpeting a bank or fringing the stones in the rock garden so as partly to hide them than *G. pilosa*. A fine spreading patch about 1 yd. in diameter in vigorous healthy condition is now covered with a profusion of its yellow Pea-like blossom, and closely hugs the ridge of a mound at Joldwynds, Surrey. It is a British plant, but by no means common.

SCARLET GEUM.—That which is figured in the *Botanical Register*, and which is usually seen in gardens under the name of *G. coccineum*, is really *G. chilense*, a native of Chiloe on the south-west coast of South America. The true *G. coccineum* is a native of Greece and Asia Minor. The inflorescence is paniced, bearing scarlet flowers, and the leaves, which are mostly radical, are interruptedly pinnate. There is a double form pretty frequent in gardens, and both flower throughout the summer if kept growing; they are amongst the best ornaments of the herbaceous borders.

GILIA MICRANTHA.—Although only an annual, this Californian plant might with propriety be introduced in patches in the rock garden, where, if not too thickly crowded, it would keep up a fine show during a great part of the summer. In the typical form the flowers are rose-coloured, but it varies with a great profusion of tints, and a fine golden form is named *G. m. aurea*. *Leptosiphon* is the commonest name in gardens, and the golden yellow variety is generally treated as a distinct species. The usual range in stature is 6 ins. to 9 ins., but is often dwarfer and very floriferous.

THE BAVARIAN GENTIAN.—Few plants have a more dazzling effect in fine sunny weather than the blue

Gentians, and the present one, *Gentiana bavarica*, is one of the best, comparable in habit and size to *G. verna*. The stems do not exceed a height of 3 ins., and bear a solitary intense blue flower of ten segments, the five alternate ones being smaller. It is by no means plentiful in this country, although originally introduced as early as 1775 from the mountains of Central Europe.

SAXIFRAGA CALYCIFLORA.—Lovers of choice rock-plants will derive great satisfaction from this Pyrenean Saxifrage, even if a little extra attention is necessary to see that it does not fare badly by the encroachments of its more rampantly-growing neighbours. The leaves are in firm dense rosettes, and the short stems in the upper part are purple, together with the calyx and corolla. Increase is slow, but the plant produces perfect seeds in this country, from which seedlings may be raised and grown into beautiful compact little specimens with a small amount of care.

THE INDIAN STRAWBERRY.—In *Fragaria indica*, we have a plant combining within itself characters of a diversified kind. The trailing runners bearing here and there solitary yellow flowers, resemble a *Potentilla*; the fleshy receptacle is that of a Strawberry; and the achenes, or seed-like fruits, are generally more or less distinctly fleshy, resembling those of a Raspberry. Planted on a dry bank it outlives all but our severest winters, and proves very ornamental all through the summer from the novel appearance of its trailing stems, yellow flowers and deep red fruit.

GARDENING MISCELLANY.

Stocks for Bunching.—A neighbouring market-gardener grows every year large breadths of Stocks—crimson and white mainly, and a few purple—for bunching. Generally the seeds are sown in frames, and then transplanted to the open ground. This course was adopted in 1886; but dry weather set in almost immediately after the little plants had been put out into the open ground, and hundreds of them perished. This was so disappointing that my neighbour thought he would sow the seeds in the autumn, and this he did in the open ground. By November he had a long bed of Stocks in three colours—nice stocky stuff, that I am sure he must have looked upon many a time with pride and satisfaction. Then followed snow and hard frost, with cruel nipping winds, and every plant was destroyed by March—not one survived. My neighbour was no worse off than many others, for there was a sad destruction of Stocks everywhere, and from all parts of the country I have heard the same account. My neighbour again sowed in the spring on the open ground, and at the present time he has a fine growth of Stock plants that I presume he will plant out to take the place of Lettuces which he is now sending to market. But he will doubtless wait until "dripping" or showery weather sets in, and then they will grow with all despatch. They will be late it is true, but I have no doubt that at any season of the year bunches of Stocks will command a ready sale.—*R. D.*

Guelder Roses.—These are to be seen in the markets in large bunches of snowball-like flowers, and they command a ready sale. They are known in the trade as "Snowballs," and though the sprays of blossoms are plucked from the trees in a very rough fashion, I am told that it does them no harm in the direction of affecting the production of flowers another year. Fresh growths are quickly formed, and flowering shoots are formed which will yield a harvest of bloom in May and June following.—*R. D.*

Judging at Flower Shows.—Your leader of last week on flower show elements, leads me to address you on the subject of judging at flower shows, with the idea of arriving at some right conclusion of what to show and how to show it. Would it not be possible to have some general canons laid down as to what prizes should be adjudged for. At some shows everything is given for quantity not quality; and at others, for quality not quantity. I am an amateur, and have successfully competed—especially with tuberos Begonias—at Bath and Cheltenham, besides local shows. Last year I took some exquisite plants of the latest novel kinds to Bath, and was given second to some larger plants of old-fashioned varieties, which I had discarded years before, and which consisted of but

three colours, while I showed the six perfectly distinct. I should like to know whether quality or size should be preferred; also whether singles or doubles. I prefer doubles on all accounts, especially as they travel better. Again, at a local show I showed some zonal Pelargoniums, trained like "big pancakes," which you deprecate, but which is the way everybody round here at the best shows train them. I was beaten by red and white Vesuvius, &c., although I had Pearson's novelties, with big trusses and pips from 2 ins. to 2½ ins. across. Now I am going to show in three classes, Begonias at Cheltenham, and probably in Begonias and zonals at Bath. I am from twenty to thirty miles from each place, and, of course, my stowage is limited, so that I cannot take two lots of each class, and I do not know which to take. If I take all Laing's Jubilee Begonias I may be beaten by some trumpery stuff grown 6 ft. high. If I take Pearson's last lot, I may be beaten in Pelargoniums by some ten-year-old plants in tubs. Well, the drift of this is, cannot you get some competent judges to agree, and lay down some set of rules that should bind the judges at all shows; so that these rules should be as well known as the Marylebone cricket rules, and be printed in every schedule. By the way, is it not correct to train Pelargoniums like big pancakes any longer?—*Heath End.* [The question raised by our correspondent is an important one, and the subject has often been discussed, but without doing much good. In the case of flowers, fruits, vegetables, &c., it would be impossible to lay down any hard and fast rules for general adoption, as under any circumstances the individual opinions and inclinations of judges will prevail. Judging is not an exact science, and it is not every man who has the critical faculty sufficiently well developed ever to enable them to become good judges, and thereby efficient teachers of those needing instruction as to the best models and types and the leading qualities generally of the things they grow. Local exhibitors, whose productions are judged by local men, soon get to know the latter's weakness, and act accordingly. The same thing takes place also at the larger London and provincial exhibitions, where the judging is done by better-trained and more experienced men, and where, consequently, a higher standard of merit prevails and fewer mistakes are made. Novelty should undoubtedly be a strong point in estimating the merits of different productions, but in combination with other qualities, such as size, neatness in training, profusion of good flowers, or perfect development of healthy foliage, all of which afford evidence of skill in cultivation. If novelty only was considered, an end would at once be put to all inducements to grow plants skilfully.—*Ed.*]

Scarlet Runners in Market Gardens.—I have recently been much interested in watching the method adopted by a neighbouring market gardener with his Scarlet Runners. The seeds are sown in 48-size pots in early spring, and they are put into dung-heated frames, where there is warmth enough to cause them to germinate, and as soon as the plants begin to make shoots they are hardened off in cold frames, and planted out in the open ground about the last week in May or the first week in June. The ground in which they are to grow is previously well manured and deeply ploughed, then harrowed down fine and slightly rolled; then a labourer takes a 1 ft. dibber, one of those which was so much in vogue for planting Potatoes thirty years ago, and with the aid of his foot, presses it into the soil, making a hole that will take the contents of one of the pots. Another follows, and plants the Scarlet Runners without disturbing the ball. Then some days after the soil is drawn up about them, and three stakes, about 4 ft. 6 ins. long, are planted to each clump (one to each plant), and they are drawn in together at the top and tied; the bine of the Beans soon attaches itself to the stakes, and, if the weather be moist and genial, they make a rapid growth. In this way a crop of Beans is had much earlier than from plants raised from seeds sown in the open ground.—*R. D.*

Campanula pulla.—For rockwork no better species than this can be grown, and none give a better conception of an alpine plant than this denizen of Eastern Europe. The flowers are terminal and mostly solitary, but are large for the size of the plant, bell-shaped, drooping and of a dark violet-blue colour. Notwithstanding the many years this choice species has been in cultivation, it does not seem to be so common or widely spread in gardens as that other pretty and choice species, *C. pumila* and its white variety

alba. If planted on a cool part of the rockery, the flowers will come into bloom somewhat later, but will keep a longer time in perfection. It may be seen at Chiswick in the gardens of the Royal Horticultural Society, in a frame with a north aspect, and also planted out on the rockery.

Erratic Laburnum.—The plant to which Mr. W. J. Murphy refers (p. 666), and concerning which Darwin commented in his book on *Animals and Plants Under Domestication*, is *Laburnum Adami*, a graft hybrid produced by Jean Louis Adam, of Paris, by shield-grafting *Cytisus purpureus* on *Laburnum vulgare*. This resulted in a mingling of the characters of the two species, producing a plant exactly intermediate between the two parents. The most remarkable fact concerning this artificial production is that branches or sprays of the same tree revert to either one or other parent. I have seen branches revert to the typical *L. vulgare*, which is more robust than either *Cytisus purpureus* or the hybrid. The latter is sterile; but branches reverting to *L. vulgare* produce not only fertile seeds, but seedlings raised from them in no way differ from those of a naturally-grown *Laburnum*. Branches bearing flowers of *Cytisus purpureus* on the hybrid tree I have not yet seen.—*Taxus.*

Campanula Portenschlagiana.—This remarkably pretty species of Bellflower, so suitable for pot or rock-work cultivation, is worthy of a simpler specific designation than the one botanically awarded to it. We are, however, so much indebted to German research in the matter of floriculture that it would, indeed, be strange if now and then German names were not appended to some of the gems of the vegetable kingdom. To those who prefer to label this plant in Latin, pure and simple, I would like to add that it may be so dealt with under the name of *C. muralis*, Wall Bellflower, and, in fact, is so grown in gardens generally. To English ears, undoubtedly, this latter title is preferable to the former as being more euphonious. But now to a brief description of the subject in question. The flowers, which are pale bluish purple, and bell-shaped in form with spreading segments, are produced in great profusion in terminal clusters. Indeed, to those unaccustomed to see this little gem, my pot plants have over and over again been mistaken for *Lobelias*, so full and freely is the bloom produced. Interspersed between this colour, and which, of course, tends to heighten it, are the delicate-looking leaves; these are small, and take on a variety of shapes—from ovate to reniform. I find 4½-in. pots ample for cultivation, and handy for moving about. The treatment it requires is of the simplest description.—*C. B. G., Acton, W.*

Vines with Barren Flowers.—Mr. Barron sent from Chiswick to the last meeting of the Scientific Committee, samples of flowers, some having the stamens spreading, which set fruit, others with the stamens reflexed, and which were always barren. Mr. Henslow reported upon a microscopical examination of the two kinds, and found that the pollen was shrivelled and utterly useless in the recurved stamens. Like those which remained erect after the corolla had fallen, they burst their anthers while in bud, but as soon as the flower has lost the corolla the filaments become reflexed. On examination of the stigmas, ovaries and ovules, nothing abnormal was revealed; so that if these flowers be dusted with the pollen from a normal kind, a spray being gathered just as the corolla is falling and shaken over the others, the probability is that they would set fruit. Such an experiment would soon show if the pistils were unaffected or not. It appears that these barren flowers occur on rods growing side by side with fertile ones, and may occur on any variety, so what is the inherent constitutional cause of the "contabescence" of the stamens would seem to be obscure. It is discussed by Darwin (*Animals and Plants under Domestication*, ii., p. 165), but he could not suggest a cause, though some plants—*Dianthus* and *Verbascum*—thus affected grew on a dry and sterile bank. Dr. Masters called attention to the researches of Engelmann and Planchon on this subject, as well as to his own observations at Chiswick several years since. A tendency to assume a diœcious condition seems to be general in all Vines, and is completely attained in the American species. Allusion was also made to corresponding phenomena in Strawberries.

Limnocharis Humboldti.—Those who are fond of aquatics would find in this Brazilian plant

one of the most beautiful ornaments for the tank of a stove. Those who do not possess a tank, or other large body of water, may grow the plant in a large pot or tub, using a smaller pot for the soil and the roots. The reniform or heart-shaped leaves are much smaller and less bulky than those of a Water Lily, and float on the water. The flowers are large and handsome, of a fine yellow with orange spots at the base of the petals. The nearest representatives amongst British plants are the Water Plantain, one of which is very common in ditches, ponds, and streams. With the aid of a stove temperature and water, the plant grows freely, and flowers from May to November. Mr. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley, had it in flower very early.

Hoya imperialis.—Some cultivators fancy one species of *Hoya*, and some another, either for the beauty of the flowers, their fragrance, or the profuseness of their flowering; but that under notice is truly a grand and noble plant, whose flowers are noticeable as much for their size as their peculiar bronzy flesh colour. It is probably more frequent in gardens than people generally are aware, from the fact that the production of flowers is of rare occurrence. It attempted to flower during the dull foggy days of winter at Gunnersbury House, Acton, but the buds dropped, while from the same axis, flowers have now expanded in all their beauty, and Mr. Hudson is to be congratulated upon his success. There is a figure of this noble species in the *Botanical Magazine*, t. 4397.

Euadenia eminens.—One of the most singular and interesting plants now to be seen flowering in the stove at Kew is a small specimen of the above-mentioned species of *Euadenia*, a West Tropical African plant of recent introduction. It belongs to the Caper family—a fact strongly suggested by the young fruit being carried out of the flower by a long stalk. What strikes the observer most, however, is the singularity of the two upper petals, which have been compared to a couple of gas jets. They are 3 ins. to 4 ins. long, arched over the flower, and sulphur-yellow at first, fading to a pale green with age. The other two petals are very small and inconspicuous; but the inflorescence occupying the whole upper part of the stem—and, indeed, the whole plant, for at present it is leafless—is very conspicuous with the two long petals arching on every side. The plant, moreover, is not only interesting but very ornamental for the stove.

Veronica salicornoides.—The great range of variety in the shrubby New Zealand type of *Veronica* is remarkable, and the more we see and know of them, the more desirable they become. Had they been somewhat hardier, so as to resist the occasionally severe winters with which we are visited, they would, no doubt, become common in every garden. The species under notice seldom flowers in this country, but a fine semi-globular bush, 12 ins. in diameter, in the gardens at Joldwynds, Surrey, flowered last summer in the open border; it is of a fine yellow tint, and at a little distance resembles a Golden Heath. Upon closer inspection, the small closely adpressed leaves remind us of the Saltworts of maritime marshes; and a literal translation of the specific name, shows that its author entertained the same idea. The species is much hardier than most others from the same country.

Iberis Gibraltarica.—Of all the hardy-perennial candytufts, perhaps this variety is the finest, and will hold its ground against those varieties that have been sent out since its introduction. The habit of the plant is dwarf and sturdy, and it adapts itself to almost any situation, making itself at home on the rockery (where it shows to immense advantage), or as lines along the edges of borders or beds. The flowers are of the purest white, the petals being much rounder in form than many of the other varieties. For floriferousness of character it cannot be surpassed, the closeness of the truss of flower, and the great quantity in which they are produced, render it a very attractive variety at this time of the year. It is worth growing in large quantity for the purpose of cutting, and it will strike freely from cuttings inserted on a shady border, or put in a frame along with such plants as *Violas*, *Pansies*, &c.; the best time to insert the cuttings being about the end of July or commencement of August. Two-year-old plants make a nice display in a liue, but to see the plant to perfection you must have large masses, when it brings out all the splendour of its habit and character.—*W. G.*

Cercis siliquastrum.—Whether we look upon this tree for the beauty of its flowers in early summer, the singularity of its orbicular leaves, or the bronzy purple and red pods in autumn, it is at all times full of interest. The rosy purple flowers bedecking the twigs and branches contrast beautifully with the bronzy shining green expanding foliage. Some interest also attaches to this tree from the fact that some believe it was that on which Judas hanged himself, while others state that the English name, Judas Tree, is simply a corruption of Tree of Judea, because it grows plentifully in that region. It is perfectly hardy in the southern parts of Britain, and a large specimen, about 30 ft. in height, at Gunnersbury House, Acton, has been an object of great attraction for some time. Judging from the swollen and knotty trunk of the tree, it must be very old.

A Cherry-time Monster of the Air.—So the birds are to believe. It is an improvement on the Potato stuck full of feathers, but which birds soon become accustomed to, finding it unpossessed of life. This present affair is anything but tame in looks and actions, and has been found effectual in frightening birds from Cherries and other fruits when other means have failed. For the body a long Mangel Wurzel or a large Parsnip or Beet—the uglier the better—is used. Into this feathers are thrust along what is to be the back and sides, with two set in the head end for horns. For the tail the feathers are mounted on light twigs, the object of this being to keep the suspended monster lively by turning with the wind. The eyes are important parts for giving a life-like appearance. These consist of two bits of broken porcelain, thrust into the root from the top downward, and with eye-holes gouged out of the sides to these. Two small spin-wheels are projected forward of the eyes, to add horror to the look. They are made of circular pieces of tin about 4 ins. across. These are cut from the edge to near the centre into about ten or more radiations, and the parts given a slight twist, windmill-like. A wire nail through the centre attaches each wheel to the end of a stick, and on this it should revolve in every slight breeze. For suspending it a cord which encircles the body is carried up to one end of a half hoop-shaped iron rod, the other end of which is bolted to a pole that is raised slightly above one of the trees to be protected. Then the monster bobs about and turns with the wind, the spin-wheels fly and chatter, and altogether there is a dreadful look to strike terror to evil-doing birds, even those disposed to boldness.—*Popular Gardening.*

The Prostrate Cherry Tree.—*Prunus depressa* is synonymous with *Cerasus depressa* and *C. pumila*, and constitutes in its natural state a low trailing or depressed shrub, of no great beauty as regards form, inhabiting the swamps and banks of rivers in North America, ranging from Canada to Virginia. Grafted standard high, however, on some of the stronger-growing Cherries, it forms a beautiful weeping tree, of small size, and distinctly ornamental character. The small white flowers are produced profusely on the twiggy shoots contemporaneously with the leaves, which add considerably to its effect as a garden plant. A fine specimen grown apparently on a stock of the common Cherry, or Gean of the woods (*Prunus avium*) may be seen at the Grange, Hackbridge, Surrey, on the banks of a small stream near the mansion. It is an old inhabitant of English gardens, but less seldom seen nowadays than its merits would warrant.

Rosa rugosa.—Some large bushes of this on the rockery at Chiswick are now gay with their large deep rose-coloured flowers. The rugose robust-looking foliage combines with the flowers in giving this species a very distinct appearance from Roses generally, but the huge deep red fruits that ripen in autumn, go a long way to make the plant a general favourite, even with those who are hard to reconcile to single-flowered Roses. *Rosa ferox*, of the *Botanical Register*, 420, is synonymous with this, and being a native of Japan, is perfectly hardy.

A Good Insecticide.—In a copy of the *Agricultural Gazette* which I have just seen, I find an article from the pen of Mr. Samuel Barlow, J.P., Stake Hill House, Castleton, Manchester, touching on the benefit derived by limestone soils through a dressing of superphosphate of lime, and also as an insect destroyer. It is in reference to the latter that Mr. Barlow's experience

is likely to be most useful to the readers of THE GARDENING WORLD. Having a field of Turnips badly infested with fly, Mr. Barlow was induced to try the experiment of dusting a few of the plants with superphosphate of lime, and he found that it destroyed the pest entirely. He then applied a dressing to the whole field, and there was an entire annihilation of the fly. He made an experiment also on some Pansies infested with slugs. They were large tufts of plants, spreading over a good space of soil, and they afforded an excellent refuge for slugs and other vermin. The foliage was lifted up, and a good dusting of superphosphate of lime was spread over the soil. Not only did it completely kill the slugs, but woodlice also. The result is that Mr. Barlow recommends a dusting of the superphosphate of lime over all plants affected by snails, slugs, &c., and he remarks: "The application is sure to be much more effectual than dusting with powdered quicklime, which changes to carbonate of lime on exposure to the atmosphere for a few minutes, and it is then harmless as a slug destroyer. I found by experiment that after superphosphate had been rained upon for ten hours it was still able to destroy slugs. The superphosphate used was the ordinary 26 to 28 soluble."—*R. D.*

Davallia Mariesii.—This elegant Japanese Fern, which was sent out a few years ago by Messrs. James Veitch & Sons, is one of the best Ferns we have for suspending either in pans or baskets in a greenhouse. A pair of excellent examples of it we saw last week in Colonel Puget's garden, at Totteridge, the pans being prettily covered with rhizomes, sending out finely-cut fronds in every direction; so grown it forms a very beautiful object for indoor decoration.

American Blight on Apple Trees.—Every Apple tree in my orchard (an acre in extent) is attacked by the American blight. I discovered it about five years ago, and I have used yearly either Gishurst Compound, Fir-tree Oil, Petroleum or Linseed Oil, with a stiff brush, but the pest is again appearing as bad as ever. Can you, or any of your contributors give me any advice? I should observe that some of the trees are old and others matured.—*E. H. F.* [If persevered with, the petroleum should have cleared your trees by this time. Try again; by scrubbing all the affected parts now with soft soap, and after the fall of the leaves, collect the latter and burn them, and then dress the trees with petroleum. The insect hibernates in the soil in winter, and some unslaked lime should be placed at the base of the stems about the commencement of the year. Perhaps some of our readers will give us the benefit of their experience.—*ED.*]

The Climbing Hydrangea (*Schizophragma hydrangeoides*).—In Col. Puget's interesting garden at Totteridge, this pretty plant has proved quite hardy for several years, and has covered a good space on the wall on which it is trained, and now bears many heads of bloom. Near by also is a good specimen of the yellow-flowered *Jasminum Wallichianum*, also flowering on the wall; and in the various herbaceous borders are many pretty and uncommon plants in bloom, mingled with such showy old favourites as *Papaver orientale*, *Irises*, &c., all of which get special attention from Mr. Diddams, the gardener.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CLIMBING PLANTS.—Amongst the multitudinous subjects claiming attention, climbing plants must not be neglected, or endless trouble is caused, and also much injury to the bine if allowed to become matted together. Such plants as *Passifloras*, *Bignonias* and other rapid growers need to have their growths regulated almost every other day to keep them in order; some care is necessary in the pruning away of superfluous shoots, so as to allow of the ripening of the wood, and also to avoid over-crowding. Some of the soft-wooded plants, which require annually pruning hard back, may be allowed to make more wood and so give a more abundant bloom. These plants arranged as to colour, carefully planted out on the back wall of a case in panels, with here and there a suitable *Fuchsia* intervening, form a most interesting object; but it is not in every place space can be provided for them. Still, in many of the older establishments they are to be met

with: that at Chatsworth used to be grand; the one at Eaton Hall, when I saw it some years since, promised well. Allamandas, if trained to the roof, must be kept well thinned out, as over-crowding of the growths is not conducive to full-sized flowers, which is what should be aimed at rather than the production of a mass of bloom; when planted in a suitable position they give an immense amount of flower which is valuable for cutting purposes when not required to travel far.

CHRYSANTHEMUMS should at once receive their final shift into flowering pots. These may vary according to fancy; if large specimens are required for conservatory grouping, three plants may be potted into a 12-in. or 14-in. pot; these will make a grand show, but for staging purposes no larger than a 10-in. pot should be used. In all cases the habit of each variety must be taken into account now, or annoyance will be caused when flowering time comes. All the Pompons will succeed much better if kept to 8-in. sizes; they are in every instance impatient of over-potting. Let the compost that is used be as sound as possible, the most suitable being composed of a strong loam, to which should be added a liberal sprinkling of bone dust; if of a clayey nature, some clean half-rotted leaf-soil may with advantage be used, always being careful that it is rammed firm, and that the balls of the plants to be potted are thoroughly moist. The plants should be taken to their summer quarters, half plunged at once, and a soaking of water given, after which, for some days, they will only require to be kept sprinkled overhead, through the rose, morning and evening.

IN THE GROVES care must be taken that such things as *Crotons*, *Dracaenas*, &c., do not become infested with insect pests; the syringe should be used morning and evening, and the paths and stages frequently damped down. Watering had much better be done in the evening now that such hot weather prevails, and extra shading should also be given.

THE FRUIT HOUSES.

RED-SPIDER IN VINERIES.—With the present tropical weather prevailing, much care is necessary in the ventilating and watering of the Vineries to ward off the attack of red-spider, which are sure to manifest themselves; we have entirely dispensed with fire-heat as a precaution in this respect, the night temperature being sufficiently high to keep the vineries comfortable. Frequent damping down is a necessity, or thrip will also be apt to make its appearance; should it do so, fumigating must at once be resorted to.

As soon as the fruit from the earlier houses is all cut, let the foliage be examined, and if not clean syringe with paraffin mixture; and afterwards the Vines should be kept syringed morning and evening, the house being thrown quite open, but the pruning back of the laterals had better be deferred for a time. The border should also be examined, and if at all approaching dryness, should receive a thorough watering, and if the Vines are at all weak, liquid or artificial manure should be given, which will be found to greatly benefit next season's crop; much neglect is usually shown in this respect.

Figs will require an abundance of water at the roots, and the syringe must be freely used (except where the fruit is colouring); the house should also be freely ventilated, but good use should be made of solar heat by closing rather early in the afternoon.

THE KITCHEN GARDEN.

WATERING must now be resorted to, and continuously while the intense heat prevails, or such crops as Celery, Cauliflower, Peas, Beans, and Salads, will be almost useless unless thus attended to. Much time may be gained if a good mulching be given between the rows of Peas and Beans, so as to prevent evaporation, or reduce it to a minimum. Strawberries, too, have suffered terribly, and we have been obliged to flood the beds to secure a crop; we have also watered the late sown drills of Peas, as they failed to make their appearance. We have sown Silver Skinned Onions for pickling purposes. Cardoons are making a good growth, but must be kept well watered, and being planted by the Celery receive similar attention. As much time as possible is devoted to hoeing the different seed beds, so as to keep the soil constantly stirred.

THE PLANTING OUT OF GREEN CROPS must of necessity stand over until rain comes, although much of it is sufficiently advanced. We have made a late sowing of Runner Beans, and also another sowing of dwarf French Beans. We have not yet singled out the second sowing of Turnips; the fly attacked them, but by sprinkling gas-lime between the drills they have disappeared.—*Walter Child, Crooms Court.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—Every year passed only serves to strengthen my firm conviction that the best Orchid growers are they who most carefully shade their plants against bright sunshine. Much as we may deplore the absence of sunlight during our dull seasons, nothing works greater mischief than the sun does on Orchids cultivated under glass when once it gains power. Every attention should therefore be given to see that all the houses are properly shaded, and that the blinds are always interposed to break the rays of the sun when it is shining. At the same time, care should be taken that the blinds are not let down before they are needed, or left down after the sun has gone off the house. Permanent shading painted on the glass never answers the purpose like roller-blinds; but where these cannot be used, or for any parts of the glass requiring to be shaded, and where the blinds will not reach, Williams' Eureka Shading is very useful. In many places the rain-water supply will be getting short, and as water from no other source is equal to it, economy should always be exercised in its use, reservoir or pond-water being utilised for washing out or damping down the houses, and the rain-water for the plants alone. Extra care should now be taken, and any tanks that are very low should, if they require it, be at once cleaned out ready for filling up when rain comes.—*James O'Brien.*

Cattleya Mendelii received its name in the sunshine of a May morning. The circumstance is not unworthy of putting upon record, since the history of this most admirable flower is not only of interest to Orchid growers in general, who always like to know where and by whom their plants were christened, but of very special interest to those who reside in Manchester. It has never before been given. We may be allowed, accordingly, to say that the plant was imported from Brazil in or about 1859, without flowers of course. It fell into the hands of Mr. J. R. Petch, then the head gardener at Manley Hall, and by him it was soon perceived, when the buds were opening, to be a novelty of rare promise. During the uprise of that May-morning sun, an hour—and with an emotion for a poet to talk of—Mr. Petch watched the development of the wonderful charms of the unknown, a joy like that of Dampier discovering a new island, or an astronomer a new planet. About 9 a.m. it was fully blown. Then his much-honoured employer was asked to come out and see. Mr. Petch, as by legitimate right, bestowed the name, and prophesied at the same moment that the *Cattleya Mendelii* would stand supreme in favour when both should have passed away; and most assuredly so it will.—*Manchester Guardian.*

Odontoglossum citrosum album.—A fine plant of this variety flowered recently in the collection of R. H. Measures, Esq., The Woodlands, Streatham. It was furnished with five spikes, and bore in the aggregate 137 flowers. The beauty of such a plant may well be conceived, and when to this we add the agreeable odour peculiar to the species, its value is considerably augmented. A very singular habit possessed by this *Odontoglossum* is that of flowering from the young pseudo-bulb before the leaves have attained anything more than the appearance of bracts. The pendent flower-stalk is, however, axillary, as in other species. The odour emanating from a house full of different varieties, and greeting the visitor on entering, as was our experience recently, produces an impression not soon to be forgotten. The collection of this species is transferred from house to house in four batches, in order to secure a succession. That which we saw in flower was the second batch; while the others, in a cooler house, were only developing their flower-stems.

Cattleya gigas.—In the collection of G. Nevile Wyatt, Esq., at Lake House, Cheltenham, there is a plant of this beautiful *Cattleya* bearing four spikes, the largest of which has nine flowers upon it fully expanded; two others have six, and the other, five, in all twenty-six flowers of grand form, colour, and substance. After waiting for a period of five years without having a single bloom upon this particular plant, Mr. Wyatt is now rewarded far beyond his expectations. I have more pleasure in recording this fact, because an eminent Orchid-grower who saw the plant less than six months ago said, "You will never flower it." Some of your

readers may be glad to know that the flowering bulbs have been made up this year, whereas those growths which were made in the autumn and winter produced nothing but leaves.—*T. Simcoe.*

Cypripedium Stonei.—I have just relieved a plant in a 10-in. pot of its burden of six spikes, three of which had five flowers upon them, the others four each, altogether twenty-seven flowers. This plant I have had under my care for ten years; it is now in perfect health, and has not had a fresh pot for two or three years, which shows that *C. Stonei* flowers better when thoroughly pot-bound, and in such a state it is less likely to be over-watered.—*Thomas Simcoe, Cheltenham.*

Cattleya Mossiæ with Mottled Petals.—The prime old favourite, *C. Mossiæ*, contributes largely to the beauty of the Orchid houses everywhere just now, and numerous are the plants we have seen this year; but the most curious is a pretty form with light rose-pink sepals and petals prettily mottled with crimson, now in flower in Mr. W. Furze's garden, at Roselands, Teddington. The mottling is after the style of that seen in *C. Trianae* Massangeana, now in Sir Trevor Lawrence's collection, and in this case, as in that of *C. Trianae*, it will doubtless be constant. There are three flowers on the spike, and all similarly marked. Another interesting and beautifully-mottled variety of this species comes from Messrs. W. Thomson & Sons, Clovenfords, Galashiels. The two flowers sent on a spike are both marked, but not exactly alike. One seems older, which may account for the markings being less distinct. The sepals of the other are more or less spotted or striped with deep rosy purple on a pale rosy ground; but the petals are far more decided and beautiful, being reticulated irregularly all over the surface with pale blush, almost white, veins on a deep rosy purple ground.

Stanhopea Wardii.—The flowers of this species are large, conspicuous, and very ornamental. When they first expand they are rather powerfully but deliciously scented, making their presence felt throughout the house in which they are located. The huge sepals are heavily blotched with purple on a yellow ground, and do not differ from the petals except in size and outline. The labellum has a much paler ground colour, with two large blackish purple, velvety spots on the hollow or excavated base. The whole of it is fleshy and somewhat spotted with purple on the upper face. There are several varieties of this species, often erroneously enjoying specific rank; but the best is *S. W. aurea*, with a deep golden yellow ground-colour. A healthy specimen of the typical form flowered last week at Style Hall, Gunnersbury.

Stanhopea Wardii aurea.—The variety here mentioned is perfectly distinct from the type, and deliciously fragrant for some time after it expands. The base of the lip and petals are deep golden yellow, more or less spotted with purple. The upper half of the lip is white, more or less spotted with purple. It was flowering finely the other day at the Forest Hill nurseries of Messrs. J. Laing & Co. The species and its forms keep on flowering at different times during the summer and autumn months.

Spotted Odontoglossum vexillarium.—Whether the general public would attach any value to a spotted form of this Orchid or not is a question; but it is far from frequent, or rarely occurs in collections. A fine piece at Devonhurst, Chiswick, with rosy purple flowers is irregularly but closely spotted all over the sepals, petals and labellum with white. It is, furthermore, a distinctly early-flowering form, as the flowers are now past their best, while other plants under precisely the same treatment will not flower for some time to come. Originally a small piece, it has now six leading growths, three of which bore three spikes each, while the other three had each four spikes, making in all twenty-one, with an aggregate of eighty flowers.

Cattleyas at Messrs. Fred. Horsman & Co., Colchester.—All the fine varieties of these, as well as most other showy Orchids, are here represented, but the specialities which make such a rare show at present, are the fine strain of *C. Mossiæ* and *C. Mendelii*, for which this firm is noted. Out of the *C. Mossiæ* some grand white forms have flowered, and that charming and perfectly formed blush-white, with rich crimson lip, *C. M. Smeeana*, as well as some good *C. M. Reineckiana*. The bulk of the varieties, however, are of the large-flowered dark crimson lipped

strain, and it seems strange that in a large number in which good whites and superb dark-coloured forms have appeared, not a single narrow-petalled, or badly coloured intermediate variety, is to be seen. Among the *C. Mendelii* are some very richly coloured forms, and one or two nearly white. One form has a pure white labellum, without yellow in the throat, and only a crimson blotch in the centre; and many other unusual varieties are in flower, demonstrating the fact that there is great beauty and variety. *C. Mendelii* and *C. Mossiæ*, in showy varieties take a lot of beating.

Peculiar Growth of Odontoglossum vexillarium.—On a recent visit to the beautiful and well-kept gardens at Coltness Wishan, where all-round gardening is carried out in a thoroughly practical manner by Mr. Whitton, I came across a peculiar freak of growth of *Odontoglossum vexillarium*. The plant referred to is a very strong specimen having three bulbs on one growth, the basal one being about 3 ins. long and stout; then from the top of this is a narrow bulb 2 ins. long, and from the top of this again is a stout bulb above 1½ ins. long, with foliage. I have never met with this before, and should be glad to know if there are any more about. On the same plant there are half a dozen such as this mentioned.—*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway.*

HORTICULTURAL SOCIETIES.

Royal Oxfordshire Horticultural.—*June 21st.*—The fact that the June show at Oxford is for all intents and purposes a part of the engagements of the commemoration week at Oxford will account for its being jubilee day, and the local celebration of that day at Oxford does not take place until the 28th. What delightful places these College Gardens are for holding flower shows! This one took place in St. John's College Gardens, and they are pleasantly wooded—five acres in extent. The college was founded in 1556, by Sir Thomas White, on the foundation of St. Bernard's College, an order of Cisterian Monks. Three large tents were set down among the shady trees, and they were well filled. The company was not so good as usual, owing to so many having gone to London to witness the proceedings consequent upon the Queen's Jubilee.

As Mr. Cypher, of Cheltenham, and Mr. H. James, of Norwood, were found competing in the open class for nine stove and greenhouse plants, it may be assumed some good plants were staged. Mr. Cypher was first, and Mr. H. James second. Some good Heaths were shown; in the centre of Mr. James' group was a very fine specimen of *Erica Cavendishiana*. These two exhibitors also competed with six Heaths, and Mr. Cypher was first with some well-grown and bloomed plants of *E. tricolor* Wilsoni, and its variety *superba*, *Cavendishiana*, *Kingstoniana*, *effusa*, and *hirsuta alba*. Mr. H. James came in a good second. There were classes also for twelve show and twelve fancy *Pelargoniums*; and in the former, Mr. Charles Turner, Royal Nursery, Slough, was first with some admirable plants, conspicuous being *The Baron*, *Edward Perkins*, *Confessor*, *Amethyst*, *Mr. J. Hayes*, *Gold Mine*, *Sister of Mercy*, *Despot*, and *Comtesse de Choiseul*; second, the Warden of Wadham College (I cannot give his gardener's name, as it is not the custom of Oxford to place the name of the gardener on the exhibition card). Mr. Turner was the only exhibitor of twelve fancy varieties, having very pretty plants of *Princess Teck*, *Queen of the Hellenes*, *Ellen Beck*, *The Shah*, *Mrs. Langtry*, *Nelly Fordham*, and *Sims Reeves*. The foregoing classes were open to all comers.

A very fine group of specimen stove and greenhouse plants, including some fine *Ericas*, were staged by Mr. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, and a special prize was awarded to it. Then there were plant classes for members only. In the class for stove and greenhouse plants there was little, if any competition, and the plants shown did not call for notice. The best specimen stove plant was *Bougainvillea glabra*, from Mr. T. Arnall, Headington Hill, Oxford; a good plant of the *Tabernaemontana* being second, but the exhibitor's name was not attached. The best greenhouse flowering plant was a fine specimen of the Ivy-leaved *Pelargonium*, *Madame Crousse*, from Mr. T. Mattock, Headington Nursery, Oxford. The best foliated plant was a fine *Encephalartos villosus*, from Mr. Geo. Jacob, Mill Lane Nursery, Witney,

Mr. Arnall being second with *Latania borbonica*. There was also a class for hardy plants and flowers, which brought double *Pyrethrums*, *Lilium auratum*, &c.

Fuchsias were in the form of well-grown and flowered plants: Mr. John Walker, nurseryman, Thame, being a good first with six specimens; and Mr. W. Jefferies, Summertown Nursery, Oxford, was second with some nice bushy specimens. There was a class for three plants also. *Gloxinias*, *Achimenes*, *Calceolarias*, and such-like were fairly well represented, but there was nothing rising above the level of ordinary greenhouse culture. Tuberous-rooted *Begonias* were a good feature, shown in sixes: the best came from Mr. Richard Price, Headington, three or four fine double varieties being among them; second, C. D. Ball, Esq., The Laurels, Witney. Orchids were pretty well shown: E. A. Beevors, Esq., Annandale Villa, Oxford, had the best three, staging *Cattleya Mendelii*, *C. Mossiæ*, *Dendrobium Dalhousianum* and *Odontoglossum citrosimum*; second, Mr. Jacobs. The best nine *Pelargoniums*, of the show type, came from Mr. J. W. Watson, Norham Gardens, Abingdon, whose best plants were *Isabella*, *Prince Leopold*, *Amethyst*, *Martial*, *Mr. Ashby* and *Margaret*; second, Mr. J. Mattock, Oxford. Mr. Mattock had the best six; and Mr. C. Jacobs was second. Mr. E. Thorne, Kingston Road, had the best three; The Rev. A. H. Pickard, Airedale, Canterbury Road, was second. Zonal and ivy-leaved *Pelargoniums* were nicely grown, the latter especially; and tricolor varieties were numerous and well coloured. Exotic Ferns did not call for special remark, while British Ferns were nice and fresh, especially some shown by Mr. John Walker. Some fairly good *Selaginellas* were also staged.

Cut flowers included several classes for *Roses*. Two of these were open to all comers. First for twenty-four varieties, three trusses of each, Mr. George Prince, nurseryman, Oxford, who had some remarkably fine blooms, especially of *Tea-scented* varieties, such as *Jean Ducher*, *Souvenir de Thérèse Levot*, *Rubens*, *Anna Olivier*, *Lady Mary Fitzwilliam*, *Violette Bruyère*, *Perle des Jardins*, *François Kruger*, *Alba rosea*, *Madame de Watteville*, *Madame Cusin*, *Catherine Mermet*, *Comtesse de Nadaillac*, *Jean Pernet*, *Madame A. Jacquier*, *Souvenir d'un Ami*, *Souvenir d'Elise Vardon*; second, Miss Watson-Taylor, Manor House, Headington. The same exhibitors were also first and second in the class for twenty-four varieties, single blooms. In a second class for this number Mr. Prince was first, and Miss Watson-Taylor second. There were also classes for eighteen, twelve and nine varieties, in most of which *Tea Roses* were mainly shown.

In the class for twenty-four bunches of cut flowers, a very fine lot came from Rousham Park, which were placed first; they were shown also in nine bunches, but mainly hardy subjects. *Ranunculus*, *Pinks*, *Pansies*, and *Pyrethrums* were nicely shown also; but at the time of taking this report some of the exhibitors' names were not placed on the stands. The class for twelve bunches of hardy perennials was one of the features of the show, and Mr. Joseph Larkin, Temple Cowley, Oxford, was first with a splendid lot, to which a further reference shall be made. Mr. J. Walker, Thame, was a remarkably good second, and Mr. W. R. Price third.

SPECIAL PRIZES.—The Veitch Memorial Trustees offered their Medal and money prizes for twenty-four *Roses*, distinct varieties, and a good competition ensued. Dr. Bywater Ward, Warneford Asylum, was first with a very good lot, mainly *Teas*; Mr. W. J. Grant, Hope End Farm, Ledbury, second; and Miss Watson-Taylor third. Mr. Geo. Prince offered prizes for the best eighteen varieties of *Tea Roses* arranged in an epergne, Miss Watson-Taylor being first; and W. G. Emberlen, Esq., Magdalen Street, second. Special prizes were also offered for eighteen hand-bouquets, Mr. J. Mattock being first, and Mr. F. Johnson, Gorsington, second. Table decorations, bouquets, and button-holes were also invited; but we may dismiss them by stating that they appeared to be scarcely worthy of Oxford.

Fruit was sparingly shown. Mr. Geo. Parker, Great Fen Gardens, Oxford, was first in the two classes for black and white *Grapes*, having good *Black Hamburgh* and *Duke of Buccleuch*; Nuneham Park furnishing the second prize exhibits in *Black Hamburgh* and *Foster's Seedling*. The best dish of *Peaches* came from Mr. G. H. Morrell, Headington Hill, good *Royal George*; Mr. Robins, gardener to E. D. Lee, Esq.,

Hartwell House, Aylesbury, being second with *Gros Mignonne*. The best *Nectarines* were *Stanwick Elruge*, from Wroxton Abbey; Mr. Robins being second with *Newington*. *Melons* and *Strawberries* were also exhibited. Messrs. Sutton & Sons offered prizes for three *Melons*, and Mr. Robins was first with *Invincible Scarlet Flesh*; and Mr. J. Gough, The Gardens, Buckland Park, Faringdon, second with *Hero of Lockinge*. This eminent firm also offered prizes for the best brace of *Cucumbers* sent out by them, and F. Rhymer Hall, Esq., Summer Hill Villa, Oxford, was first with *Purley Park*; and Mr. G. Pearce, gardener to A. Hanley, Esq., The Mount, Oxford, second with *Improved Telegraph*; but in neither case were the exhibits worthy of their varieties. Messrs. Webb & Sons, seed merchants, Stourbridge, offered prizes for six dishes of vegetables, which produced a spirited competition; Mr. H. Wingrove, The Gardens, Rousham Park, Oxford, being first; Mr. J. Gough, second; and Mr. George Kirtland, Bletchington, third; other vegetables were fairly well shown. Messrs. Wood & Son, Wood Green, and Mr. W. Colchester, Ipswich, offered special prizes for subjects grown with their manures. A First Class Certificate of Merit was awarded to Mr. C. Turner, for *Fancy Pelargonium Ambassador*, shown in very fine form.

FLORICULTURE.

FANCY PANSIES.—Mr. J. T. Poë, Riverston, Nenagh, Ireland, sends us a box of fancy decorative *Pansy* blooms of great merit. They were raised from seed obtained from a German seedsman. He complains of the flowers being smaller than usual, owing to a spell of hot dry weather, such as is seldom experienced in Ireland. Otherwise, however, the quality of the flowers is excellent. A self-coloured velvety black variety could hardly be surpassed for shape, being, as near as possible, orbicular, with a small yellow eye. Great variety and range of colour prevailed in the collection; but we were particularly taken with a prominent and predominating fancy, whose numerous tints and shades were combined in a very pleasing manner. The three lower petals were of a fine velvety plum-purple flushed with blue; while the two upper ones were of a lively violet-blue; and all of them had a narrow sub-marginal rosy zone, while the extreme edge was pale yellow. There were also some striking and novel orange-buff-coloured forms, which we should like to see more frequently grown.

THE SCOTCH ROSES.—I wonder some of the double forms of the *Scotch Rose* are not more frequently planted in gardens, for they are sweetly pretty and very free. I saw two of them growing in Mr. Noble's nursery recently. One was a stronger grower than the other, and the shoots were laden with charming, pure white, double flowers—nice little cabbage blossoms, just fit for button-holes. The other was not so robust in growth, and bore flush flowers, equally pretty. Both were worked on the *Manetti* stock, and appeared to be doing as well as one could desire in the light peaty soil. The *Scotch Roses*, the type of which is *Rosa spinosissima*, are natives of the north of England and Scotland. When visiting Mr. Barlow, last year, at Llandudno, I found the single form of the *Scotch Rose* growing very freely on the mountains and hill-sides, and they varied largely. I brought away two plants with me, both of which have grown; but I am doubtful if they will bloom this season. The *Scotch Roses* are well adapted for the embellishment of sloping banks, are thoroughly hardy, and will grow well in the poorest soil. I wondered how they existed at all on Welsh mountains; but I suppose the roots found moisture near to the rocks.—R. D.

QUESTIONS & ANSWERS.

BEGONIA.—W. G.: The *Begonia* flowers you sent us do possess merit on account of their large size and intense scarlet colour. The peduncle did not appear to possess sufficient rigidity to carry the flowers erect, but that might simply have been the effect of evaporation or desiccation in the box during transit. Another thing is that the breadth and roundness of the inner sepals might be improved by the selection of seedlings, so as to bring them more near the florists' ideal of a perfect flower. You have already got size and colour.

GOOSEBERRIES DISCOLOURED.—W. Warren: Sections of the sulphur-yellow *Gooseberry* under the microscope showed no trace of fungus or any other disease. The colour on the exposed side is due to a deep brownish red colouring matter in the cell cap, and is no doubt due to exposure, consequent on the want of

foliage. The primary evil lies at the roots, which must be deficient owing to their destruction by something in the soil.

YELLOW PRIMROSE.—Enquirer: The yellow *Primula* exhibited at South Kensington on Tuesday last is *P. imperialis*, a native of the mountains of Java, at elevations of about 7,000 ft. In the Himalayas it ascends to 11,000 ft. It is most nearly allied to *P. japonica*, and is synonymous with *P. prolifera*.

PARASITE.—W. E. G.: Whether applied to plants or animals, this term bears reference to those only which live on and draw their nourishment from a host, while the latter is alive. If the plants or animals in question draw their nourishment from a dead host they are no longer parasites. The *Dodder* and *Broomrape* are true parasites, but the *Mistletoe* is only partly parasitical because it has green foliage, and derives part of its food materials from the carbonic acid gas of the air.

NAMES OF PLANTS.—E. G.: *Cephalanthera grandiflora*, a British Orchid. A. Elliot: *Pyrus* (*Cydonia*), *japonica*, a robust strong-growing form. *Levenshulme*: 1, *Odontoglossum crispum*, good rose-coloured variety, blotched near the base of lateral sepals; 2, *O. crispum*, good shaped flower; 3, *Epidendrum aromaticum*; 4, *Oncidium hastatum*, a good variety; *Cattleya Mossiæ*, a pale variety. *Flamingo*: 1, *Cratægus pyracantha crenata*; 2, *Thuja* (*Biota*) *orientalis aurea*; 3, *Kerria japonica*; 4, *Pernettya mucronata*; 5, *Berberis Darwinii*; 6, *Thuja gigantea*; *Libocedrus decurrens*; 8, *Linaria cymbalaria*, a very pale almost white variety; 9, *Cotoneaster microphylla*; 10, *Masdevallia Harryana*, a fine flower, but too large for Bull's Blood. W. Robinson: *Brassavola Perrinii*. G. A., Ventnor: *Cattleya Forbesi*, a fine old thing seldom seen. The Liverpool Horticultural Co.: *Aërides* is the old *Larpetæ* we are almost certain, but would like to see a leaf if possible. *Odontoglossum* is deformed in the most important feature for identification, viz., the labellum. We should say it is not a *Pescatorei* hybrid. Send when in flower again. E. H. F.: *Pholidota imbricata*.

Books.—J. H. P.: Wright's "Mushrooms for the Million," published at 171, Fleet Street, E.C.

COMMUNICATIONS RECEIVED.—H. J. V.—T. Fife (next week with small woodcut).—J. Laing & Co.—E. F. K.—D. P. L.—A. F. B.—S. & S.—C. B. G.—R. P.—Kelway & Sons.

LONDON SEED TRADE.

June 22nd.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance at to-day's market. There is little demand for *Agricultural Seeds* at present; prices all round remain unaltered. New *French Trifolium* is not being offered, but the price asked is higher than buyers care to pay. *Bird Seeds* unchanged.

COVENT GARDEN MARKET.

June 23rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve			Peaches...per dozen	4 0	12 0
Grapes	2 6	4 0	Pine-apples, St.		
Grapes, Chan. Islands, per lb.	1 6	2 6	Michaels, each	3 0	8 0
Kent Cobbs... 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Melons	1 6	3 0	Strawberries, per lb.	1 6	4 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch...	0 2	0 4
Asparagus, per bble.	2 0	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6	2 0	Lettuces...per dozen	1 6	2 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 0	2 6	Onions, per bushel ..	4 0	5 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	6 0	9 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	2 0		Small salad, punnet 0 4		
Cucumbers, each	0 6	1 0	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatoes, per lb.	1 0	1 6
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.			Turnips.... per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones....12 bun.	2 0	4 0	Pansies, 12 bunches...	2 0	3 0
Arum Lilies, 12 blms.	3 0	5 0	Pelargoniums, 12 spys.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pelargoniums, scarlet, 12 sprays...	0 9	1 0
Carnations, 12 blooms	0 9	2 0	Pinks, colored & white, dozen bunches ..	2 0	4 0
Corndflower .. 12 bun.	2 0	3 0	Polyanthus, 12 buns.	2 0	5 0
Day Lily...12 bunches	4 0	6 0	Primula, double, bun.	0 9	1 6
Eucharis, per dozen..	3 0	6 0	— single 12 bun.		
Gardenias, 12 blooms.	1 0	3 0	Pyrethrum .. 12 bun.	2 0	6 0
Heliotropes, 12 sprays	0 6	1 0	Roses (coloured)	1 0	4 0
Iris, various...12 bun.	6 0	12 0	Roses, Tea, per dozen	0 6	1 6
Lilium longiflorum, 12 blooms	4 0	6 0	Roses, mixed, per doz.	0 6	2 0
Lilies of the Valley 12 sprays			— Saffrano (French), per doz.	0 6	0 9
Marguerites, 12 bun...	3 0	6 0	Spiræa....12 bunches	4 0	6 0
Mignonette, 12 bun...	3 0	6 0	Stephanotis, dozen sprays	2 0	4 0
Myosotis, 12 bunches	2 0	4 0	Tropæolums	1 0	2 0
Narcissus double, 12 bunches			Tuberose, per dozen.	1 0	
Narcissus, 12 bunches			White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Lily of the Valley, 12 pots	12 0	18 0
Calceolarias...per doz.	4 0	9 0	Lilium longiflorum, per doz.	18 0	30 0
Cineraria ..per dozen	6 0	9 0	Marguerites, per doz.	6 0	9 0
Cyperus, per dozen ..	4 0	12 0	Mignonette...per doz.	4 0	9 0
Dracæna teran, doz...	30 0	60 0	Musk, per dozen	3 0	6 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Erica, various ..doz.	18 0	30 0	Pelargoniums....doz.	6 0	15 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ferns, in var., do ...	4 0	18 0	Rhodanthe...per doz.	6 0	9 0
Ficus elastica, each..	1 6	7 6	Roses (various)...doz.	18 0	30 0
Foliage Plants, various, each.....	2 0	10 6	Scented Verbena	4 0	6 0
Fuchsia....per dozen	6 0	9 0	Spiræa per dozen	9 0	12 0
Genista per dozen	6 0	9 0	Tulips ..per doz. pots		
Heliotrope	4 0	8 0			
Hydrangea ..per doz.	9 0	12 0			

UNDER ROYAL PATRONAGE.



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Have been celebrated for their varied beauty and extent for the past few years, but the **COLLECTION** now on view is superior to any of the kind ever yet seen, both in single and double varieties, the shades of colour being quite indescribable, and must be seen to be appreciated.

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| HYBRID PERPETUAL ROSES.
Good plants in pots of all leading kinds, for turning out to fill up vacancies, &c. | 10/6 per dozen.
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| CLIMBING ROSES.
All best kinds, strong plants in pots, with long shoots, for immediate effect. | 16/- per dozen. |
| TEA-SCENTED ROSES.
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NATIONAL ROSE SOCIETY OF ENGLAND'S
GRAND EXHIBITION will be held in the WAVERLEY MARKET, EDINBURGH, on WEDNESDAY, July 13th, 1887, in connection with the SUMMER SHOW of the ROYAL CALEDONIAN HORTICULTURAL SOCIETY.
For Schedules, &c., apply to SECRETARY, Royal Caledonian Horticultural Society, 18, Waverley Market, Edinburgh.

Shropshire Horticultural Society.
SUMMER SHOW (open to all) August 17th and 18th. Twenty Plants, £25, £20, £15. Collection of Fruit, £10, £6, £3. For Grapes, £44. Collection of Vegetables, eight sorts, £5, £3, £2, £1. Schedules and full particulars from MESSRS. ADNITT & NAUNTON, Shrewsbury, Hon. Secs.

ROYAL JUBILEE EXHIBITION,
Manchester.
A GRAND ROSE SHOW will be held on FRIDAY, July 22. For Schedules, &c., apply to the undersigned, BRUCE FINDLAY, Royal Botanical Gardens, Manchester.

Birmingham Botanical and Horticultural Society.
A ROSE SHOW will be held in The Gardens Edgbaston, on Thursday and Friday, 14th and 15th of July, 1887.
Entries close July 10th. For Schedule of Prizes apply to W. B. LATHAM, Curator.

North Lonsdale Rose Society (Affiliated).
ANNUAL SHOW OF ROSES and PANSIES at Ulverston, Saturday, July 23rd (not 22nd as previously announced). Three classes open to Nurserymen. Value to £45 and four N. R. S.'s Medals. Entries close July 15th. For schedules apply to G. H. MACKESETH, Hon. Sec., Ulverston.

CRYSTAL PALACE.—GREAT ROSE SHOW OF SEASON, Saturday, July 9th, postponed from July 2nd. For schedules and entry forms apply to MR. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
GRAND ROSE EXHIBITION, by the NATIONAL ROSE SOCIETY, on TUESDAY, JULY 5th, in the Conservatory.
Admission free to Fellows and Members of the National Rose Society at 12 o'clock; and to the Public at 1 o'clock, on payment of 2s. 6d.
N.B.—Entrances, N.E. Orchard House, Exhibition Road; and Exhibitors' Entrance, east side of Royal Albert Hall.

Next Week's Engagements.

- TUESDAY, July 5th.—National Rose Society's Exhibition at South Kensington. Sale of Imported Orchids at Protheroe & Morris's Rooms.
- WEDNESDAY, July 6th.—Flower Shows at Wimbledon and Ealing. Rose Shows at Brighton, Sutton, Tunbridge Wells.
- THURSDAY, July 7th.—Royal Botanic Society's Evening Fête. Rose Shows at Bath, Winchester, Ipswich, Farnham, Farnham, Reigate, and Malvern. Sale of Imported Orchids at Stevens' Rooms.
- FRIDAY, July 8th.—Rose Shows at Maidstone and Hitchin. Sale of Imported Orchids at Protheroe & Morris's Rooms.
- SATURDAY, July 9th.—Crystal Palace Rose Show.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 2, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—The special meeting of the Fellows of this Society, as will be seen by the report given in another column, has been held, and we cannot but sympathise with the Council in the result. It was evident, from the President's speech, that the Council came to the meeting with absolutely open minds, but still anxious to get out of their difficulties in some honourable way, yet with benefit to the Society. To that end they called the Fellows together, and an excellent response to the call was made, but when their counsel was asked the body of the Fellows

had nothing to offer, and the *statu quo* remains. We may accept the plain outspoken remarks of Mr. Hibberd, who went for the out-and-out removal of the Society to Chiswick uncompromisingly; but Mr. Hibberd moved no resolution, and thus his well-meant effort failed for lack of being brought to a practical issue.

The resolution moved in the first place was vague and purposeless. The Council had, it was clear, from Sir Trevor Lawrence's admirable, lucid and thoroughly honest statement, been in the past, or at least in the recent past, doing all they could to find for the Society a habitation, and Mr. Veitch's resolution simply called upon the Council to go on doing the same thing. It might have been termed a vote of confidence in the Council, but such a vote was not needed. No one ventured or desired to challenge the Council's case, as so clearly stated by the President, and nothing was less wanted than a vote of confidence. Really, the Council came to the Fellows asking for bread in the form of practical advice and guidance, and got a stone for its pains. We can hardly hope that under any circumstances the Council will again call the Fellows together for a similar purpose. Even the report of the committee appointed by the Fellows at the February meeting, shows the vacuity of business capacity existing. The recommendation of that body to approach the Queen, as events showed, was little less than insulting, because the Council, in acting upon that suggestion, got only contemptuous advice for its pains. Then that body advised the provision of a permanent secretary, just as though the Society had not got one now; and evidently ignoring the fact that it is far easier to provide an office than to find the right man to fill it; still farther ignoring the fact that with the prospect of a mill-stone being about the Society's neck next Christmas in the form of a debt of £1,000, the payment of a secretary is not warranted. Thousands of pounds are not flea-bites, we beg to aver, even when the balance is on the right side, whilst if on the wrong side they strangle even the strongest.

The suggestion in favour of half-guinea Fellowships was plagiarised from these columns, and was the only practical recommendation the committee made. In the face of these facts, and of the entire absence of practical suggestions from the body of the Fellows on Tuesday last, we repeat that we are compelled to sympathise with the Council in their position of difficulty and doubt. A South Kensingtonian wanted to hold on a bit. The President thought they had held on long enough, and waiting for something to turn up was but insult and degradation can turn up for the Society at South Kensington in the future. The President thought that it would be best to fall back upon Chiswick at the close of the present year, and so do we. Sir Trevor, with the main body of the Council, have reluctantly come to that conclusion, but it is the only possible solution of the difficulty, the only course to take.

City men, like Baron Schroder, wish to see the Society established in the city, amidst its noise, hurry, clamour and strife. A wretched locality indeed for a Horticultural Society. The Baron is a most estimable man, and a munificent patron of Orchids, but none can admit that he is a representative horticulturist, or has particular sympathy with gardening as gardeners have. There is a sort of fellowship between wealth and Orchids, and, therefore, from that limited point of view it may be advisable to carry the Society into the city, but certainly the movement would utterly damn the prospects of the Society with provincial horticulturists, who have far more of horticultural reverence and esteem for the

traditions of Chiswick than for all the associations of the city of London. Then Professor Foster, who, perhaps, represents the scientists, would like the habitation for the Society to be on the Thames Embankment. That is about as wise a suggestion as was the original one—of the move from Chiswick to South Kensington. Ten thousand pounds would be needed as much for that home as for the city habitation, and can the worthy Professor find another body of credulous debenture-holders to provide the money? The suggestion is too absurd and wild, and we trust the Council will waste no time over what must end in failure.

The Lindley Library hangs like a dead weight round the Society's neck. Its present habitation will soon be pulled down, and somewhere it must go. With all due respect to excellent men, we think this Library is a nuisance to the Society, and that it should be handed over to the Linnæan Society, to which it is more properly allied. Failing that, would it not even be better to add it to some public library, where it would be accessible to anyone? That the Society should be compelled to build a habitation on purpose for this white elephant does seem monstrous; because, as circumstances have shown, it is comparatively useless, and, besides, is not the Society's property. Perhaps the authorities of the Imperial Institute may be induced to find space for it in that huge building when erected.

Practically the state of the case of the Society just now is this:—It must become either a mere city appanage, the pet scheme of rich men, or it must strive to become what it never yet has been—a National Horticultural Society. If the former, its career and end will hardly concern gardeners; if the latter, then we think its best habitation is at Chiswick, where it will have general horticultural surroundings. The Society, we beg leave to state, is not a scientific one; it is one for the promotion of practical horticulture. If it has no farther uses in that direction let it expire, but if the horticulturalists of the kingdom believe that the Royal Horticultural Society can accomplish great and good works for horticulture in the kingdom, then, by all means, let them mature their wishes ere it be too late.

THE STRAWBERRY FÊTE AT CHISWICK will take place on Saturday next.

THE secretary of the NORTH LONSDALE ROSE SOCIETY requests us to state that the annual exhibition will be held at Ulverston on July 23rd, and not the 22nd, as previously announced.

WE understand that during the six weeks the ROYAL JUBILEE EXHIBITION AT MANCHESTER has been open, the attendance of visitors has been larger than went to Kensington during the corresponding period last year. We are pleased to hear it is a success in every sense of the word.

FROM all quarters come lamentable accounts of the present condition of the crops owing to the drought and heat. Strawberries especially, which promised an abundant yield, are suffering seriously for the want of rain. Farmers in many districts are greatly inconvenienced through the want of water and grass for their stock.

THE annual festival of the GARDENERS' ROYAL BENEVOLENT INSTITUTION, held on Wednesday evening last, was an unqualified success. Baron Ferdinand de Rothschild proved an admirable chairman, and his eloquent appeal on behalf of the institution was ably supported by Sir Robert Peel, Bart., Mr. Christopher Sykes, M.P., Mr. Sherwood, Major Lambert, Mr. B. S. Williams, and the treasurer, Mr. Harry Veitch. Notwithstanding "these radical times," Mr. Cutler was able to make the gratifying announcement that the result of the Jubilee collection amounted to the handsome sum of about £1,460. We hope to allude to the subject more fully in our next.

IN another column we give a report of an important meeting of the trade called to discuss the question of the RATING OF NURSERIES. The subject is an im-

portant one to every nurseryman and market gardener, and it is hoped that all will join heartily in backing up the action taken in the matter by the Nursery and Seed Trade Association. The secretary, Mr. Goodchild, 25, Old Jewry, E.C., will be glad to furnish any information on the subject.

ON TULIPS.*

THE Tulip derives its name from the Persian word *thoulyban*, turban, the eastern headdress, much worn in Turkey, Persia, and other eastern countries. In Turkey the Tulip is named *tubilent*, also because of its resemblance in shape to the headdress there in use. The Tulip is a bulbous plant, throwing up a single stem of from 4 ins. to 36 ins., forming its single bloom at the top, consisting of six petals forming a cup-shaped flower, with its functions for fructification by seed in the centre of the cup. Tulips are divided into various classes, according to their time of blooming and the different characters and nature of the colouring of each individual class when in bloom. From a book published in the Dutch language, printed in Antwerp in the year 1644, by Rembertus Dodoneus, a botanist of that time, it is mentioned that the Tulip in former ages was known by the name of Pythion, and that at that time the wild Tulip was eaten and used for thickening milk.

It further appears that the first Tulips were imported into Holland in the year 1522 by Augerius Gislénus, Squire of Busbecq, who was born as Communes, in French Flandres, and died at St. Germain, near Rouen, October 28th, 1592. This gentleman, having travelled through a good portion of Asia, brought the Tulip into Holland, having collected it in Persia. The first Tulip was seen in bloom in Amsterdam in the garden of an apothecary, where it was greatly admired by the public; but Carolus Clusius, a botanist at Utrecht, was the first who occupied himself with the growing and distribution of Tulips. This gentleman distributed the Tulips all over Holland, and created a taste for them among the public, which led at the time to the neglect of all other flowers. Already at that time the Tulips were sold at pretty high prices, although not equal to the prices in the speculative days later on. At the above date Tulips were known only in two wild-growing sorts, distinguished by the names of large and small, the latter being self-coloured, viz., yellow, and this is probably the original sort from which our many early varieties have sprung up.

As regards the edible property of our present Tulip bulbs, I cannot say anything either in their favour or otherwise, as I have never tried them, and I have only heard of one grower in our neighbourhood who has tried them, and that was at the time when the "Duc van Thol" varieties were so abundant that they could not be sold. He declared that he could not eat them; but, perhaps, he did not have the proper recipe for their preparation and cooking. Very possibly these bulbs may possess valuable culinary properties, and if prepared carefully under the supervision of some domestic botanist, may lead, perhaps, to a splendid addition to our cookery, and produce a delicious dish hitherto unknown. I can very well understand that, when Tulips were only grown in very limited quantities, there must have been little inducement to prepare Tulips for the table, even if their delicacy should have been ever so great; but at the present day, when they are grown by millions and can be procured at a small price, a Tulip dish might not prove such a very costly or difficult delicacy to bring on the table, in case such may be found desirable.

The classes in which the Tulips are divided are named as follows:—*a.* The single early Tulips. *b.* The double early and double late Tulips. *c.* The Garden or single late Tulips (fancy Tulips), Tulips d'Amateurs. *d.* The Parrot Tulips. *e.* The Botanical Tulips. The early Tulips are again divided according to their time of flowering, of which the single early Duc van Thol (*Tulipa suaveolens*) in various colours are the very earliest, and are, therefore, most esteemed for early forcing in pots or vases for indoor decorations. With proper treatment these can be had in bloom by Christmas or even earlier. They can be had in the following different colours, viz., brilliant scarlet, red with golden yellow border, vermilion, crimson, red laced with gold, pure white, yellow, rose, purple, rose

spotted, orange and violet. When the above-named Duc van Thol Tulips are planted in pots or vases, they prove a very beautiful and very early indoor decoration at a season when blooming plants are generally very scarce indeed.

The somewhat later-blooming race of single early Tulips comprises at the present date a most numerous variety of colours, from pure white up to the most intense scarlet, and they are highly ornamental if planted in beds in the autumn; when early in spring they make a most pleasing and effective show. Their beauty for this purpose has become so highly appreciated, and has become so much in favour with the general public throughout the civilised world, that thousands (even millions) of bulbs are now sent all over the world, to satisfy the increasing taste for these garden decorations in early spring. These early Tulips are the more valuable and appreciated because they bloom very early in spring, almost immediately after the severity of the winter has left us, and thus fill up the period between winter and summer planting, which, without them, would have to be left without any floral garden decoration. At the time when the Tulips have finished blooming, and can be taken up, it is just the proper time when summer plants should be inserted. The Tulips for garden decoration should be planted in October or November, and should be somewhat protected against the severity of winter with covering material, such as straw, reeds, or leaves, which, however, should be removed immediately when milder weather sets in, as otherwise the Tulips get drawn up, and are consequently weakened.

The early Tulip sorts which, for the purpose of bedding out, are most suitable, and bloom pretty well at the same time together, are the following:—

Scarlet, crimson and vermilion.—Vermilion Brilliant, Rembrandt, Belle Alliance, Artus, Brutus and Crimson King.

Yellow.—Chrysolora, Canary-bird, King of Yellows, Pottebakker and Yellow Prince.

White and rosy white.—Pax alba, Pottebakker, Snowball and Queen Victoria.

Rosy red, of various shades.—Proserpine, Adeline, Cramoisie pourpre and Epaminondas.

Violet shades.—Wouwerman, Vander Neer, Paulus Potter, Molière and President Lincoln.

Rose and white, or pink.—Rose luisante, Cottage Maid, Rose Gris de Lin, Rosamundi and Princess Mary Anne.

Red and Yellow bordered.—Keizerskroon, Duchess of Parma and Leonardo di Vinci.

Variegated.—Belle Alliance rectified, scarlet and gold; Bride of Haarlem, cherry and white; Duchess of Austria, orange and red; Globe de Rigaut, white and violet; Golden Standard, gold and scarlet; and Silver Standard, white and red flamed.

Sweet-scented Tulips.—Tulipa Florentina, Bizard Pronkert, Prince of Austria and Yellow Prince.

The above-named and many more sorts are also much used for forcing in pots. By planting three to four bulbs in a moderate-sized pot they will do very nicely in a room, and their gradual development during winter is a daily pleasure for any admirer of nature. These roots can also be grown in water like a Hyacinth, in which style they look very showy among other flowers or plants. Of the class of single early Tulips there is a most numerous variety in almost all shades of colours, and although fifty years ago a good many varieties existed, during the last fifty years the most striking and most beautiful sorts, now so much in esteem, have been raised and brought into use—nay, the sorts of these last years' raising are certainly very great improvements upon the older varieties.

During the last few years a little collection has been formed of Tulips with variegated foliage, of which some are very conspicuous and decorative indeed. It appears that this class is not so much known, but some of them are very recommendable for decorative purposes. The Yellow Prince, with variegated foliage, is indeed a real beauty, while Purple Crown and Silver standard, La Precieuse, &c., all with variegated foliage, are also very fine. This class has an important advantage over the others, because they are decorative independent of the flower, and, therefore, their decorative property lasts longer and begins earlier than all others.

The double early Tulips now in cultivation are not so numerous in variety as the single, but some of them are indeed very beautiful and highly attractive by the very large size of their Rose-shaped flowers, and also by their

* A paper by Mr. Polman Mooy, Haarlem, read at a meeting of the Horticultural Club, on June 14th, 1887.

very fine combination of colours. Some of these double Tulips are most suitable for planting out in beds, owing to their short-growing habit and the very sharp and well-distinguished colours, which make them extremely suitable for what is called "carpet bedding."

The following early varieties are very dwarf-growing, and together grow very uniform, all of the same height, and come into bloom at the same time. These are:—Rose Blanche, pure white; La Candeur, white; Agnes, brilliant scarlet; Rubra Maxima, deep red; Rex Rubrum, dark red; Queen Victoria, purplish red; Murillo, rose; Tournesol, red and yellow; Lac van Haarlem, pure violet, and many more.

When planted in beds all sorts of figures in distinct colours can be made of them after certain designs. Of the tall-growing "double late" sorts, which are not so well adapted for carpet bedding, because of their tall growth, some are extremely beautiful, among which I may mention the *Mariage de ma Fille*, red striped with white; *La Belle Alliance*, white striped with violet; *Yellow Rose*, pure yellow, and so many more which, when planted in front of or between shrubberies, produce a very fine effect.

(To be continued).

THE RATING OF NURSERIES.

ON Monday evening last a meeting of nurserymen and market gardeners was held, under the auspices of the Nursery and Seed Trade Association, in the rooms of The Horticultural Club, to take into consideration the excessive rating of nurseries, and to agree on a combined course of action with a view to the reduction of assessments. The chair was taken by Mr. J. Wood Ingram, of Huntingdon. The secretary, Mr. Goodchild, having read a number of letters of a representative character, and from different counties, all of which gave instances of unequal and excessive assessments.

MR. INGRAM said that while he personally had not much to complain of, he was well aware that in other districts there were great irregularities in the mode of assessment, and much injustice which required redressing. He was pleased that the Nursery and Seed Trade Association had taken up the subject with a determination to go into it thoroughly, and he hoped that evening they would have a good and useful discussion, and, at least, get one or more good cases to take into court as test actions. He mentioned several instances of irregular rating, showing that there was no fixed principle upon which nurseries were assessed, but considered that it ought not to be difficult to get a well-defined basis upon which their land and houses should be assessed. He concluded by moving the following resolution:—"That this meeting of nurserymen, representing the London and provincial trades, hereby protests against the excessive rating of nurseries and the absence of any basis upon which the assessments are founded, and is of opinion that the matter is one which calls for combined action with a view to taking such steps as may be necessary for placing the assessments on a well-defined basis, and pledges itself to do all in its power to effect this purpose."

MR. C. H. SHARMAN (Messrs. James Carter & Co.) in seconding the resolution said that his firm had been badly treated by the committee, who had assessed their nursery and trial grounds at Forest Hill, and they had allowed the matter to go into the police court. They did not, however, get any satisfaction, and paid the rates under protest. The firm had stated their case to a leading counsel, and he thought it a good one, but he, Mr. Sharman, did not know how far the Metropolitan Consolidated Act overruled the Acts governing assessments outside the metropolitan area. The resolution was carried *nem con.*

MR. HENRY BENNETT, Shepperton, said he heartily sympathised with the objects of the movement, and would support it in every way. He had been a member of an assessment committee for seventeen years, and knew of many cases in which nurserymen had been badly treated, in being rated on their own improvements, or, in other words, on an increase in their stock-in-trade; while he knew hundreds of cases of buildings being erected on agricultural land, on which there was no increase in the rateable value, unless there was an increase in rent. He was of opinion that the basis of assessment should be on the rental, and that only, because a nurseryman can remove his glass structures and other erections whenever he likes, they do not

belong to the freehold, and that proves they are only chattels. When a nurseryman spends money in building a glass house, the house should be considered and treated as industrial capital and should not be assessed for rating purposes. He would not advise the expenditure of any great amount of money in law costs, believing that they could gain their point easier by every nurseryman and market gardener refusing point blank to pay on anything but the freehold. It would, however, be advisable to raise a fund in order to give aid to anyone whose case was taken into court.

MR. HAYNES, Penge, stated that he was bringing an action against his parish authorities for the recovery of a considerable sum of money, which they had wrongly obtained from him by assessing his land, during a period of twenty-four years, at a higher value than they were legally entitled to do, and he had every reason to believe that he would win his case. His contention that nursery land should only be assessed at one-fourth, had been upheld by a magistrate at Croydon, to whose court he had been summoned. He considered that nursery and market-garden ground, and nurserymen's greenhouses should be treated on all fours with the shelves in a grocer's shop, or the cellars of a publican, which were trade fixtures.

MR. HORSMAN, Ilkley, Yorkshire, who gave particulars of the modes of assessment adopted in three different Ridings in which he had nurseries, and which were all different, was of opinion that a strong



CALADIUM ARGYRITES.

committee should approach the Poor Law Board, with a view to getting a proper basis for assessing the Poor Rates, as that was the root of the mischief.

MR. BEER, Worthing (the actual plaintiff in the case of "Purser v. The Worthing District Local Board"), agreed with the previous speaker that what they wanted to ascertain was the proper legal mode of assessing the Poor Rates. He contended that what belonged to the freehold, and that only, should be rated for the poor; but whatever the basis was, it should be applicable to all alike. At present the whole system of rating in most districts was an unmeaning hash. Mr. Cobb gave the details of the case which he had taken before Mr. Montagu Williams, the stipendiary magistrate at Greenwich.

MR. G. BUNYARD, Maidstone, thought a strong horticultural Committee should be formed to approach the Local Government Board, and, if need be, to take up any cases that may be already in motion. He moved that a committee be formed to carry out the first resolution, and that the following gentlemen be appointed to serve on it—viz., Messrs. Wood Ingram, Sharman, Beer, Haynes, Pearson, Williams (Salisbury), Horsman (Ilkley), Bennett, Bunyard, and Low (Uxbridge), with power to add to their number. Mr. Chitty, florist, Walthamstow, seconded the motion, and it was carried unanimously.

On the motion of Mr. Haynes, seconded by Mr. Pearson, it was resolved that a guarantee fund be raised for the purpose of effectually carrying out the previous resolutions, the amount guaranteed by any firm or in-

dividual not to exceed £10. Votes of thanks to the Horticultural Club for the use of the room, and to Mr. Wood Ingram for presiding, brought the proceedings to a close.

CALADIUM ARGYRITES.

THIS species is the dwarfiest in cultivation, and one of the best for decorative effect in groups of plants where small specimens are required. Our illustration is an excellent representation of the habit of the plant when at its best, and in that condition most suitable for general decorative work. As a matter of course it cannot be compared with the magnificent grandeur of the numerous forms of *C. bicolor* now in cultivation; but the two are not to be considered in the same light, nor brought into competition on similar grounds. The arrow-shaped leaves are handsomely marked with beautiful silvery white blotches of irregular size on a pale green ground.

It is easily propagated by division of the young growths after the tubers have been started in February. The tubers should be inserted in small pots, using a compost of sandy fibrous peat, and then placed in a stove temperature. When fairly started into growth, and further division is unnecessary, shift them into larger size pots, employing a heavier compost of lumpy fibrous loam. House them where the temperature is kept at 65° to 70° Fahr. by night, and allow the temperature to run up considerably by sun-heat. Before using the plants for decorative purposes harden them somewhat, which will enable the leaves to remain much longer in perfection.

EARTH-WORMS AND THEIR WORK.

APROPOS of this subject, it may not be either out of place or uninteresting to quote the opinion of one of nature's noblest students, to wit, the Rev. Gilbert White. So long ago as 1777, the author of the *Natural History of Selborne* in one of his letters dated May 20th, writes thus:—

"Lands that are subject to frequent inundations are always poor; and probably the reason may be, because the worms are drowned. The most insignificant insects and reptiles are of much more consequence, and have much more influence in the economy of nature, than the incurious are aware of, and are mighty in their effect from their minuteness, which renders them less an object of attention; and from their numbers and fecundity, earth-worms, though in appearance a small and despicable link in the chain of nature, yet, if lost, would make a lamentable chasm. For, to say nothing of half the birds and some quadrupeds which are entirely supported by them, worms seem to be the great promoters of vegetation; which would proceed but lamely without them, by boring, perforating and loosening the soil, and rendering it pervious to rains and the fibres of plants, by drawing straws and stalks and of leaves and twigs into it, and, most of all, by throwing up such infinite numbers of lumps of earth called worm-casts, which, being their excrement, is a fine manure for grain and grass.

"Worms, probably, provide new soil for hills and slopes where the rain washes the earth away; and they affect slopes probably to avoid being flooded. Gardeners and farmers express their detestation of worms; the former because they render their walks unsightly, and make them much work; and the latter because, as they think, worms eat their green corn. But these men would find that earth without worms would soon be cold, hard-bound, and void of fermentation, and, consequently sterile; and, besides, in favour of worms, it should be hinted that green corn, plants, and flowers, are not so much injured by them as by many species of Coleoptera (scarabs) and Tipulæ, (long-legs), in their larva or grub state, and by unnoticed myriads of small shell-less snails, called slugs, which silently and imperceptibly make amazing havoc in the field and garden. Worms work most in the spring, but by no means lie torpid in the dead months; they are out every mild night in the winter as any person may be convinced that will take the pains to examine his grass plots with a candle; they are hermaphrodites, and very prolific."

Is not this last statement somewhat curious? Is there sexually no difference? [No.—ED.]—C. B. G. Acton, W.

CHRYSANTHEMUMS.

(Concluded from p. 662).

I AM no advocate for early potting, as if the plants are potted, say early in June, long before they are in flower, the plant food contained in the soil is exhausted; and however much good artificial manure may do, I do not think it ever does the plant the same good as the food that is contained naturally in the soil. Therefore, I would recommend the third week in June as being quite early enough to begin to give the plants their final shift; and for this use the same soil as recommended for the last potting. Here I may remark that although good soil is a thing to be greatly desired, it will never give good flowers without that close attention to each individual plant, which is required to become a successful plant grower.

The strong-growing varieties may be placed in 9-in. pots, which I have found to be large enough, as if the plant does not fill the pot well with roots, we must not expect to get good flowers from it. The weaker-growing varieties may be put in 8-in. pots. In potting them this time, leave at least 2 ins. for top-dressing, which will be found of immense advantage to the plants after their buds are formed. As the plants are potted, have them placed in rows in an open position where they are to remain for the summer; if possible, have the rows running north and south, so as to allow the sun to get at the plants to keep the wood well ripened. Here we have a question cropping up as to whether we ought to plunge the pots or not? I think it makes little difference either way. After the plants are placed in rows, have a stake put to each shoot, and a strong one driven in at each end of the row, with a few between on which to stretch a line, tying the plants thereto to keep them from being blown about or broken with the wind. Keep a sharp look out now that the plants do not suffer from want of water, and on all fine afternoons have them syringed overhead.

If we keep our plants to one or three stems, all lateral shoots will have to be pinched out as they make their appearance. As the flower-bud appears in June or July have it removed, and allow three shoots from each stem to grow, which in their turn will form crown buds from the middle of August to the beginning of September. Try and select the late-flowering varieties earliest so as to have the collection in flower about the same time; more especially is this desired if the flowers are wanted for exhibition. The plants which had been cut back from the middle of May to the beginning of June, and three shoots allowed to grow, which were allowed again to break into three growths about the end of June or beginning of July, will have nine flowers on each plant, and the plants allowed only one stem up to the end of June or beginning of July will have three flowers on each plant. Although we often find plants kept to one stem producing a single flower only, a plant in an 8-in. or 9-in. pot is quite able to perfect three flowers fit for exhibition. Plants for specimens should be stopped for the last time about the middle of June, keeping the shoots well tied out to admit light to the foliage. This will also enable the plants to retain the leaves, which are of great assistance in setting off the flowers.

As the pots get filled with roots the plants may be assisted by the aid of manure water. Here again crops up the question which is the best among the many recommended, but it is not so much any particular kind of stimulant, as the manner in which it is used, that makes it successful; but whatever kind may be selected, it is much better to use it weak at the commencement. The space left in the pots at potting time may be filled up about the beginning of September, only allowing enough room for watering. The compost may consist of the same material as the plants were potted in, adding a little more bone meal. I may here remark that after trying a great many of the manures so highly recommended for plant-growing, I have come to the conclusion that there is none of them so cheap and satisfactory as bone meal. The plants will require to be taken in about the first of October; indeed, late-flowering varieties may with advantage be taken in ten days earlier, and here comes another important point to know how long it will take a flower to expand from a certain time. This, I am afraid, will only be learnt by experience and close attention; but a large amount of success can be obtained by knowing which flowers to retard, and which to push on.

There is also much to be learned in the dressing of

flowers for exhibition, which is only to be gained by practice and patience; but there can be no doubt an incurved bloom is much improved by being dressed. Japanese varieties, on the other hand, the rougher they are the better they look, and this may account for the Japanese being so much more largely grown among amateurs, than incurved varieties. There is not much enthusiasm just now about Chrysanthemums, but wait until they are in flower again, when the enthusiasm rises to fever heat, and the merits of each individual flower is severely criticised, and long lists made out for the following season. Old varieties are thrown away to make room for others, perhaps inferior ones.

The following is a list of three dozen of the best Japanese and three dozen Incurved Chrysanthemums, arranged in order of merit:

JAPANESE CHRYSANTHEMUMS.

- | | |
|---------------------------|------------------------|
| 1 Mad. C. Audiguier | 19 Marguerite Marrouch |
| 2 Madlle. Lacroix | 20 M. Burnet |
| 3 Comte de Germiny | 21 Fanny Bouchardat |
| 4 Japonaise | 22 La Triomphante |
| 5 Jeanne Délaux | 23 Gloriosum |
| 6 Fair Maid of Guernsey | 24 Coquette de Castile |
| 7 Val d'Andorre | 25 Soleil Levant |
| 8 Criterion | 26 Maiden's Blush |
| 9 Elaine | 27 Bouquet Fait |
| 10 Thunberg | 28 Hiver Fleurii |
| 11 Belle Paule | 29 Mad. de Sevin |
| 12 Bertier Rendatler | 30 Triomphe du Nord |
| 13 Baronne de Prailly | 31 Feruand Feral |
| 14 Mad. John Laing | 32 Peter the Great |
| 15 Triomphe de la Rue des | 33 L'Adorable |
| Châlets | 34 Mons. Astorg |
| 16 Mons. Farin | 35 „ Burnet |
| 17 „ Freeman | 36 Meg Merrilies. |
| 18 Balmoreau | |

INCURVED CHRYSANTHEMUMS.

- | | |
|----------------------------|----------------------|
| 1 Empress of India | 18 Mr. Bunn |
| 2 Golden Empress of India | 19 Mrs. Heale |
| 3 Queen of England | 20 „ W. Shipman |
| 4 Lord Alcester | 21 Prince of Wales |
| 5 Jeanne d'Arc | 22 Cherub |
| 6 Lord Wolseley | 23 Princess Beatrice |
| 7 Prince Alfred | 24 Lady Hardinge |
| 8 John Salter | 25 „ Slade |
| 9 Hero of Stoke Newington | 26 White Venus |
| 10 Princess of Wales | 27 Novelty |
| 11 Golden Queen of England | 28 Venus |
| 12 Princess of Teck | 29 Baron Beust |
| 13 Jardin des Plantes | 30 Empress Eugénie |
| 14 Nil Desperandum | 31 Mr. Cobay |
| 15 Barbara | 32 Mrs. Geo. Rundle |
| 16 Beverley | 33 George Glenny |
| 17 Refulgens | 34 Golden G. Glenny |
| | 35 Gloria Mundi |
| | 36 Alfred Salter. |

During its growing period the Chrysanthemum is subject to a few enemies, the principal of which is green-fly, which may be destroyed by dusting the tips of the shoots with tobacco-powder, or syringing with soft soap and water; I prefer the latter. Then there is the larvæ of an insect which destroy the foliage by tunnelling passages between the two surfaces of the leaf. I know of no cure for this except hand-picking. Then we have mildew, which often attacks the young plants if kept too close, and again in the autumn before the plants are taken indoors. The most effectual cure for this is to lay them on their sides, and syringe with a mixture of 1 lb. of sulphur to 4 galls. of water; indeed, it is wise to take this precaution should there be ever so little mildew showing on the plants before they are taken indoors, for should any occur on them then it soon spreads, doing serious damage to the plants, and causing them, in a short time, to lose nearly all their leaves. As I mentioned before, the flowers are set off to better advantage when they are accompanied by good healthy foliage.—A. Wright, Devonhurst.

NEW PLANTS CERTIFICATED

By the Floral Committee of the R.H.S.

June 28th, 1887.

HEUCHERA SANGUINEA.

The merits of this handsome and really ornamental hardy plant have at last been recognised and acknowledged by the granting of a certificate. From a dense carpet of cordate, orbicular, toothed leaves, the leafless scapes rise to the height of 12 ins. or 15 ins., bearing a branching one-sided panicle of scarlet flowers. The whole calyx is coloured alike and constitutes the chief ornament of the flower, the petals being minute and white or pink. The plant was lifted from the open ground and was well flowered. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

CYPRIPEDIUM SUPERCILIARE.

The foliage of this species resembles that of *C. Lawrencianum*, but the contrasting shades of green and greyish green are less pronounced. The flowers, however, are fine, the labellum being large, deep purple and spotted near the base. The oblong petals are suffused with rose and marked with black spots along both margins, but chiefly the upper. The large orbicular standard is striped with green along the centre, and with purple towards the sides on a white ground. Exhibited by Sir Trevor Lawrence, Bart., M.P., Burford Bridge, Dorking.

CATTLEYA LABIATA LEUCOPHEA.

The sepals and petals of this variety are blush coloured, and reveal nothing novel; the lower part of the lip is also of the same colour, but the terminal lobe is beautifully crisped at the margin, and of a singularly curious slate colour. In this respect we have a new departure amongst Cattleyas, and something really distinct. Another marked peculiarity of the plant is its short thick pseudo-bulb and broad, short, leathery leaf; both very marked characters if they remain constant. Exhibited by F. G. Tantz, Esq. (Mr. J. C. Cowley, gardener), Studley House, Hammersmith.

AERIDES EXPANSUM LEONE.

A general view of this plant shows distichous, leathery, deep green leaves, obliquely notched at the tip, and an arching raceme of large, expanded and nearly flat flowers. The sepals and petals are blush with purple or violet tips, and, besides numerous small spots, the labellum is furnished with a large purple blotch on the upper portion and along the elevated or ridged centre. Besides being a well-marked variety, the plant is further enhanced in value by being deliciously fragrant. Exhibited by F. G. Tantz, Esq. (gardener, Mr. J. C. Cowley), Studley House, Hammersmith.

SYRINGA JAPONICA.

If this new Japan species proves hardy over the greater extent of Britain, it cannot fail to become a general favourite, from the great quantity of bloom produced and its delicate and agreeable fragrance. The large ovate leaves are perfectly unlike those of the commoner species, and the white flowers are produced in dense terminal panicles. The tube of the flower is short and comparable to that seen in *Ligustrum japonicum*, or some other of the large leathery-leaved species. The species are, moreover, so abundantly distinct from all the other Lilacs, that no collection can be complete without it. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

CHRYSANTHEMUM LEUCANTHEMUM SEMI-DUPLEX.

It is to be hoped that growers will improve on the semi-double flower now in hand, a form of the common Ox-eye Daisy of our meadows. A race of varieties might be obtained, which would be valuable from their extreme hardness and strictly perennial nature. The pure white flat rays are more numerous than usual, while inside of these many of the disc florets are developed into long, slender, white segments. The unaffected part of the disc is of the usual bright yellow colour. Exhibited by Messrs. Saltmarsh & Son, The Nurseries, Chelmsford.

TEA ROSE, CLEOPATRA.

The beauty of this Rose in the half-expanded state is very charming, and has been described by connoisseurs as the perfection of what we should expect in a Rose. The petals are broad and rounded, the outer being revolute at the margin, or rolled away from the firm central part. The whole flower is of a rosy blush, somewhat tinted with salmon in the centre. The leaves are deep green with reddish margins. Exhibited by Mr. H. Bennett, Pedigree Rose Nursery, Shepperton, Middlesex.

DELPHINIUM CHAMONT.

The exterior of the sepals in this form is of a violet-purple colour, while the interior is of an intense blue. In striking contrast to this, the petals, which are considerably larger than in the variety *Britannia*, are distinctly purple and fill up the centre of the flowers. The latter are borne in a long dense raceme, and are pleasing on account of the close, but not densely packed, nor lumpy condition of the individual blooms. Exhibited by Messrs. Kelway & Sons, Langport, Somerset.

ROSE (H. P.), LADY ALICE.

This new variety is a sport from Lady Mary Fitzwilliam. The parent being exhibited by its side, the difference between the two was readily discernible. It is a large, very firm Rose, of a blush colour fading to white on the outside, or this colour affects those petals that roll back as the flower expands. The form, as a matter of course, is precisely similar to that of the parent. Exhibited by Messrs. Paul & Son, The Old Nurseries, Cheshunt.

GAILLARDIA VIVIAN GREY.

The disk florets before expansion are orange-yellow, but after this has taken place the whole head is colourous, and clear yellow. This being so, it is strikingly distinct amongst the numerous forms now in cultivation. The broadly wedge-shaped, three-cleft florets of the ray give these Gaillardias a bold and massive appearance. Exhibited by Messrs. Kelway & Son, Langport, Somerset.

PÆONY, GLORY OF SOMERSET.

A peculiar feature of this variety is that the large, massive, double flower seems to have several centres, after the manner of rosetted double Begonias. The petals are of a soft rosy pink, and all central ones are apparently ranged round these centres; and those occupying the axis of the rosettes are narrow and fringe-like. The flowers are fragrant, a quality common to many of the forms of the Pæony. Exhibited by Messrs. Kelway & Son, Langport, Somerset.

DELPHINIUM BRITANNIA.

Amongst numerous fine varieties shown, this double shone out conspicuous for its great size and novel bi-coloured appearance. The sepals are large and of a vivid blue, while the petals occupying the centre of the flower are small, numerous and white, with a yellow beard, or a few of the outer ones may be more or less banded with blue. The stem is so stout as to appear fasciated, and is densely covered with large flowers. Exhibited by Messrs. Kelway & Sons, Langport, Somerset.

GARDENING NOTES FROM SCOTLAND.

Grapes at the Tweed Vineyards.—Famous as Messrs. W. Thomson & Sons have been for years as successful Grape growers, never did their Vineyard contain such a magnificent crop of fruit as the vines are at present carrying. They are worth a long journey to see, and should any gardening friends find themselves in the neighbourhood of Clovenfords, my advice to them is to call and see them, for they will be well repaid for their trouble. The houses, which are well adapted for Grape cultivation, are 200 ft. long, and 26 ft. wide, and those containing the Lady Downes and Gros Colmar are magnificent, and the Muscat of Alexandria is superb. I question if a finer house of Muscats was ever seen. The house is a lean-to, 200 ft. long, and 18 ft. wide, and the berries are just beginning to colour. Duke of Buccleuch is well grown here also, and fine crops are to be seen in the corridor connected with the houses. In addition to the above, a fine collection of Orchids has been got together during the last few years, and the plants are in grand health, and include many novelties of sterling merit, which have from time to time found their way to the fore at our principal exhibitions.—O.

The Drought.—We are very much in want of rain in this part of Scotland, as the dry, hot weather we have been experiencing for the past fortnight is such as we have not had for a number of years. It is quite a common thing to have the thermometer standing at 111° Fahr. in the sun, and everything is getting burnt up. It looks very dull to-day (28th June), and I hope we shall have rain soon.—*Alex. Cruickshank, Glenbervie, Kincardineshire.*

Kalmia latifolia, in Perthshire.—This handsome-flowering shrub is to be met with in many parts of Scotland; but probably two of the best examples are to be found in Perthshire, one in the American garden at Dunkeld, the residence of Her Grace the Dowager Duchess of Athole, and the other in the grounds of Pitfour Castle, in the Carse of Gowrie. The Dunkeld specimen is about 36 ft. in circumference

and 10 ft. in height; while the Pitfour plant, although not so high, is fully 3 ft. more in circumference. Both are perfect in symmetry and in vigorous health; they are well set with flower buds this season, and, when fully expanded, will add considerably to the beauty of their respective surroundings.—*D. P. L.*

Fruit Bushes.—It is supposed by many that fine crops of small fruit depend entirely on the state of weather experienced during the current season, and it may be true that severe frost and cold winds, accompanied by wet weather at the period of flowering or in the early stages of fruit, are destructive agents to the small crops; but how are some of our old Caledonian friends to be reconciled to such statements when they cannot point to any season in their lifetime in which they had minimum and inferior supplies, knowing, too, that some of these "sages" are not placed in the most favourable positions as to climate or soil, both of which we value as conducive to small fruit-growing. We know when selections suitable to the district are made, and treatment by pruning, mulching, and lifting, if necessary, is pursued, that much can be done to secure abundance. Many object to any summer pruning or thinning of the bushes, and we do as little of it as we can avoid during the busy period; but we think it is generally admissible that thinning, topping, and regulating Gooseberries and Currants is as necessary as bush Apples and Pears. Young bushes in strong and unequal growth are much improved by the above practice from June onward. The strong leaders may be topped at from 12 ins. to 15 ins. of the current year's growth. If the shoots be too thick, and are crowding out the sun and air, they may be thinned by a judicious hand. The fruit of the present season will also be much improved in flavour and appearance. Black Currants ought to be more sparingly dealt with, and little stopping done except in cases where the bushes are falling outwards, and not able to sustain their weight. Raspberries may be reduced to five or six of the best canes to each stool, and if they are to be arched the stronger the better.—*Caledonian.*

Good Old Plants are well cared for in Messrs. Cunningham and Fraser's nursery at Comely Bank, Edinburgh. Such generally neglected subjects as *Luculia gratissima*, *Blandfordia nobilis*, *Mitraria coccinea*, *Desfontania spinosa*, *Philesia buxifolia*, &c., are grown in quantities, and are now in flower. It is quite a treat to see them, and makes one reflect upon the past when we more frequently saw these good old things than we do now.—*A. O.*

Roses.—There is little to be added regarding the attention required by Roses at the present season, but evidently there is either much neglect or misapplication of means in Rose culture; as we frequently see puny blooms; straggling plants with the most distressed appearance; absence of water or hard water used frequently, but only in such quantity as to do mischief; roots away down in cold inert soil, because the surface over them is severely dealt with by dribblings of moisture; no mulching allowed; manure-water given strong enough to destroy young rootlets near the surface, dry hard-caked surfaces, and grubs, aphids, or caterpillar having it all their own way. Remove these Rose destroyers, deal liberally with the plants, feeding abundantly but judiciously, and there will be fine Roses.—*Caledonian.*

Parsley.—It is not uncommon in northern, cold, and damp gardens to find much scarcity of this indispensable herb during the spring months. A great amount of the disappointment we hear of might be avoided by the exercise of a little care during the growing season; and as we often have the greatest abundance where the roots are on the poorest ground, it is suggestive that by too great a luxuriance during the period in which the plants are making their growth, the greatest scarcity is most likely to be experienced the following season. At the present time we prefer drawing drills on very firm soil, well exposed to the sun—if sloping southward so much the better—and planting the thinnings firmly from early sowings. About August these are closely picked, and all loose growth cleared away. A new short crop of fine quality is formed, stiff and hardy, which will be in fine condition the following winter and spring. A plantation made under a wall, or where a frame can be placed over the plants during winter, to give supplies in times of snow and severe frost, is a commendable practice.—*Caledonian.*

THE AMATEURS' GARDEN.

WATERING.—Owing to the spell of dry weather that has prevailed for some weeks past, all other work has been greatly held in abeyance, so that hose and watering-pot may be kept at work from morn till night. Plants in pots may be watered at any time; but those out of doors especially will require close attention, and, in many cases, watering twice a-day. This applies equally to winter-flowering plants that have made their growth and are now standing in sheltered or sunny places to ripen their wood and be out of the way till again required for forcing, or to be housed in autumn. Less watering will be needed by plants shaded by a north wall; but even in this case they must not suffer neglect. All rapidly-growing things, such as Vines, Cucumbers, and Melons, require an unstinted supply; in the latter case, whether the roots are indoors or out. If the borders have not already been mulched, it should be done without further delay. Strawberries have set an abundance of fruit; but their size and quality will greatly depend upon the supply of moisture accessible to the roots for a few weeks at this period. Considering the great promise of fruit, the Strawberry plots and borders would well repay a little special attention, notwithstanding the great stress upon garden labour at this busy season; and where a good supply of water is at command, a thorough soaking should be given, which the mulching will, in a great measure, prevent from being wasted or unduly evaporated. Wall trees, especially Peaches and Nectarines, are not yet out of danger, and should still be looked after with hose or engine, as the case may be. Lawns, especially those subject to much treading, soon get brown and burnt up in patches during spells of dry weather such as we have experienced. This is particularly liable to happen where the grass has been patched or made up at different times. A good watering will do much to remedy the evil, and an attempt should be made to have it done in the evening or as near sunset as convenience will permit.

SUMMER PRUNING.—Wall trees, and all those pruned on the orthodox system and intended to be kept small, should now receive attention. A two or three-fold purpose may be effected by timely attention now to these valuable fruits. A considerable amount of growth has been made, especially where little or no attention has been given to disbudding. All shoots unnecessary for the extension of the tree, if cut back to two or three eyes, will induce the formation of fruiting spurs. Leading shoots, where likely to prove too strong, may be nailed in at once, which will check them to a certain extent; weak shoots should be encouraged to grow by leaving them loose or fastening them in an upright position. This is most necessary on the lower part of trees, where the branches are least vigorous. Summer pruning is an excellent means of getting rid of several insect pests, such as green and black aphids, difficult to dislodge by water even when applied forcibly, owing to the curling of the leaves. Where size and quality of fruit, rather than quantity, is desired, thinning should be done, leaving the largest and best situated ones to develop and ripen.

BIENNIALS, &c.—Since the pits and frames have been emptied of their contents, bedding and other plants, they may now be utilised for getting up a stock of various choice biennials or perennials for next season's display. These include *Cinerarias*, *Calceolarias*, *East Lothian* and other Stocks, *Campanula medium* and its numerous varieties, *Antirrhinums*, *Celsia cretica*, *Verbascums*, choice Foxgloves, Pansies, Primroses, Cowslips, Auriculas, and various species of *Himalayan Primula*. These may either be sown in specially prepared soil in the frames, or where the seed is choice, and limited in quantity, the latter will be safer in boxes, pots, or pans, as the case may be. After watering down with a fine rose, close the lights and shade during the day. This will favour germination by preventing undue evaporation. Some of the seedlings will come up in a few days, and should be removed immediately to another frame where ventilation can be given to prevent drawing, and induce a sturdy vigorous growth. The wisdom of sowing seeds in moveable pots, &c., is here apparent, as germination will always proceed unequally where great variety is grown.—*F.*

AN AMATEUR'S GARDEN AT OXFORD.

BEING at Oxford a few days ago, I paid a visit to that well-known amateur cultivator of Carnations and Picotees, Mr. Joseph Lakin, of Temple Cowley. Mr. Lakin was in the police force for many years, and towards the close of his service held a position of considerable responsibility. When he retired he had some thoughts of locating himself in the midland counties, but eventually took up his residence at Temple Cowley, near to his old friend Mr. E. S. Dodwell. For many years past Mr. Lakin has been an enthusiastic cultivator of plants, and a successful exhibitor also. Of Carnations and Picotees he has about 850 pots of choice varieties and selected seedlings; he has also many of the latter in the open ground. He grows largely of Mrs. Simkins and other Pinks for cutting purposes, disposing of his spare flowers locally for sale in the Oxford markets. He has a good collection of show and fancy Pansies, Tea and Noisette Roses and double and single Pyrethrums; large beds of named and seedling Delphiniums, and also a collection of choice hardy perennials, including Lilies, &c. The garden is nearly half an acre in extent, the soil being of a deep sandy loam, resting upon sand, and every part of it testifies to the most constant care and untiring attention. "The best possible" appears to be Mr. Lakin's motto. What he grows is good; nothing inferior is worthy a place in this interesting garden.

As an exhibitor of Carnations and Picotees, Mr. Lakin is always to the fore at the meetings of the National Carnation and Picotee Society in London, and the Carnation and Picotee Union at Oxford. Contrary to the usual practice, Mr. Lakin grows but one plant of a Carnation or Picotee in a pot. He mainly uses 7-in. and 8-in. pots, the strongest being in those 9 ins. in diameter. He pots early also, last year commencing on February 3rd and finishing about the 12th of April; this year the operation was completed about the 22nd of April. He states that early potting means earlier roots, and he holds the opinion that it is better to have a pot full of roots than full of soil with but few roots. The compost he employs is good yellow loam, leaf-soil, decayed cow-manure, and dried sheep-dung; the roots go right through such a soil, and the plants derive great benefit from it. Old mortar-rubbish is also mixed with it, Mr. Lakin holding that the employment of this material gives colour to the flowers and causes the white to come purer. The pots are well-drained, and Mr. Lakin is a great believer in firm potting.

He has a fine collection of hardy perennials, among them the large orange-yellow *Inula glandulosa*, *Ornithogalum pyramidalis* (the tall Star of Bethlehem), *Delphiniums* in variety, and many fine seedlings; double *Pyrethrums*, the favourite varieties being *P. niveum plenum*, *Princess Metternich*, a late variety; *Herman Stenger*, *Uzzel*, *Progress*, *J. N. Tweedy*, *Boule de Neige*, and *P. imbricatum plenum*. The plants are divided in March, and Mr. Lakin has large beds of them. From a bed of *P. niveum plenum* he cut as many as 5,172 flowers in one week. Other perennials are *Lychnis viscaria*, *Spiræa filipendula*, a charming subject for cutting; *Geum coccineum flore pleno*, *Mertensia siberica*, with its pretty, gracefully-drooping pale blue flowers; *Echinopsis ruthenicus*, the Blue Thistle, as it is sometimes called, the heads of which sell remarkably well; *Anthericum liliastrium majus*, the rich crimson *Papaver bracteatum*, four varieties of *Tradescantia*, the beautiful pale purple *Geranium armenium*, the double white *Rocket*, *Centaurea rigidifolia*, *Iris germanica*, in fine variety; *Salvia tenora*, *Campanula persicifolia*, blue and white; *C. urticifolia fl. pl.*, *Pæony officinalis*, in variety; the purple *Campanula glomerata dahurica*, *Lupinus polyphyllus*, blue and white, &c.

At no period of the year is this garden without something of interest. There are early spring-flowering subjects and those that bring up the rear of the floral procession in late autumn. I am sure Mr. Lakin gets a great deal of enjoyment out of his garden, and all who know him unite in wishing him good health and long life.—R. D.

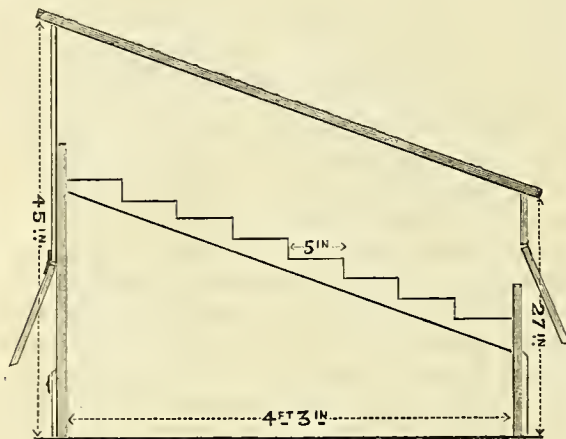
KILLARNEY FERN.—Take care that the direct rays of the sun do not play upon the Killarney Fern (*Trichomanes radicans*), or the fronds will be permanently disfigured by being browned. We have a beautiful specimen in a glass case, staged at the western end of the greenhouse, which, a year or two since, was collected at Killarney.—C.

SMALL AURICULA GROWERS.

THE very kindly notice of my former communication by your correspondent, "C. A. G.," in your issue of the 11th inst., makes it a pleasure to comply with her request for "a little more."

I have two frames—one about 4 ft. square, 16 ins. high at the back, and 11 ins. in front. The pots stand on strips of deal resting on blocks running from back to front, and about 2 ft. long; those at the back being about 3 ins. higher than the front ones, thus giving two levels. The strips are placed sufficiently wide apart to admit of free drainage. This simple arrangement keeps the pots well off the ground, and the frames are raised to admit air at the bottom by a parliamentary move called "blocking." I generally keep a toad in the frame to destroy vermin.

My other frame is 6 ft. 4 ins. by 4 ft. 3 ins., and made with 9-in. by 1½-in. deals, 45 ins. high at back, and 27 ins. in front, with two lights. The second deal from the bottom, both front and back, is cut in half, hinged to the one above, and forms four flaps, which can be opened or closed as required; they are fastened by buttons screwed on to the bottom deal. The stage for the pots is formed by two pieces of 4-in. deal for each light, with graduated steps 5 ins. wide (as shown in the accompanying illustration), resting in four sockets, two at the back and two in front, inside the frame, about 16 ins. apart, and 15 ins. below the lights for plants in bloom, and 5 ins. higher when out of bloom. Two deal strips are laid across the steps on which the pots stand. In this frame the plants are easily got at, and when in full bloom, nicely



SECTION OF MR. FIFE'S AURICULA FRAME.

arranged, and the sun shining on them, form a picture of indescribable beauty.

The "tucking-up" business commences about 7 p.m. the untucking about 9 a.m., and when once begun is resolutely persevered with until show-day, in the hitherto vain hope of having a few plants fit for South Kensington. No air is admitted except during the day when the weather is favourable. As to watering, I drain the pots well and keep the soil moist all through the winter, and as soon as growth commences I increase the supply, and if the weather is a bit warm give the plants an extra drop, when they do well and increase and multiply.

I have not tried "C. A. G.'s" experiment of standing newly-potted Auriculas in water a short time before consigning them to close confinement for a few days, but I generally soak the roots before washing them, and give the whole plant a good ducking before repotting, which effectually cleanses it of all dust and live stock (if any), and if the air is dry, I sprinkle slightly once a day. For compost I use two parts loam, one part well-rotted cow-manure, one part broken leaves (never leaf-soil or leaves that have been heated), about one-twentieth part of small pieces of charcoal for drainage, a limpet shell convex side upwards, and about 1 in. of broken pots or bricks.

If the "levelling up"—that is, later date—suggestion should be adopted, which would simply be putting all exhibitors on the same footing, I venture to think that we (the small growers) could make a good fight for, and very possibly carry off some of the lesser honours. I sincerely thank "C. A. G." for the kindly manner in which she has referred to my former notes, and I trust the foregoing may be of interest to her and other growers of my favourite flower.—T. Fife, *Southern Hill, Reading.*

AURICULAS IN COLD FRAMES.—I read with great interest the remarks which appear from time to time in your valuable paper on the culture of these lovely plants. Perhaps "C. A. G." may be interested to know that when re-potting some Alpines a week or two ago, I adopted her plan of standing a portion of them for half an hour in a bath containing tepid water about ¾ ins. deep. The result is most gratifying; not a single leaf flagged, and they are now looking far healthier, and more vigorous than the others re-potted at the same time in the usual way. I was afraid to attempt it with show kinds, but shall not hesitate to do so another year.

Many of the pots I used this season are now coated on the rim and on the outside with a whitish salty-looking substance. Will any of your readers tell me what it is (something in the clay I imagine), and if it is at all injurious to the plants?

In *Gardening for Amateurs*, the Rev. F. D. Horner says, he has the weight of clay that goes to a 4½-in. pot, made into one of greater depth and lesser width. Will he kindly say what depth and width he has them made, and give the name of the maker? I am sure many growers would like to obtain them from the same source. Also do any growers favour glazed pots, and where can they be obtained?—*Amateur.*

ACHIMENES.

Of this genus a large number of species are known, many of which are sufficiently ornamental to deserve cultivation in our stoves, but most or all of the species are capable of intercrossing freely with others; and as horticulturists early recognised this fact, we seldom find true species in gardens, but the hybrid or improved forms. At present they do not seem to be cultivated to that extent which their beauty would warrant, except in a few gardens where the old custom still prevails, or in those few who have been able to secure some of the newer and finer sorts, especially of continental origin, which find their way across the Channel occasionally. Since Mr. Anthony Parsons died, the production of Achimenes in this country seems to have suffered a check. Dazzler, Parsonsi, and coccinea were some of the many fine things originated by him.

With a little care and attention the greater number of the improved forms are most profuse in flowering, and last many weeks in perfection. The scaly tubers, whether short and bulb-like or elongated and rhizomatous, should be inserted rather thickly in pans in leaf-soil or cocoa-nut fibre in March or April, according to the time they are required, and placed in a moist heat, either in a stove, pit, or propagating frame and kept slightly moist to start them. When they have fairly started into growth they should be inserted in 6-in. pots to the number of five to ten, according to the size of the leaves and vigour of the variety in question, using a compost of three parts fibrous loam, and two of leaf-soil, with sufficient sand to keep the whole porous and open. Peat might be used in place of leaf-soil, but the latter is best. Grow them on in a temperature of 60° to 70° Fahr., with full exposure to light. They would be greatly benefited by the application of weak manure water two or three times a-week from the time the flower buds appear. Syringe freely when growth is advancing to keep insects in check, and encourage a free growth. They are also admirably adapted for cultivation in baskets, and suspended from the roof in a conservatory, using the same compost as for pots.

When they are nearly at their best shift them gradually into cooler quarters to harden them, when they may be transferred to the conservatory. Shade them from bright sun, and the flowers will keep in perfection for many weeks, and impart a rich glow of colour to a house such as few plants are capable of doing. The best effect is produced by grouping them together, and not dotting them singly about the house. As they show signs of having finished their growth and flowering, gradually withhold water to ripen their tubers, which should be kept in the soil in which they were grown, keeping them dry, and in a temperature of 55° Fahr., till time to start them again in spring. Our illustration gives a fair idea of the habit and general appearance of the flowers, but a mass of plants is necessary to a fair estimate of the effect they are capable of producing.

AN HOUR IN A MARKET GARDEN.

WHATEVER pleasure may be derived from an inspection of the flower garden at this season, an hour or two spent in a market garden is not only interesting, but profitable. One sees, moreover, the means employed for the production of fruits, vegetables and flowers, in quantity for the market, which the gardener in a private establishment has seldom or never the means of attempting.

We recently had the pleasure of being conducted through the extensive grounds of Mr. William Warren, Holly Lodge, Isleworth, who grows fruit chiefly, on a large scale for market. The Cyclamen, however, is a special favourite here, and about 10,000 are annually raised and flowered for Covent Garden. The earliest lot are now in an advanced state, showing flower-buds, but having recently received their final shift into 40-size pots, will push into more vigorous and leafy growth, and come into flower about October or towards the end of September. At the final potting the corms are put into good rich yellow loam. The old plants retained for the production of seed, are now ripening the last of their seeds. The great size and plump character of the seed is such as we seldom see. A magnificent variety of Mignonette, named *Reseda odorata pyramidalis grandiflora*, is also well grown for market; and old plants in large pots are now producing seeds in great abundance.

In the enclosures devoted to the production of fruit, the ground is occupied by two or even three different kinds of the latter or vegetables. A considerable breadth has been planted recently with the Czar—a large, oval, red-coloured Plum of comparatively recent origin, having fruited for the first time thirteen years ago. It is an early variety, ripening about the beginning of August, and useful for market purposes, as it does not crack by rain. The young trees are now heavily laden with fruit. A much greater extent is planted with the Victoria Plum, and from present appearances the branches will be unable to support the weight of fruit when it attains size. Between the trees Gooseberry bushes are planted in quantities co-extensive with the Plums. Seven acres of the variety known as Lancashire Lad are grown; but although the bushes appeared in a vigorous condition, the crop is only a medium one. May Queen is a much earlier kind, with large berries; the crop was moderately heavy at the time of our visit, and was sent to market for use in a green state. The Sulphur Yellow is also grown to some considerable extent. The Julian Apple, being an early free-fruited variety, also finds favour here. Between the lines of Gooseberries, especially where the latter are small, Strawberries are planted, Sir Joseph Paxton and the Scarlet Strawberry finding the most favour.

Mushroom beds made up on the ridge system in the open air, were a feature of great interest; the earliest of them were made up in October, and these are still in full bearing order. In the space devoted to Mushroom culture, there are, in the aggregate, eighty-seven beds of all sizes, and which, if placed end to end, would extend over half a mile. The ridge is 36 ins. wide at the base and 46 ins. high, and over all is piled the littery part of the dung to a considerable depth, in order to retain the requisite heat and moisture. This extensive series of ridges is gone over three times a week, and the Mushrooms fit for use collected; and these in one week recently amounted to 2,290 lbs., or somewhat over a ton. A reasonable estimate of the quantity, however, would be from 1,500 to 1,600 lbs., collected at the three weekly gatherings. These beds are all in the open air, without other protection than the straw covering, which has to be removed and replaced every time the Mushrooms are collected, which will give an idea of the amount of labour entailed in the operation. Irish labour is employed, which is, it may be stated, as much in request and as serviceable as it has been for many years in market gardens around London.

TREE PÆONIES.

WE have received with much pleasure from Messrs. Kelway & Son, Langport, a fine boxful of varieties of *Pæonia Moutan*, which bids fair to become extremely popular in British gardens—far more so than in the past, when Robert Fortune enriched our collections from the ancient resources of China. Three deliciously-scented varieties were enclosed in the box, of which one named *Macella* resembled a golden *Madame Desgrange Chrysanthemum*, with the exception of the outer petals, which were broad and pure white. *Empress Queen* was a globular mass of pure white, with a faint blush tint in the centre. A third variety, *Messala*, of a fine deep red almost crimson colour, was also somewhat fragrant; and several others were more or less scented, but we believe much depends upon the age and condition of the flower. *Fabia* was conspicuous for its immense size and globular shape, fully double, and of a charming rosy pink colour,



VARIETY OF ACHIMENES.

tipped with white. A somewhat smaller flower, named *Agnes Kelway*, with much paler blush-pink and white petals, was also a handsome bloom. A delicate rosy pink, charming and fully double flower is *Lady Leonora Bramwell*; it was also distinctly fragrant. Two semi-doubles, named respectively *Beatrice Kelway* and *Morpheus*, accompanied the others. The former is a lively rose colour, suffused with white and pink, while the latter is deep rose. Tastes differ, but certainly the doubles were fine flowers.

FLOWER SHOW JUDGING.

THERE is one point in the discussion as to the merits of flower show judging raised by "Heath End" not alluded to, and it is this, that flower show committees have to provide their patrons with as good a display as possible—literally as much as possible for their money; hence the provision of quantity too often has to dominate over mere quality, and on that principle judges decide. Whenever I have found large plants, well grown and flowered, in competition with small

plants in a similar condition, even though the latter may have shown the finer or more modern quality, I have given the big plants the advantage on the ground that they were more in accord with the requirements of the schedule in inviting the best plants, and also because although one may have plants with flowers of finer quality, yet the larger and well-done plants showed the greater merit in the matter of cultivation.

It by no means follows because an exhibitor has half a dozen of Laing's new *Begonias* or those of any one else that they are more difficult to grow into good specimens than are the best forms of several years since; therefore no merit can be obtained on that head. Again, schedules, as a rule, make no distinction as to quality in flowers. At home, in a greenhouse or conservatory, the smaller plants may be preferred to the larger ones, because the former have not only the best advanced quality, but occupy less space. At a flower show, as they go at present, judges can be troubled by no such considerations, unless they happen to be raisers of the things being judged, when the award may be unduly biased; but honest judges must consider the merits of the plants for the object in view, and cultivation and floriferousness being equal, the larger must have the award. I do not say that in making judgments of this sort judges always act in accordance with their predilections. They would very likely prefer the smaller plants for their own purposes, but in a show, where the traditional course must be followed, they have to act as public duty dictates, and not as their own particular desires run.

If flower-show committees were sincerely anxious to promote modern advancement in quality of flowers at their shows, they would always make excellence an essential condition in judging; but if no such special condition be affixed, no particular stress can be laid upon it. If, for instance, in a class for *Begonias*, the schedule was to require the judges to give preference to quality of the flowers rather than to size of plants, or, again, were to limit the plants in a class to certain sized pots, so as to shut out large plants, judges could hardly make a mistake, or do other than regard absolutely the expressed instructions of the schedule. You have said, wisely, that no hard and fast rule can be laid down for judging, and that is so; but if any rule prevails at all now, it certainly is this one, that the most effective and showy exhibits shall have the preference.

I am by no means advocating the keeping of big plants for shows. On the whole they are objectionable; and others as well, perhaps better grown, and half the dimensions, will exhibit all the merits of a plant to the best possible advantage. Show committees, however, by placing no limit as to size of pot, as a rule seem to encourage big plants; hence so many of the effete old-stage class still haunt our exhibitions. "Heath End" closes his

complaint by asking whether it is not now correct to train big *Pelargoniums* as pancakes. I do not admit that it was ever the correct thing, although with a grossly vitiated taste prevailing, it has been much encouraged. The contorted *Pelargonium* is as much an outrage upon good taste, and not less upon nature, than is the contorted flattened pancake *Chrysanthemum*, and all should be deprecated. This is not so much a question of pot as of style, and if schedule committees would call upon judges to disqualify all plants distorted, bent, twisted, or otherwise unnaturally trained, these floral pancakes would soon disappear. I say that no man, whose opinion is worth a rap, can aver that these big flat-trained plants are correct. They are tolerated because they give a lot of flowers, but, none the less, they are intolerably ugly.

I grew handsome zonal *Pelargoniums* for years, and never was beaten by my neighbours, but, absolutely, never used a tie or stick of any kind. Pinching did all that was needful, and never failed to produce beautiful masses of flowers on dense compact plants, and on ten months' growth. I could have preserved

these plants for a second year, and had ample space to tend them, and could have had quite grand masses, but I was compelled to devote them the second year to terrace decoration, and had to begin with young plants over again. Easily as zonal Pelargoniums, and Fuchsias too, are to be grown, yet, as a rule, these are the worst done plants at our suburban shows; whereas, with the grand kinds we have now in such abundance, they should make brilliant features at all our flower shows.—*A. D.*

HERBACEOUS AND ALPINE PLANTS IN FLOWER.

THE HORNED VIOLET.—For flower beds or panelled borders *Viola cornuta* would be out of place, especially in view of the enlarged and greatly improved forms of it now widely distributed over the length and breadth of the country. The pretty pale lilac-purple flowers, with the peculiarly diverging upper petals, which have earned for it the specific name, render it quaint and attractive for a cool place on the rockwork.

THE HORSE-SHOE VETCH (*HIPPOCREPIS COMOSA*) is one of the prettiest yellow-flowered procumbent plants that clothe the sides of our chalk hills during the months of June and July. It is equally attractive and desirable for clothing the banks and projecting ledges of our rockeries, provided there is sufficient depth of soil behind for the roots to dip down into, and thereby obtain supplies of moisture.

CLAYTONIA SIBIRICA.—The North American species, *C. perfoliata*, is, probably, best known in gardens, but as an ornamental plant, it is certainly inferior to the subject of this note, which is perennial and quite hardy. At no time does it exceed a few inches in height, the sub-fleshy leaves forming a rosette from amongst which the flower stems arise, bearing pretty rose-coloured flowers, much larger than those of *C. perfoliata*. A plant on a rockery will keep flowering all the summer.

ERIGERON AURANTIACUS.—There are several very distinct and ornamental species of this genus that may be grown either on the rockery or in the herbaceous border; but this Turkestan species is particularly adapted for the adornment of the former with its large deep orange-coloured flower heads 2 ins. across, borne singly on stems 9 ins. to 12 ins. high.

THYMUS SERPYLLUM COCCINEA.—Messrs. James Backhouse & Son, York, send us a beautiful new variety of our native wild Thyme. It is not scarlet, as the name would indicate, neither, it can be safely said, can we expect to find that colour in the genus. The flowers are, moreover, of an intense or brilliant rosy purple, with a crimson spot on the lip, and a small white one in the throat. The specimen sent was dwarf, compact, and very floriferous, every short branch terminating in a head of flowers. For creeping over mounds, or overhanging large stones in a moderately cool place on the rockery no plant is more suitable.

ERINUS ALPINUS.—There is a distinct white-flowered variety of this plant, but in point of beauty the purple-flowered typical form is the best—all things considered. The white variety, however, is sufficiently distinct and pretty to be grown as a companion plant to the other. Neither are they very long-lived plants when left in the open air during winter; but they seed freely, and seedlings germinate readily where the old plants grew.

VERONICA RUPESTRIS.—Of all the forms of *V. teucrium*, none produces a more brilliant effect than the subject of this note, universally known in gardens as *V. rupestris*. The variety called *V. prostrata* is probably the more closely allied, but flowers three weeks earlier and is less vigorous than this. The long trailing stems, furnished with evergreen leaves, are excellently suited for covering banks and rockwork, and the amount of bloom annually produced is something that should be realised by everyone possessed of a garden.

ROSEMARY-LEAVED ROCK ROSE.—Notwithstanding the ephemeral duration of all the Rock Roses, many of them are indeed pretty, as is *Helianthemum rosmarinifolium*, to be seen at Chiswick in the Gardens of the Royal Horticultural Society. The leathery evergreen leaves are revolute at the margin, and resemble, to some extent, those of Rosemary, as the specific name implies. The pure white flowers are produced in succession over a considerable length of time.

PLANTAIN-LEAVED THRIFT.—The typical form of this species is not to be despised; but the rose colour

of the flower-head of *Armeria plantaginea rosea* is very much intensified, and a mass of it is, indeed, an attractive rock-plant, which, when thoroughly established, thrives in drier places than many subjects of similar habit would, on account of its deeply-penetrating roots. It is flowering finely in the Royal Horticultural Society's Gardens, Chiswick.

ALPINE CATCHFLY.—Amongst the smaller-flowered species of *Silene* that are sufficiently distinct and decided in colour to merit attention in gardens, *S. alpestris* is one of the best, and will always maintain its position as an attractive rock-plant. It is a long-lived perennial and perfectly hardy in the severest winters. The flowers are pure white, with curiously-lobed or toothed petals. Propagation is easily effected by cuttings or by division. A specimen is flowering on the new rockery at Devonhurst, Chiswick.

INULA GLANDULOSA.—Although it cannot compare with the stately grandeur of *I. Helenium*, the largest British herb, yet, from a decorative point of view, the flower-heads individually are much finer, and from 2½ ins. to 3 ins. in diameter. The numerous golden yellow rays, together with the long singular-looking glandular bracts surrounding the head, lend interest and novelty to this Caucasian species, whose stems attain a height of 2 ft. or thereabout, terminating in a single flower-head. Mr. Walker, of Whitton, grows large quantities of it for market.

RHODANTHE MANGLESII.—The quantity of this fine West Australian annual now grown in this country, both for market and private purposes, furnishes ample evidence of its popularity and decorative value. Mr. Matthews, market grower, Whitton, cultivates both the typical rosy coloured and the white varieties in great quantity in pots; and those only who have seen it well grown in this way can form a proper estimate of its ornamental character. *Rhodanthe* is now sunk in the genus *Helipterum* by some.

GARDENING MISCELLANY.

A Monster Campanula.—Messrs. J. Veitch & Sons have sent us a huge and singular-looking form of *Campanula medium calycanthemum*. It has lost its bell-shaped character, and resembles a huge bowl or basin stood in a broad ornamental plate, deeply lobed or scalloped at the margin. The ovary seems to have become lost in the general expansion and flattening of the flower, and is only discernible by its pale green colour and hairy character. The flower stalk beneath it seems slightly fasciated and is somewhat coloured blue. The calyx is 12-lobed and deep purplish blue, constituting the broad flat plate in which the corolla resembling a basin is seated, and measuring about 4½ ins. in diameter. The reflexed recesses of the calyx as seen in the normal form of the species have entirely disappeared. The corolla, measuring about 4 ins. in diameter, is coloured similarly to the calyx, and has the same number of short reflexed, cuspidate lobes at the margin. The stamens are much more numerous than usual, and the huge style is cut into numerous twisted snake-like segments at the apex.

Planting and Thinning.—Much has been written on this head, like many other primary garden operations, without having the effect of deterring many from their usual practice of cramming roots of young plants into soddened soil. When this is done, especially if the soil is heavy and tenacious, it is long before the roots move away into active growth; and it sometimes happens, especially with Cauliflower, Lettuce and Celery, that the plant receives a check which drives them to premature seeding or "bolting." On sandy and light open soil this is not so general, but when the tissues of a plant become hard and dried, seeding invariably follows. Free growth is more likely to follow when a trowel is used in preference to a dibble in planting. For all the Brassica tribe of plants we draw deep drills, and after free growth takes place a good hoeing places the soil nicely round the stems, and no further "earthing up" is required. Much mischief is often done by allowing plants, such as Turnips, Carrots, Spinnach, Beet, Parsnips, Onions, &c., to remain unthinned till they are matted together and drawn up, when it is impossible to get dwarf, firm and vigorous plants by any after treatment. If the seed has been inadvertently sown too thickly, and

the seedlings come up in a mass, they should be gone over as soon as they can be handled, taking out tufts so that the plants may be able to develop their growth early in the season, and the proper thinning given as soon as the plants will allow of it with safety. It is not to vegetables alone that errors by tardy action in thinning is committed, but annuals, &c., in borders, as well as seedlings raised in pots, are often severely crippled by neglect in their early stages.—*M. T.*

Fruit Prospects in the Midlands.—This is anything but a cheery subject upon which to write. The splendid show of bloom gave great promise of a heavy yield of fruit, particularly of Strawberries, Pears and Apples. Alas! our hopes are blighted, and in many instances the return will be almost nil. This is, indeed, a serious matter in such a fruit-growing district, and means ruin to many. The Apple orchards were a sight very seldom seen: the many different varieties grown producing in every instance different tinted blossoms can be better imagined than described. At the present time it is difficult to estimate the crop, but I think I may safely say it will be much under the average, taken all round. Pears have stood much better, and many standard kinds are heavily fruited; on the walls they are very variable, many of the best kinds not producing a single fruit, on healthy vigorous trees. Passe Colmar, Doyenné du Comice and Glou Morceau are some of the delinquents, whereas Louise Bonne of Jersey, Marie Louise, Jargonelle, Beurré Rance (Williams), Madame Treyve, Beurré de la Assomption, Van Mons. and Althorp Crassane are carrying good crops. I ought to add, with regard to the Apple crop, that in the garden we have an excellent promise of the following kinds:—Ribston Pippin, Bleuheim Orange, Worcester Pearmain, Lord Suffield, Warner's King, Cox's Orange Pippin, Hawthornden, and several others, while off several large trees of Quarrenden we shall not obtain a dish of fruit. Strawberries promised to be most abundant; but we have been compelled to water freely to obtain even a short crop. Raspberries, too, flowered very freely; but unless rain soon comes all hope of a yield must be abandoned. Bush fruits of all kinds are a heavy crop, and with us stand well. Not so with all, for I know of an instance, on rather high ground, where one grower lost 150 bushels of Gooseberries, which dropped off the trees thus early in the season. Evidently fruit-growing is not so lucrative as some imagine. Currants of all kinds stand well and will be abundant; but not so with Plums. The long-prevailing easterly winds have been conducive to the production of an immense amount of blight, which has wrought sad havoc in both foliage and fruit, in many instances causing the total loss of the crop. This, in a district in which thousands of pots per day are despatched by rail, means a very serious loss. Of course, there are some exceptions; but I write of the majority, and with regret. Apricots are a good crop, and Peaches a heavy one. The trees are also exceptionally healthy, which augurs well for next season. Taken altogether, the outlook is far from comforting; but should we shortly obtain the much-needed rain, from the light crop of fruit they are carrying we may reasonably hope for a better return in 1888, and I ardently hope such may be the case.—*Walter Child, Croome Court.*

Victoria Regia.—Perhaps the finest specimen of this which has yet been grown in the Royal Botanic Society's garden at Regent's Park, is now in flower there. The first flower opened on June 15th, and a good succession of them has been kept up since, and is likely to continue for some time. Floating on the tank are the wonderfully constructed leaves, each 6 ft. across, and with a fence-like rim 5 ins. in depth. Many stories have been told of the great strength and buoyancy of the leaves of this plant, with their marvellous cellular structure beneath; but a test which Mr. William Coomber, the courteous superintendent, made one year, by gradually and equally distributing sand over a mature leaf, gives a most striking proof of it; the leaf bore, without breaking or sinking, more than 400 lbs. weight of sand. Also in bloom in the tank-house with the Victoria, are the red *Nymphaea Devonensis*, *N. dentata*, *Nelumbium speciosum*, the charming sky-blue *Eichorua azurea*, the noble *Sagittaria montevidiense*, and other interesting aquatics; while in one corner is the pretty white-flowered stove shrub *Wrightia Zeylaica*, so deusely set with flowers that we should think it would be a good plant to grow extensively for cut flowers.

Home Grown Pansies.—A box of blooms reaches us from Messrs. H. Caunell & Sons, Swanley, Kent. Judging from the size of the flowers, Pansies at "The Home of Flowers" would not seem as yet to be suffering from the drought that has been prevailing for some time and silently working havoc amongst garden plants generally. Amongst others were some excellent self-coloured blooms of merit. A deep velvety black form, with a small yellow eye, would constitute a good exhibition bloom, and several other self-coloured purples, in various shades, were noticeable for their size. The parti-coloured flowers, however, from their being more conspicuous are most attractive to the general public. Amongst these several yellows, or forms in which a yellow ground colour is most predominant, claim a large share of attention. The three lower petals are almost invariably furnished with a black spot of various sizes, giving character to individual forms. In one of these all the petals were furnished with a broad, brownish purple, velvety margin; this gave place to orange-buff, orange-crimson, or some other fiery colour in several other distinct and attractive forms. Where the ground colour is white or creamy white, the blotches on the lower petals are violet. Many of these blooms were distinctly and pleasantly fragrant.

Pancreatum maritimum—Only two of the species of this noble genus are hardy, and when grown in a border, intermingled with various other hardy plants, as the present species is at Chiswick, in the gardens of the Royal Horticultural Society, its distinct and bold appearance singles it out as an uncommon thing. The pure white flowers are borne in large umbels just above the numerous strap-shaped leaves, and, like many of the other species, are fragrant. In the Chiswick specimens the leaves die down in winter, and the large bulbs under such conditions prove quite hardy. If the soil is at all heavy, a quantity of sand and peat, mixed with that in which the bulbs are planted, will greatly assist in keeping the soil cool and open.

Single Pyrethrums.—A boxful of fine cut blooms comes from Mr. William Caudwell, The Ives, Wantage. Those who love hardy flowers cannot fail to be delighted with the bold massive-looking flower-heads of the varieties of *P. roseum*, now so plentiful in gardens. Those sent us were unnamed (probably seedlings), exhibiting all shades of colour, from pure white ranging through blush, flesh coloured or pink, and rose up to an intense shade of red, almost crimson colour. They measured 3 ins. to 3½ ins. across the ray, which is always the greatest feature of attraction; the disk being of a deep golden yellow, even in the white varieties, except in those forms exhibiting an attempt to become double or quilled, as in a quilled Aster, when the disk is coloured as in the ray. Mr. Caudwell grows them in quantity as there is a great demand for seed. Seedlings flower the second year, and if well treated form large specimens by that time, producing fine flowers, single or double, according to the strain. The ray-florets, in many cases, are of great length, broad, flat and frequently arranged several tiers one over the other. Cut blooms last a long time in excellent condition when put in water, and even recover if they have previously been flagging.

Begonia Arthur Mallet.—Alongside of the original type this would hardly be recognised as belonging to *B. incarnata*, so great is the improvement in the size of the leaves, which are obliquely heart-shaped, 6 ins. to 11 ins. long, and 3 ins. to 6 ins. at the widest. The colour is also very novel, being of a lively fiery or bronzy red, altogether different from the blackish purple colour of good forms of *B. incarnata*. Flowers are also produced abundantly on pendent branching stalks, and they, as well as the large seed-pods, are of a bright pink colour. The plant is, however, most valuable for its foliage, and cannot fail to give satisfaction if grown for that purpose alone. Beautiful specimens of it are to be seen at the Chelsea nurseries of Messrs. James Veitch & Sons.

Iberis Gibraltarica.—Without wishing to detract from the merits of the description of this hardy variety of the Candytuft given by "W. G." at p. 683, I cannot but point out that it coincides exactly with the delineation I should write of *Iberis corifolia*, one of the best-habited, freest to bloom, and purest-coloured of flower of all the section. I had always thought that *I. Gibraltarica* was but half hardy, and the flowers tinged with pink.—A. D.

The Alpha-Acme Label Rest.—Messrs. Storrie & Storrie, nurserymen, Dundee, send us a sample, in three sizes, of a label brought out and patented by them under the above name. A piece of galvanised iron wire is so twisted about the middle as to carry a wooden label in a horizontal position. The free ends of the wire, by insertion in the ground, constitute the support of the label. There are two loops in which this may be inserted or removed at pleasure, the support being light, durable, and practically imperishable. The wooden label is first painted with white and then with black. The name of the plant is then written with some hard-pointed instrument while the black paint is wet, which has the effect of showing up the letters in white on a black background. Wooden, zinc, or other labels may be used; but the former are guaranteed to remain legible for fifteen or twenty years, although we should add that a label lasting half that time would be a boon to gardeners generally. One good advantage possessed by the label rest is that the name of the plant it carries is kept clear of the soil, and not liable to get lost by the rapid decay of the wood.

Foxgloves.—That these are vastly improved in habit as well as in quality of flower is evident from the strain I have here, the spikes of which, whilst laden with flowers, packed closely and forming masses of several colours, are still not more than 24 ins. to 30 ins. in height; and though their altitude will be increased, yet on the whole the average height is fully 15 ins. to 18 ins. less than the older strain exhibited. Selection from short stems and compact or well-clustered flowers will do much in the direction of producing this desired result, whilst the objectionable legginess so often urged against Foxgloves as garden plants is non-existent. Few persons who have not grown some of the more select garden strains can tell how really beautiful they are when in bloom. The colours range from pure white, with the throats heavily blotched with deep maroon, to dark red, also beautifully spotted internally; the intermediate hues being very soft and pleasing. A pinch of seed sown at once in a pan or shallow box will soon produce an abundance of plants, which dibbled out thickly into a small patch of ground for a few weeks will prove strong plants to put out into the borders early in winter.—A. D.

Centaurea for Cut Flowers.—We grow a good quantity of *Centaurea montana* and its varieties, alba and cœrulea, and find them very useful for cut-flower work, as they last a long time in water after they are cut; and the fringed appearance of the florets on the receptacle, with the colours blue, white, and pink, make them stand out in beautiful contrast to most other flowers which are in season at the same time. These very hardy perennials will grow almost anywhere, either in the corners of shrubberies, flower-borders or rockeries, and should be largely grown where sufficient space is available and cut flowers are required. They will give a good supply until they are succeeded by the Cornflower, *Centaurea cyanus*.—*Alfred Gault, The Gardens, Copped Hall, Tottenham.*

Primula Reidii.—Whether this new Himalayan species is sufficiently vigorous in growth, and hardy enough to become a general favourite or not, it is certainly a pretty species, of dwarf habit and interesting appearance. It cannot compete with such fine species as *P. rosea* and *P. japonica*; but that need be no bar to its cultivation for its own individual and characteristic beauty. The comparatively large drooping white flowers are borne just above the distinct-looking hairy foliage, on a scape a few inches high. One peculiarity of the flower is that its fragrance resembles that of *Narcissus poeticus*. Several plants flowered recently in the Heath House at Kew.

Anthurium Rothschildianum.—The name here given is of a very comprehensive or collective nature, seeing that it includes a considerable range of variety in colour amongst the forms that can be raised from seed. The predominant colours are scarlet, white, and yellow, but the distribution of these is subject to great but pleasing variation. A great number of seedlings in all stages of growth may be seen at Messrs. James Veitch & Sons' establishment at Chelsea. The choicest forms are those with a scarlet twisted spadix, and a spathe closely blotched and spotted with scarlet on a white ground. The amount of scarlet is exceedingly variable on different individuals, and sometimes even on the same plant. Sometimes the spadix is pale yellow; and this is also

the case in the variety album, which has a pure white spathe. *A. Scherzerianum Wardii* is a magnificent variety with a large soft-scarlet spathe, and broad channelled leaves.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

ROSES.—Now will be found a good time to re-pot Roses. Unless these are annually attended to in this respect, they are wanting in vigour at forcing time, and rendered more liable to the attacks of Aphis; in fact are never so satisfactory as when systematically treated. In the case of plants in full-sized pots, it not being desirable to give them a further shift, let them be turned out of their pots, the size of the ball reduced, and then returned to the same size, they will then do as well as those shifted; but by far the better plan is to always keep a successional batch of young plants to take the place of those becoming too old. This remark applies more particularly to H.P.s.; Tea Roses, as a rule, seldom do this, added to which they require so much less root-room than perpetuals. What can be more useful than a good batch of that fine old variety, *Devoniensis*, generally in flower and always admired? With us it is still the best taken, all round. The best variety for button-hole work we find to be "*Le Pactôle*," this on a suitable stock gives a profusion of bloom with a delicious perfume.

CHRYSANTHEMUMS.—If not completed, attend without further delay to the finishing of the shifting on of Chrysanthemums; and, if possible, let the plunging of the plants proceed as the work is carried on. With the present dry weather they are apt to suffer; in fact, if room can be found in some shady part where they may be stored for a few days before being placed in their summer quarters, it will be all the better. Flagging is at all times most injurious to them. The summer-flowering varieties are now coming into flower, and to obtain purity of colour we shall place them on the stages in the greenhouse.

THE STOVES.—Keep the floors and stages in the stoves frequently damped down, and use the syringe freely, or thrip will make sad havoc among many of the plants. Shift on *Celosias* as they become sufficiently advanced; through stress of other work we have been obliged to throw away one batch which had become infested with red-spider. Of course, we at once made another sowing, and we quite hope for better results than if we had kept the dirty stock on. *Poinsettias* we have removed from the heated to the cold frames, where they are freely ventilated; the only precaution necessary being the shading of the frame for a few days rather closely, but with plenty of air, gradually reducing the shading until they can be fully exposed. Under such treatment they give much finer bracts than if kept coddled up in heated houses or pits.

THE FRUIT HOUSES.

VINES.—Much care is now necessary in the giving of the Vine borders an abundance of water, or shanking may be expected to follow; and what is even of quite as much consequence, the clusters will not colour if the Vines are kept short of water. Nothing is more to be deprecated than splashy waterings in the cultivation of the Vine; a thorough soaking should always be given, to be followed, if thought advisable, according to the texture of the foliage, by the sprinkling on the surface of the inside borders of guano or other artificial manure, which will greatly assist in keeping all healthy and clean. With the intense sun prevailing, we have had the roofs of the vineries containing ripe and ripening black Grapes syringed lightly over with lime-wash, which helps to retain the colour and also relieves the foliage. Care must at all times be taken to freely ventilate. Muscats are ripening up fast, and we have given the borders a good soaking, using as a manure Clay's Fertiliser, which we find the best. Should the weather become changeable—and it is much to be desired—the pipes will be kept nicely warmed. The variety *Mrs. Pearson*, which we have inarched on the Hamburgh in the second vinery, appears to take a long time to mature. The general crop is well advanced in colour, while *Mrs. Pearson* is as green as a Leek. Should it prove late, we intend trying it under Muscat treatment, as I have been assured it is well worth all the care that can be given.

MELONS AND TOMATOS.—We have made another sowing of Melons, which will succeed the house from which we are now cutting. We have also made a sowing of Hackwood and Nisbett's Victoria Tomato for autumn and winter fruiting, which will be potted on and grown out of doors until such time as room can be found for them inside. Generally speaking, we train them over the walks in the Cucumber range, where they keep us well supplied with fresh-cut fruit until the new year.

THE KITCHEN GARDEN.

WATERING.—Much time must unfortunately perforce be devoted to the watering of all crops; to all quick-growing things we prefer to pour it on out of buckets, thus securing a thorough soaking; the following day the hoe should be run between the rows to prevent the crusting of the surface soil. We have thinned out Beet, Salsafy, and Chicory, afterwards hoeing between the drills. The hoeing and moulding of all Potato squares is completed, but to prevent the seeding of weeds, they should be looked over occasionally and removed; rain is much needed by this crop, or the produce will be much smaller than usual. Already the early ones are dropping, the skin being quite set, so that they would derive but little benefit from rain.

Should the drought continue much longer, we must start the planting out of green crops, or the plants will be spoiled from overcrowding, but we shall take the precaution of dipping the roots into a thick manure "batter," by which means they start more readily into growth. We have made a good sowing of Hardy Green Colewort, which we find most useful, particularly in a severe winter; one thing, we always give it a good open quarter. Keep the hoe at work amongst the Asparagus beds, and if procurable, a good dressing of salt to the surface of the beds may with advantage be given; and as Peas are now plentiful, the cutting of grass should be discontinued. Cauliflowers turn in very fast, and it will be found advisable to break some of the leaves over the heads, so as to keep them of good colour.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—Now that the flowers of Carnations and other things in the open ground are swarming with thrips and similar insect pests, their rapid multiplication under glass need not be wondered at, and the time spent in searching out and destroying them is therefore well bestowed. Continual sponging with weak tobacco-water is one of the best remedies, and the most effectual and least injurious; but it takes time, however, and where that cannot be given a more rapid method must be resorted to. Fumigation has always been known to be a risky practice even to those who follow it most carefully, the quickly visible ill effects on such plants as *Lycastes*, *Odontoglossums*, &c., being proof positive that it could not be very beneficial even to more hardy and less susceptible subjects, although they might not immediately show it.

In the Thanatophore, however, supplied by Mr. B. S. Williams of Holloway, from all the information I have received from those who have tried it, I believe a simple and ready means of keeping down insect pests in plant houses has at length been found, and one which is good either on a large or a small scale. Of the usefulness of the Aphicide and Fir Tree Oil of Mr. E. G. Hughes, of Manchester, when prepared and used according to their instructions, I can also speak highly from personal experience. There is no reason why plants should be so disfigured by insects as we see them sometimes, for even the most tenacious of them can be kept under, if not exterminated; and, to my knowledge, in most of our best collections the dreaded yellow thrip has by careful watching, cleaning and good ventilation been almost got rid of.

THE TEMPERATURES FOR THE MONTH OF JULY should be:—East Indian or warm house, 75° to 85° by day, 70° at night; Cattleya or intermediate house, 70° to 80° by day, 65° at night; *Odontoglossum* or cool house, 60° to 70° by day, 55° at night.—*James O'Brien.*

Lælia majalis.—Two lovely examples of this beautiful Orchid come from Reginald Young, Esq., Fringilla, Ullet Road, Liverpool. So many fail to bloom this plant that we wish Mr. Young would give

particulars of how he grows it. The flowers are delicate rose-pink, with purplish markings on the labellums. The larger is 7 ins. across the petals from tip to tip, the petals and labellum being 1½ ins. wide. The smaller had two flowers on a spike, and the labellum is the more handsome of the two; both, however, are exquisitely beautiful.

Vanda tricolor, Glasnevin var.—A spike of this from F. W. Moore, Esq., Curator of the Royal Botanic Gardens, Glasnevin, Dublin, exhibits to us the finest form of *V. tricolor* we have seen; it may be described as a marked improvement on *V. t. Patersoni* in every way, and that is saying something for it. The handsome old Stanhopea, with its pretty yellow flowers, with glowing orange pouches to the labellum, also accompanies it.

Spathoglottis angustorum.—This lovely Orchid is flowering beautifully in the superb collection of J. Buchanan, Esq., Edinburgh. The spikes have had fully three dozen flowers on them, the latter being white slightly tinted with pale rosy purple. The shape and make of the flower very much reminds one of *Epidendrum bicornutum*. It is a lovely plant, and lasts a long time in flower.—*A. O.*

Cymbidium Lowianum atropurpureum.—Under any form, this *Cymbidium* is one of the boldest and finest of the species, with its long, arching, many-flowered spikes. The greenish yellow sepals and petals contrast well with the whitish yellow lip. The upper and more prominent half of this is purple, ultimately changing to a maroon brownish purple, and here comes in the most prominent and distinctive character of the form under notice. The terminal lobe of the labellum is many shades darker than in the normal form, and retains its colour much longer, as the flower fades with age. Large plants of both the typical and varietal forms may be seen in the exhibition house of Mr. William Bull, at Chelsea.

Vanda Batemanni.—A well-grown plant of this species is truly a magnificent object, both from its stateliness and the noble appearance of its flower-stem. The tall stem is of great strength, and densely clothed with horizontal, rigid, and strap-shaped leaves of great substance and deep green colour. A large specimen now flowering at Messrs. J. Veitch & Sons' establishment, at Chelsea, has a flower-scape already over 3 ft. long, and furnished with bloom for the greater part of its length. They are yet unexpanded on the upper portion, so that the erect peduncle will yet elongate considerably. The sepals and petals are heavily blotched with crimson on a yellow ground, while the lip is purplish crimson, and the whole is of great substance.

Odontoglossum vexillarium Chelsoniense.—Amongst the magnificent display of Orchids in Mr. William Bull's show-house at Chelsea is a fine new variety of this universally popular species. The sepals and petals are rose coloured, while the labellum is somewhat paler, but furnished with a large deep purple blotch at the base, from which stripes of the same colour proceed for some considerable distance farther along the principal nerves. Distinct types like these add greatly to the value of a collection of the ordinary form, in which white and yellow in varying proportion constitute the commonest colours on the basal portion of the labellum.

Cattleya Schroderæ.—Wherever this is grown it seems to be a special favourite for the size, distinct appearance and fragrance of its blooms. The sepals, petals and lips are blush coloured, with a large yellow blotch on the latter. These, however, vary in different individuals, and a nearly white variety is sufficiently distinct to bear a varietal name—namely, *C. S. albescens*. This *Cattleya* has recently been certificated, and will now find its way into many collections. Both the above-mentioned forms flowered quite recently at Mr. William Bull's establishment at Chelsea.

Phalænopsis Mariæ.—A plant of this interesting and by no means common Orchid with a branching scape, has been flowering for the past fortnight in the stove at Kew. It is a pretty species, certainly, and a short inspection of the flowers reveals an affinity with *P. speciosa* and *P. Luddemanniana*, between which it would seem to be intermediate. The sepals and petals are heavily blotched with a lively chocolate-brown on a white ground, and shaded with violet at the base—similar to what occurs in *P. Luddemanniana*; and the

foliage is also similar to that of the latter. The lip is violet, with the exception of the small lateral lobes, and bearded, although not so heavily, as in *P. speciosa*.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*June 28th.*—At this meeting a lively display was made by the hardy plants ranged along both sides of the conservatory, almost from end to end. The chief exhibitors of this class were Messrs. Barr & Son, Covent Garden; Mr. T. S. Ware, Hale Farm Nurseries, Tottenham; Messrs. Paul & Son, Cheshunt; and Messrs. Kelway & Son, Langport. The largest group of Orchids was staged by Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking. Some fine Apples were also exhibited, besides Melons and Cucumbers for the special prizes offered by nurserymen. Certificated plants are recorded in another column.

A Silver Banksian Medal was awarded Mr. T. S. Ware for a large group of hardy plants and cut flowers, conspicuous amongst them being *Helianthus occidentalis*, about 3 ft., high, and the earliest Sunflower of the season, having bloomed a month ago. Well-grown specimens of *Inula grandiflora* had flowers 4 in. to 5 ins. in diameter. Many fine Gaillardias were shown, amongst which were Adonis, a grand new variety of a crimson-red colour, with the rays only tipped with yellow; Aurora, having the ray florets tubular and orange-crimson; and Diana, which had flat and highly-coloured rays. A similar award was also made to Messrs. Paul & Son, whose large group was enlivened by tree Pæonies, Broxbourne Poppies, *Tropæolum polyphyllum*, *Campanula glomerata*, *Erigerons*, *Lychnis*, Roses, and other hardy flowers more or less grouped. The shoots of the *Tropæolum* with their numerous yellow flowers were very effective. Messrs. Barr & Son, who were awarded a Bronze Banksian Medal, exhibited a great quantity of the Flag Iris, twenty-five varieties of herbaceous Pæonies, Pyrethrums, Spanish Iris, and fifty varieties of Persian Ranunculus in various colours. The Pæonies were mostly varieties of *P. albiflora*; and *Triomphe de Paris* is peculiar in the slender central mass of petals being yellow when the flower expands, but afterwards changing to white. *Comte de Paris* was a similarly-formed flower, with blush centre and rose-coloured outer petals, and fragrant. Messrs. Kelway & Son exhibited a box of *Iris lævigata* (syn. *I. Kämpferi*) in numerous variety, two of Gaillardias, several of Delphiniums, and others of Pæonies. The Delphiniums were especially fine, the doubles being more elegant and less lumpy than many of the old double forms to be seen in gardens. Two of these were certificated. A Bronze Banksian Medal was awarded for the group.

A Cultural Commendation was accorded Sir Trevor Lawrence for a fine group of Orchids, including *Cattleya gigas* Sanderiana, intensely coloured; *Galeandra dives*; the rare *Phalænopsis Mariæ*; a beautifully spotted *Lycaste Deppei punctatissima*, in which the ordinary green ground-colour was replaced by a fine rose; *Cypripedium Lawrencianum* and *C. superciliale*, the latter being certificated. *Bulbophyllum barbigerrum* elicited much attention from the general public on account of the movements of the lip caused by the slightest breath of wind playing on the heavy beard of long black hairs. A Bronze Banksian Medal was awarded G. Neville Wyatt, Esq. (Mr. Simcoe, gardener), Lake House, Cheltenham, for a magnificent plant of *Cattleya gigas*: one spike bore nine flowers, two others had each six, and a fourth had five flowers; in all, twenty-six. Besides those certificated, F. G. Tautz, Esq. (Mr. J. C. Cowley, gardener), Studley House, Hammersmith, exhibited a fine plant of *Phalænopsis Mariæ*. A Cultural Commendation was accorded T. B. Haywood, Esq. (Mr. J. Ridout, gardener), Woodhatch, Reigate, for *Odontoglossum vexillarium regina*. F. Wigan, Esq., Clare Lawn, East Sheen, showed a fine white variety of *Odontoglossum crispum*. *Odontoglossum vexillarium* Hollingtoni was forwarded by A. J. Hollington, Esq., Forty Hill, Enfield (awarded a Botanical Certificate), and *O. v. Pagei* by Messrs. H. Page & Son, Teddington. Some *Odontoglossum* blooms and a *Trichopilia* were forwarded by Messrs. E. Vervet & Co., Ghent.

A vote of thanks was accorded Mr. H. Bennett, Pedigree Rose Nursery, Shepperton, Middlesex, for

Tea Rose Princess Beatrice, a pale yellow salmon-tinted variety previously certificated. He also showed William Francis Bennett, an intense rose-coloured variety, and another Rose which was certificated. Messrs. J. Veitch & Sons, Chelsea, forwarded a box of *Styrax japonica*, with a wealth of bloom like those of the Snowdrop-tree; and *Andromeda speciosa pulverulenta*, a free-flowering hardy shrub. Several boxes of tree Carnations were staged by Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton. Amongst others were the beautiful pink, Miss Jolliffe, Dr. Raymond, and Old Crimson Clove, both deliciously scented; Tissots, yellow; Belle Halliday, yellow; and Madame Carle; a white was also shown, and a vote of thanks was given for the group. Two yellow Picotees, namely, Agnes Chambers and Almira, both of his own raising, were exhibited by Mr. J. Douglas, Great Gearies, Ilford. A vote of thanks was given for Robinia Pseud-Acacia Decaisneana, forwarded by Mr. C. Noble, Bagshot. Mr. R. Dean, of Ealing, exhibited some fine new varieties of *Dianthus plumarius*, and a deep yellow single-flowered form of *Chrysanthemum coronarium*, named Sunbeam. Two boxes of double *Pyrethrum* were staged by O. T. Hodges, Esq., Lachine, Chislehurst, who also showed a double bluish tuberous Begonia, Gaston Wirix (Gilbert), double scarlet, and *Lathyrus*, terra-cotta. A brilliant display of Poppies in many delicate and pleasing colours was made by the Rev. W. Wilks, Shirley Vicarage, Croydon. They are a strain of the wild field Poppy, and are named Shirley Poppies. A new Sweet Pea, Invincible Blue, was shown by Mr. T. Laxton, Bedford; and a large yellow *Calceolaria* named Cloth of Gold by Mr. Rapley, gardener, Bedford Hill House, Balham. Mr. W. Gordon, Twickenham, exhibited a new Japan Maple.

At a meeting of the Fruit Committee, Mr. R. Clarke, Twickenham, was awarded a Cultural Commendation for an exhibit of a large deeply-coloured Strawberry named Pauline, and ripened in the open air. A collection of Apples, consisting of twelve varieties in good condition, was exhibited by Mr. John Watkins, Withington, Hereford. Mr. J. H. Goodacre, Elvaston Castle Gardens, Derby, exhibited Lockington Hall Muscat, a large white Grape, and Rockferry Hamburg, that ripens fourteen days later than the ordinary variety and keeps well. In the competition for Messrs. J. Carter & Co.'s special prizes for Blenheim Orange Melon, Mr. T. Lockie, The Gardens, Oakley Court, Windsor, secured first award; Mr. Ward, gardener to the Earl of Radnor, Longford Castle, the second, and Mr. C. J. Waite, The Gardens, Glenhurst, Esher, the third. Mr. T. Lockie was also first for Carter's Model Cucumber; Mr. C. J. Waite, second, and J. Anderson Rose, Esq., Wandsworth Common, third. For Messrs. Sutton & Son's special prizes for Melons, Mr. J. H. Goodacre was awarded the first prize, for Hero of Lockinge; Mr. C. T. Waite was second, with the same variety; and Mr. T. Lockie, third, with Imperial Green Flesh. Special prizes for Melons were also offered by Messrs. E. Webb & Son, in the competition for which, Mr. J. H. Goodacre was again first, exhibiting a new variety named Royal Warrant; Mr. T. Lockie was second, with Webb's Queen Victoria.

GENERAL MEETING OF THE FELLOWS.—The president, Sir Trevor Lawrence, Bart., M.P., presided at the special general meeting of Fellows called "to consider the results of the negotiations and inquiries which have been made by the Council as to the future maintenance and housing of the society," and described in detail the position in which the society found itself at the present time. The condition of affairs, he said, stood very much as it had stood on the occasion of the last general meeting. Certain negotiations had been carried on with the Royal Albert Hall Corporation with the view of, through them, maintaining the connection with South Kensington, which had existed ever since the society was established under the auspices of the late Prince Consort. Nothing had come of those negotiations, and in the meantime the uncertainty attending the future of the society was having a most prejudicial effect upon its interests. Old members were leaving them, and no new members joined; and they were gradually drifting into debt. In these circumstances they had entered into direct communication with the Royal Commissioners for the Exhibition of 1851, in order, if possible, to obtain from them sufficient ground to house the valuable Lindley Library, and carry on their ordinary operations. A piece of land was

offered which was inadequate to the purpose, and on appealing again to the Commissioners, they were met with the answer that pending the outcome of the negotiations with the Albert Hall Corporation it was not possible to make any further offer. The Council of the society had then endeavoured to find an available plot of ground in the metropolis, but had failed to do so; among other questions, that of expense forming an obstacle in their way. At the end of the year, leaving out of consideration arrears of subscriptions, the society would probably be £1,000 in debt, and something ought to be done promptly. A memorial describing the present condition of the society had been forwarded to the Queen, and the following was Her Majesty's reply:

"Aix-les-Bains, April 16th, 1887.—I have duly laid before the Queen the memorial you have forwarded on behalf of the Council and Fellows of the Royal Horticultural Society, in which you express your desire to retain the connection with South Kensington which has lasted for more than a quarter of a century. Negotiations, with reference to the gardens, are going on between the Royal Commissioners of the Exhibition of 1851 and the Council of the Royal Albert Hall. The Queen hopes that if the upper gardens and conservatories are acquired by the Royal Albert Hall there will be no difficulty in your Society coming to an agreement with the hall, both with regard to shows and the office accommodation. As the area left in the hands of the Royal Commissioners, after the dedication of the grounds to the purposes of the Imperial Institute, will be a small one, the Queen does not think that the Commissioners would be able to provide a gratuitous site for the offices of the Society. I am commanded by the Queen to add that her Majesty trusts some satisfactory arrangement will be arrived at, as her Majesty has not ceased to take an interest in the welfare of the Royal Horticultural Society.—I have the honour to be, Sir, your obedient servant, HENRY F. PONSONBY."

The Chairman proceeded to say that the proposals of the Council were, speaking generally, twofold. In the first place, they asked for what might be termed a vote of confidence in themselves, and in the second place they asked for authority to take such steps as they might think most advantageous for the future of the Society.

A discussion ensued, in which, after a few remarks from Sir R. Dalzell, Mr. Shirley Hibberd said that the society had been blamed because its work was too local, and that it was practically only a London society. They had got into great trouble about 1872, because the elements composing the Council were not sufficiently horticultural; consequently, the work instigated and carried out by that body was of an artificial character. There was too much of South Kensington, and not sufficient reliance upon the horticultural body. They were also strangled by their charter, which really made the Council a self-elected body. The society should now be re-organised, so as to enlist the sympathies and support of the entire gardening community.

Mr. Harry J. Veitch remarked that the Council had acted harmoniously with the sub-committee, which was appointed in February last. He thought that large flower shows were not wanted, but that the meetings should be held nearer to the centre of London, for if the people would not come to see the plants, they must be taken to where the people could see them. He would suggest that steps be taken to get a home for the society somewhere on the Thames Embankment. Professor Michael Foster thought they should secure a central Home, either permanent or temporary, somewhere near to the City, a proposition with which Baron Schroder agreed. Finally, the following resolutions were adopted:—

Proposed by Mr. H. J. Veitch, seconded by Dr. Masters, "That this meeting requests the Council to take such steps for the maintenance and housing of the society as may appear to them best calculated to maintain the character and utility of the society and the interests of horticulture committed to its charge." Proposed by Prof. Foster, seconded by Baron Schroder, "That steps be taken immediately to secure accommodation for the society at the close of the year, either permanent or temporary, in some central situation in or not far from the city."

Bury St. Edmunds Horticultural.—The summer show of this society took place in the Botanical Gardens, Bury St. Edmunds, on the 23rd and 24th inst. It is a society that has been in operation for many years, and Mr. G. P. Clay was the secretary for

a long time up to his death. Then he was succeeded by Mr. Peter Grieve, of tricolor *Pelargonium* renown, formerly of Culford Hall, Bury St. Edmunds, who, having settled down here, is able to assist the local society in this capacity. It was like a recollection of the first provincial show of the Royal Horticultural Society to find ourselves in the Botanic Garden among tents filled with flowers, and meet again some of the gardeners and others who assisted to make the first provincial show a success.

Two tents sufficed to take the exhibits; in one the plants and fruit found a location, the other accommodating the vegetables in the open and cottagers' divisions. Plants were not numerously represented, the largest class for stove and greenhouse subjects requiring but four. Here Mr. Bishop, gardener to R. Burrell, Esq., Westley, Bury, was first with *Clerodendron Balfourianum*, C. Fallax, *Vinca rosea*, and its white variety; second, Mr. Manning, gardener to G. A. Partridge, Esq., Bury, who had, as his leading plant, a fine specimen of *Impatiens Sultani*. The best specimen was a fine *Allamanda Schottii*, from Mr. Bishop; Mr. Manning coming second with another superb *Impatiens Sultani*. Fuchsias were a good feature, and especially the six plants competing for the special prizes given by Dr. Goodwin, Mr. Manning being first with a good lot, but unnamed. The last-named gentleman had the best six plants in 8-in. pots, and the finest specimen also. Show *Pelargoniums*, as specimen plants, were represented by one or two fairly good examples. Mr. Manning had the best six zonals—a very good lot indeed, and the best specimen also, an excellent plant; Mr. Andrews, gardener to J. Gough, Esq., Bury, being second also with a fine plant. Mr. Bishop had the best six variegated zonals—nice, large, well-grown plants. *Gloxinias* were well shown by Mr. Manning; Mr. Bishop following with plants that lacked the fine quality of those awarded the first prize. Messrs. Manning and Andrews were first and second with specimens of *Lilium auratum*. Mr. Bishop had the best six flowering *Begonias*; Mr. Andrews being second. Mr. Manning staged six doubles in another class, being awarded first prize. He also had the best six *Petunias*; Mr. Karsey, gardener to Mrs. Blake, Bury, being second.

Foliaged plants consisted of Ferns shown in fours, Mr. Bishop having the best; Mr. Andrews taking second prize; the former comprised some well-grown *Adiantums*. Mr. Andrews had the best specimen Fern, staging a fine *Dicksonia antarctica*; and Mr. Bishop was second with *Lomaria gibba*; *Lycopods* were poorly shown. Mr. Bishop had the only four foliaged *Begonias*, and also the best four fine-foliaged plants. Mr. Noble, gardener to T. Ridley, Esq., Bury, had the best eight hardy Ferns. Mr. Andrews had the best four *Coleus*, Mr. Manning coming in second.

Special prizes were offered for the best group of miscellaneous plants; and Mr. Bishop was first with a capital arrangement, Mr. Manning being second.

Roses were a leading feature in the cut-flower classes. In that for thirty-six varieties, Mr. D. T. Fish, The Gardens, Hardwicke House, was first with good blooms of Charles Lefebvre, Dupuy Jamain, Ferdinand de Lesseps, Madame Victor Verdier, Prince de Porcia, Marquis de Castellane, John Hopper, La France, Pierre Carot, Maréchal Vaillant, General Jacqueminot, Princess Louise, Catherine Mermet, Cheshunt Hybrid, Marie Van Houtte, Rubens, Souvenir d'un Ami, Maréchal Niel, and Jean Ducher. Mr. Powell, gardener, Drinkstone Park, Suffolk, was first with twelve blooms, having some excellent examples of Charles Lefebvre, Duke of Edinburgh, A. K. Williams, Louis Van Houtte, Cheshunt Hybrid, La France, Camille Bernardin, La Boule d'Or, Souvenir de Thérèse Levet, Caroline Kuster and Maréchal Niel; second, Mr. D. T. Fish. Mr. Powell also had the best six varieties, Mr. D. T. Fish being second. The best Rose in the show was a fine bloom of Maréchal Niel, shown by Mr. Powell. Lord Francis Herve, M.P., offered special prizes for eighteen Tea and Noisette Roses, and here Mr. Powell was again first with good blooms of Caroline Kuster, Maréchal Niel, Jules Finger, Madame Willermoz, Madame Bravy, Cloth of Gold, Marie Van Houtte, Devonensis, Madame Margottin, Gloire de Dijon, Souvenir de Thérèse Levet, Miss Edith Gilford, Madame Lambaud, &c.; second, Mr. D. T. Fish; third, Mr. H. Bird, gardener to the Rev. H. Hawkins, Bury. Mr. Karey had the best six trusses of double zonal *Pelargoniums*, Mr. Manning

being second; Mr. Karey also had the best twelve trusses of single zonal Pelargoniums, Mr. Bishop being second. There was an excellent competition in this class. Messrs. Bishop and R. Pettitt, Bury St. Edmund's, was first and second with twelve bunches of herbaceous plants; and Mr. Pettitt had the best six Delphiniums. Mr. Powell had the best lady's hair bouquet: Mr. Pettitt being second. The Mayor, E. W. Lake, Esq., offered special prizes for a single piece for table decoration, and here Mr. Powell was first; Mr. Bishop second; and Mr. D. T. Fish third.

Fruit was invited in a few classes. The best three bunches of Black Hamburgh Grapes came from Mr. Joseph Taylor, gardener to the Duchess of Montrose; Mr. R. Squibbs, The Gardens, Ickworth Park, Bury, was second; and Mr. Smith, The Gardens, Culford Hall, Bury, third. Mr. Squibbs had the best three bunches of white Grapes, staging good Muscat of Alexandria, Mr. H. Bird being second with Foster's Seedling. Melons, Strawberries, and Tomatos, were also shown. Vegetables were pretty well shown also, but nothing exhibited called for particular remark. The weather was fine, and there appeared to be a good attendance of the supporters of the society.

Scottish Pansy.—June 17th.—The forty-third annual exhibition of this society was held in the Oddfellows' Hall, Edinburgh, on the above date, and although the weather for some time previous had been most unfavourable for the culture of this most popular flower, owing to the long continued drought, the society must be congratulated upon the display which was brought together. The entries were far more numerous than at any previous show, and although the quality was not up to the usual standard, many good stands were exhibited. The ladies' competition is an interesting feature here, being for baskets, vases, &c., of Pansies and Violas arranged for effect. Mrs. D. P. Laird, of Pinkhill, again took championship honours, and Messrs. Sutherland, of Lenzie; Paul, of Paisley; and Laird & Sons, of Edinburgh, were the principal prizetakers in the nurserymen's class, in which the competition in many cases was very keen. The Violas made a fine display, especially the stand exhibited by Messrs. Laird & Sons, who likewise showed, not for competition, a magnificent collection of Pyrethrum, nicely bunched, which were greatly admired. Several seedling Pansies were certificated, conspicuous amongst them being John Pope, shown by Messrs. Laird & Sons, and which received a similar award at King's Norton the other day. The hall was nicely decorated with Palms, Dracenas, &c., from the nursery of Messrs. Dickson & Co. and Messrs. R. B. Laird & Sons. It is gratifying to be able to record the fact that the society is in a flourishing condition, much of the credit for which is due to the energetic secretary and treasurer.—A. O.

Croydon Horticultural.—June 29th.—The annual summer show of this society was held in the grounds of Brickwood House, East Croydon, the residence of Mr. T. W. Prince, on Wednesday last, and it may be said of the gathering that it was in every way a grand success. Croydon had done little to celebrate the Jubilee, and it was left to the horticulturists to provide the residents with one of the most attractive sights of the season. The weather was all that could be desired, the list of entries was a heavy one, and the energies of the executive were taxed to their utmost. A number of large tents had been erected, and the exhibits were in advance of previous shows, both as regards quantity and quality. Mr. Alderman Layton, J.P., distributed the prizes.

The tent containing the Roses was, of course, the centre of attraction, and in the majority of cases the various classes were well contested. In the great one for forty-eight Roses, distinct, Mr. R. B. Cant, Messrs. G. Bunyard & Co., and Mr. Frank Cant were awarded the prizes in the order named. Forty-two Roses, distinct, Mr. R. B. Cant, whose blooms were far and away the best, was again first; Mr. Frank Cant second; and Messrs. Cheal third. For twelve Tea or Noisette Roses, distinct, Mr. G. W. Pysor secured first honours with some very attractive blooms.

The gardeners' and amateurs' class for twenty-four blooms, distinct, was well contested, and the prizes awarded to Mr. H. Simmons, first; Mr. James Brown, second; and Mr. J. Ridout, third. Some very fine hand bouquets were exhibited, and Miss Bishop secured first honours with a bouquet showing both taste and careful arrangement; Mr. Butcher second; Mr. Chaff third. The Rev. Alan Cheales was first in the class for twelve Teas, one variety, and also for six Teas, distinct. The best Rose in the show was exhibited by Miss Baker, who was awarded the National Rose Society's Silver Medal.

In the classes for plants, of which there was a grand display, the principal prize winners were Messrs. J. Cook, W. King, W. Jupp, C. Welstead, F. N. Penfold, S. Elsey, C. Perret, and G. Kirk.

QUESTIONS & ANSWERS.

TOMATOS DECAYING.—G. S.: Under the circumstances it would be difficult, not having seen the plants, nor being acquainted with the conditions, to give any definite reason for the damage done to the fruit sent. There is no trace of the Tomato disease caused by the Peronospora, nor other fungus; but judging from the fact that the fruit begins to shrivel at angles, and afterwards decay, we should attribute the evil to a too close, insufficiently ventilated atmosphere, which induces a rapid but very unsubstantial growth. The Tomato likes free ventilation, and plenty of sun-heat and light in order to develop the tissues properly, and make a storage of reserve material. In a close unventilated atmosphere growth is too rapid for reserve to be formed. Another suggestion that offers itself is that the soil is not rich enough to supply the roots with a sufficient amount of plant food.

PRIMULA SIEBOLDI.—W. K. Glover: It is occasionally the practice, especially in Scotland, to plant out the varieties of this Primula after flowering, but we fail to see the advantage gained, except to save the trouble of watering while the plants are green. As the plants have generally completed their growth before the flowering season is over, they do not increase much after that time, and certainly not so much as to insure any advantage by planting out. A better plan under the circumstances would be to plunge the pots containing them in a bed of ashes in a cool place, which would save watering to a great extent and allow them to complete their growth gradually, and not hasten unduly the decay of the leaves. Towards autumn, and after the leaves have died down, divide and re-pot the rhizomes, taking care not to bury them too deeply.

LIMNANTHES DOUGLASII.—W. F. Hart: This beautiful annual is not a native of this country, but comes from California. It ripens seeds and scatters them about so freely that it frequently appears in waste ground some distance from gardens, where it often appears like a true native, and has been taken for a Buttercup by casual observers. When once sown in a border, the seeds shed annually germinate in autumn and produce flowers early in the season; and these, again, sow themselves. A succession can be obtained by sowing seeds in spring.

WIZARD OF THE NORTH STRAWBERRY.—Can any of your readers inform me where I can get this old Strawberry? It came out about 1860 or 1861; it was a very late variety, and on that account I would like to get it again.—G.

NAMES OF PLANTS.—J. Jellicoe: A grand variety of *Odontoglossum crispum*, nearer to *O. crispum Trianae* than to any other named variety, but a much finer thing. *T. Osborne*: *Cattleya dolosa*. C. J. Wise: *Cattleya Mossiae*, with all the segments of the flower more or less blotched. Very striking, but it wants the striations and veining on the sepals, petals, and lip of *C. M. Hardyana*. *Glenam*: *Saxifraga Sibthorpii* (syn *S. Huetti*). R. J. G. Read: 1, *Brassica unonensis* var.; 2, *Bunias orientalis*; *Onopordon Acanthium*; 4, *Carduus nutans*; 5, *Caulalis nodosa*. B. C. G.: 1, *Saxifraga Hostii*; 2, *Aristolochia Siphio*; 3, *Meum athamanticum*; 4, *Colutea arborescens*; 5, *Symphytum tuberosum*; 6, *Geraulium Robertianum*. W. K. Glover: 1, *Melittis Melissophyllum*; 2, *Veronica officinalis*; 3, *Linaria pallida*.

BOOK ON VINES.—P. C. D.: *Vines and Vine Culture* by A. F. Barron, Royal Horticultural Society's Garden, Chiswick. Published by the Author.

COMMUNICATIONS RECEIVED.—G. J.—J. D.—C. W.—W. S.—D. & E.—J. D. & S.—J. B.—W. C.

TRADE CATALOGUES RECEIVED.

C. G. VAN TUBERGEN, JR., Zwanenburg, Haarlem, Holland.—Wholesale Catalogue of Flower Roots.

LONDON SEED TRADE.

June 29th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Sead Market, Mark Lane, London, report a small attendance at to-day's market, and as the demand for present sowing is small, there are few buyers. There is no change in values of Clovers or Grasses. Mustard and Rape continue very cheap. English buyers of *Trifolium* wait to know more as to yield of home crop before buying French seed; prices promise to be reasonable.

COVENT GARDEN MARKET.

June 30th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve			Peaches... per dozen	4	0 12 0
Grapes per lb.	1	6 3 0	Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3	0 8 0
per lb.	0	9 2 0	Pine-apples, Eng., lb.	1	0 1 6
Kent Cobbs.. 100 lbs.			Strawberries, per lb.	0	3 1 0
Melons each	1	6 3 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.			
Artichokes, Globe, doz.	2	0	3	Herbs, per bunch.	0	2	0	4
Asparagus, per bble.	2	0	5	Horse Radish, bundle	3	0	5	0
Beans, French, per lb.	1	6	2	Lettuces .. per dozen	1	6	2	0
Beet, per dozen	2	0	3	Mushrooms, p. basket	1	0	2	0
Cabbages per doz.	2	0	2	Onions, per bushel ..	4	0	5	0
Carrots, per bunch ..	0	6		Parsley, per bunch ..	0	6		
Cauliflowers, English,				Radishes, per dozen ..	1	6		
per dozen	6	0	9	Small salading, punnet	0	4		
Celery, per bundle ..	2	0		Spinach, per strike ..	2	0		
Cucumbers, each	0	6	1	Tomatos, per lb.	1	0	1	6
Endive, French, doz.	2	6	3	Turnips.... per bun.	0	6		
POTATOS.— Kent Regents, 80s. to 100s. per ton ; Kent Kidneys								
80s. to 100s. per ton ; Champions, 70s. per ton.								

No alteration in the price of Cut Flowers and Plants in Pots from last week.

GARDENERS' ORPHAN FUND.

NOTICE.

THE FIRST GENERAL MEETING of the supporters of this Fund will be held in the Conservatory of the Royal Horticultural Society, South Kensington, on TUESDAY, July 12th, at 3 p.m., to receive and adopt the Report of the Provisional Committee as a basis upon which to establish the Gardeners' Orphan Fund, and to Elect Officers, Executive Committee, &c., &c.

It is hoped that all sympathisers with this movement will make it convenient to attend.

A. F. BARRON, Honorary Secretary.

Donations and Subscriptions already promised or sent.

FIRST LIST.

FIRST LIST.	Donations.		Subscriptions.	
	£	s. d.	£	s. d.
Veitch, Jas., & Sons, Royal Exotic Nursery, Chelsea	100	0 0		
Green, Thos., & Son (Limited), Smithfield Iron Works, Leeds	10	10 0		
Leadbetter, J. P., Gardener, Tranby Croft, Hull	10	10 0		
Ellis, The Hon. Charlotte, De Walden House, Eastbourne	10	0 0		
Pollett, H. M. (H. M. Pollett & Co.), 42 to 48, Fann Street, E.C.	10	0 0		
Sutton & Sons, Reading	10	0 0		
Deal, Geo. (Messrs. John Weeks & Co.), Chelsea	5	5 0		
Fish, D. T., Gardener, Hardwicke House, Bury St. Edmunds	5	5 0	0	5 0
Herbst, H., Kew Road, Richmond	5	5 0	1	1 0
Hogg, Dr., F.L.S., 171, Fleet Street, E.C.	5	5 0		
Lee, Mrs. S. A., 4, Arlington Park Villas, Chiswick	5	5 0	0	10 0
Masters, Dr., F.R.S., 41, Wellington Street, Strand	5	5 0		
Sander, F., & Co., St. Albans	5	5 0		
Allnutt, Mrs., Huntleys, Tunbridge Wells	5	0 0		
Allan, W., Gardener, Seaford, Clough, Co. Down	5	0 0	0	5 0
Blacker, Mrs., 4, Hans Place, Sloane Street, S.W.	5	0 0	1	0 0
Bass, Hon. Mrs., Needwood House, Burton-on-Trent	5	0 0		
Bird, J., American Nurseries, Downham	5	0 0		
Coulton, T., Gardener, Heathfield, Wavertree, Liverpool	5	0 0		
Crump, W., Gardener, Madresfield Court, Malvern	5	0 0		
Chapman, W., Gardener, Hawkesyard, Rugeley	5	0 0		
Carson & Sons, W., La Belle Sauvage Yard, Ludgate Hill	5	0 0	1	1 0
Coleman, W., Gardeuer, Eastnor Castle, Ledbury	5	0 0		
Goodacre, J. H., Gardener, Elvaston Castle, Derby	5	0 0		
Gleeson, M., Gardener, Clumber, Worksop	5	0 0		
Hill, E., Gardener, Tring Park, Tring	5	0 0		
Head, W. G., Crystal Palace, S.E.	5	0 0		
Jaques, J., Gardener, Waddesden Manor	5	0 0		
Laing & Co., J., Stanstead Park Nursery, Forest Hill	5	5 0		
Milne, R., Gardener, Vale Royal, Northwich, Cheshire	5	0 0	0	5 0
Mayor, Horace K., Bramford Lodge, Winchmore Hill	5	0 0	2	0 0
Matthews, J., Royal Pottery, Weston-super-Mare	5	0 0		
Perkins, H., Gardener, Greenlands, Henley-on-Thames	5	0 0		
Penny, C., Gardener, Sandringham Hall, King's Lynn	5	0 0	1	1 0
Roberts, J., Gardener, Gunnersbury Park, Acton	5	0 0	0	10 0
Smith, J., Gardener, Mentmore, Leighton Buzzard	5	0 0	0	10 0
Shippie, Lt.-Col., Picktree House, Chester-le-Street	5	0 0		
Wildsmith, W., Gardener, Heckfield Place, Winchester	5	0 0		
Windsor, S., Glangwna, Carnarvon	5	0 0		
Willard, J., Gardener, Holly Lodge, Highgate, N.	5	0 0	0	5 0
Coulter, S., Gardener, Copt Hall, Epping	4	15 6		
Gibbs, Mrs. W., Tyntesfield, Bristol	2	10 0		
Ballantine, H., Gardener, The Dell, Egham	2	2 0	1	1 0
Gilbert, E., Gardener, Charlton House, Old Charlton	2	2 0	0	5 0
Murdoch, C. T., M.P., Bruckhurst, Wokingham	2	2 0		
Wood & Son, W., Wood Green, N.	2	2 0		
Barron, A. F., Royal Horticultural Society, Chiswick	2	0 0	0	10 0
Fox, W., Gardener, Holker Hall, Carnforth	2	0 0	1	0 0
Fielden, Mrs., Grimston, Tadcaster	...		2	0 0
Richards, W., 41, Wellington Street, Strand, W.C.	2	0 0	0	10 0
Thomson, D., Gardener, Drumlanrig Castle, Thornhill, N.B.	2	0 0	0	10 0
Allen, H., Gardener, Brookhill, Kingswear, South Devon	1	0 0	0	10 0
Adams, H. T., Gardener, Bank Hall, Burnley	1	0 0	0	10 0
Aitken, H., Gardener, Richings Park, Slough	1	1 0	0	5 0
Astley, Sir J. D., Bart., Elsham Hall, Brigg	1	0 0		
Barnes, G. J., Gardener, Stoodleigh Court, Tiverton	1	0 0	0	5 0
Barker, A., Grdnr., Hindlip Hall, Worcester	1	0 0	0	5 0
Baker, G., Gardener, Membland Hall, Plympton, South Devon	1	0 0		
Burnett, J., Gardener, The Deepdene, Dorking	1	1 0	0	5 0
Butcher, E., Gardener to G. Palmer, Esq., The Acacias, Reading	1	0 0	0	10 0
Brewster, A., Gardener, Thame Park, Thame	1	1 0		
Bedford, F., Gardener, Straffan House, Co. Kildare	1	0 0	0	5 0
Bird, W. L., Grdnr., Norton Hall, Daventry	1	0 0	0	10 0
Burbridge, Grove Nursery, Westgate-on-Sea	1	0 0	0	10 0
Brown, J. G., Gardener, Hatfield Hall, Wakefield	1	0 0	0	5 0

UNDER ROYAL PATRONAGE.



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ROYAL JUBILEE EXHIBITION,

Manchester.

A GRAND ROSE SHOW will be held on FRIDAY, July 22. For Schedules, &c., apply to the undersigned, ERUCE FINDLAY, Royal Botanical Gardens, Manchester.

Birmingham Botanical and Horticultural Society.

A ROSE SHOW will be held in The Gardens Edgbaston, on Thursday and Friday, 14th and 15th of July, 1887.

Entries close July 10th. For Schedule of Prizes apply to W. B. LATHAM, Curator.

North Lonsdale Rose Society (Affiliated).

ANNUAL SHOW OF ROSES and PANSIES at Ulverston, Saturday, July 23rd (not 22nd as previously announced). Three classes open to Nurserymen. Value to £45 and four N. R. S.'s Medals. Entries close July 15th. For schedules apply to G. H. MACKESETH, Hon. Sec., Ulverston.

The Royal Horticultural Society of Southampton.

GREAT SUMMER SHOW, SATURDAY and MONDAY, JULY 30th and AUGUST 1st. £300 in Prizes: including £18, £15 and £12 for twelve plants; £5 5s., £3, £2 10s. and £1 10s. for six dishes of fruit; and others equally liberal. Entries close July 23rd. C. S. FUDGE, Secretary, Heekfield House, Bevois Hill, Southampton.

The Liverpool Horticultural Association.

THE EIGHTH GRAND SUMMER EXHIBITION OF PLANTS, FLOWERS, FRUIT AND VEGETABLES will be held in SEFTON PARK, on SATURDAY, JULY 30th, and BANK HOLIDAY, AUGUST 1st. Entries close July 23rd. Schedules of prizes can be had on application to the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Tarbock Road, Hayton.

Next Week's Engagements.

TUESDAY, July 12th.—Meeting of the Fruit and Floral Committees of the Royal Horticultural Society at 11 a.m.—Gardener's Orphan Fund: Public Meeting at South Kensington.—Rose Shows at Oxford, Broekham, and Diss.

WEDNESDAY, July 13th.—Royal Caledonian Horticultural Society's Show and National Rose Show at Edinburgh.—Sale of Orchids in Flower at Stevens' Rooms.

THURSDAY, July 14th.—Rose Shows at Birmingham, Harleston, and Alexandra Palace.—Sale of Imported Orchids at Stevens' Rooms.

FRIDAY, July 15th.—Rose Shows at Christleton, Hereford, Hull, and Heleusburgh.—Sale of Established Orchids at Protheroe & Morris's Rooms.

SATURDAY, July 16th.—Rose Show at New Brighton.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 9, 1887.

THE GARDENERS' JUBILEE FESTIVAL.—In our last we were only able to announce the fact that the annual festival of the Gardeners' Royal Benevolent Institution, held at "The Albion" on June 29th, was an unqualified success. As we then stated, the chair was taken by Baron Ferdinand de Rothschild, M.P., who was supported by Sir Robert Peel, Bart., M.P., Mr. Christopher Sykes, M.P., and a large company of nurserymen, seedsmen, gardeners, and other friends of the institution. The tables were beautifully decorated as usual, and the dessert, which is always a special feature at the annual gathering, left nothing to be desired. The usual loyal and patriotic toasts having been given and heartily responded to, the chairman, in submitting the toast of the evening, "Success to the Gardeners' Royal Benevolent Institution," said no institution could appeal more forcibly both to their

sympathies and their imaginations as well as to their practical consideration than this. From time immemorial gardening had been an occupation of pleasure and profit, and during late years the progress in horticulture had been most remarkable. Gardening enabled them to pass many a happy hour; but horticulture could not exist without gardeners, and in this, as with many another thing, they were apt to forget the producer. The gardener was as liable to the ills of the flesh as any other person, and many a professional man who had aided the development of the choicest flowers for years had unfortunately found himself at last in the direst straits pecuniarily. It was in order to alleviate such distress that they had met that evening. Forty-six years ago the institution was founded in order to assist by pensions gardeners who could no longer find the means of earning money owing to ill-health or old age; and also to provide pensions for the widows of some of them. He was happy to say that the Institution was in a very flourishing condition—was not like most charitable institutions, either on the verge of bankruptcy or, at least, in "queer street," and it was only right to say that for this prosperity they were mainly indebted to the untiring and unfailing energies of their worthy secretary, Mr. Cutler. Although he (the speaker) congratulated his hearers upon this flourishing condition, do not let them fancy that they had only come there to eat an excellent dinner and drink no less excellent wines. Let them remember that their money was wanted. The Society was capable of expansion. It had expanded, as was seen by the fact that in 1846 the contributions were but £400, whilst in 1836 they were £1,300. There were two reasons on which he ventured to appeal to them. As the population increased, as lands were opened up, new gardens appeared, and more gardeners were required; consequently, the claims upon their benevolent funds were greater, and he hoped they would be able to give the gardeners and their widows all the protection they needed and all they deserved. The present, as they were aware, was the Jubilee year of her Majesty the Queen; there was not a class of her Majesty's subjects who had not received something on the auspicious occasion; there was not a village where dinners and teas had not been given; then why should the old gardeners be left out in the cold? It had, under these circumstances, been thought proper to provide a Jubilee bonus for their pensioners, and gifts to the candidates. They had 122 pensioners, for whom £2,161 was annually needed. The committee had not the extra amount to meet the Jubilee expenditure (which was estimated to amount to some £600), and they consequently appealed that night for money. It was not only a question of charity, but of common sense; because it was good to offer a stimulus to enter such an honourable and beautiful profession. The speaker again referred to the progress which horticulture had made, which he said was due to the intelligence and care of men who had gone from amongst them, but whose memories were green—viz., Sir Joseph Paxton, Sir Charles Turner, Philip Frost, and especially Zadoc Stevens. By their contributions they might be developing other Zadoc Stevenses, and, therefore, he confidently appealed to their generosity.

Mr. Harry J. Veitch (treasurer), in reply, said that in 1839 the total income was £136, and they elected two pensioners, but as years went on they got more money and more pensioners. At the present time the oldest pensioner was ninety-nine, and this old gentleman had paid into the funds £18 18s., and received out £400. They had many more claims for

pensions than they could provide for; there were at present eleven waiting election. That no money was wasted was seen in the fact that not a penny was paid as commission for collection. The speaker concluded by eulogising Baron Ferdinand de Rothschild as an amateur gardener, and saying that all who had not seen "Waddesdon" had missed a beautiful sight.

Sir Robert Peel followed with "The Health of the Chairman," remarking that the Rothschilds had given over £600 to the institution during the past fifteen years. That was noble generosity—an example which might be well emulated. The chairman briefly replied, and again appealed on behalf of those who gave them such beautiful feasts of fruits and flowers. Mr. J. R. Bourne proposed, "The Corporation of the City of London and its Guilds," and Major Lambert, prime warden of the Goldsmiths' Company, replied. The chairman proposed "The Secretary and other Officers," to which Mr. E. R. Cutler, Mr. Christopher Sykes, M.P. and Mr. B. S. Williams replied, Mr. Cutler stating that the subscriptions were £1,460, £714 of which had come from the gardeners themselves—a remark which was received with a round of applause.

WE understand that Messrs. John Laing & Co., Stanstead Park Nurseries, Forest Hill, intend making a large display of DOUBLE AND SINGLE-FLOWERING BEGONIAS at the Royal Horticultural Society's meeting on Tuesday next.

MESSRS. BARON & SON, of Elvaston, and Mr. Milner, of Sydenham, have been declared the winners of the prizes offered for the best plans for laying out a NEW PUBLIC PARK of some twenty-two acres in extent at Bilston, Staffordshire.

MR. W. STEWART, late foreman in the gardens at Hartsholme Hall, Lincoln, has been engaged as gardener to Lord Monson, at Burton Hall, near Lincoln.

MR. JAMES S. BROWN, after a good schooling in the Nurseries of Messrs. Low, at Clapton; Messrs. W. Thomson and Sons, at Clovenfords; and in the gardens at Syon House, has been engaged by Mr. White for his new Orchid establishment at Winchmore Hill.

THE Queen, prior to the review of Volunteers on Saturday last, proceeded to the grand terrace in the gardens of Buckingham Palace, and, in the presence of the Crown Princess of Germany, Princess Beatrice, and other members of the Royal Family, planted a tree in commemoration of her Jubilee.

The Société des Agriculteurs de France sent a Commission to the Boitiers Show to adjudge a number of special prizes, and they have awarded a Gold Medal and a money prize of £40 to M. Malapert for the excellence of his stud-farm pasturages. The Commission state that seventy-five acres of new grass land have been laid down; that they now look so well that it would be impossible to tell the old from the new; and that the seeds used were supplied by Messrs. James Carter & Co., of High Holborn.

WE again beg to call the attention of all who are interested in the establishment of the GARDENERS' ORPHAN FUND, to the fact that a public meeting will be held on Tuesday afternoon next, in the conservatory of the Royal Horticultural Society at South Kensington, to adopt rules and regulations for the management of the fund, and to elect officers, &c. We understand that Sir Julian Goldsmid, Bart., M.P., who has kindly consented to become president, if elected, will take the chair at this meeting, and will be supported by a number of gentlemen of influence and position in the horticultural world. It is eminently desirable that the meeting should be well attended by gardeners, and the committee cordially invite the attendance of all friends of the movement. We are authorised to say that anyone attending this meeting, will, by the kind permission of the Council of the Royal Horticultural Society, be admitted free.

At the annual meeting of the Midland Union of Natural History Societies, held on Wednesday, at Malvern, the DARWIN MEDAL, which is this year set

apart for Archaeology, was awarded to Mr. Edward W. Badger, M.A., of King Edward's High School, Birmingham, for his paper on "The Monumental Brasses of Warwickshire." The Darwin Medal was founded in 1880 by the Midland Union of Natural History and other scientific societies for the purpose of encouraging original research by members of the societies forming the Union. The subjects for which the Medal is awarded are Geology, Archaeology, Zoology, and Botany, and this is the first time it has been presented to an archaeologist.

WE have received a printed protest against a statement, reported by *The Times* to have been made by Mr. Martin J. Sutton on June 17th, when giving evidence before the Select Committee of the House of Commons on Sunday labour in the Post Office. The statement objected to is as follows:—"Competitors in the trade, though they did not ostensibly keep open, did receive letters and despatch goods on Sunday": and the protest is signed by Messrs. Barr & Son, London; James Carter & Co., London; Drummond & Son, Dublin; Drummond & Son, Stirling; Daniels Bros., Norwich; Charles Fidler, Reading; Harrison & Son, Leicester; Hooper & Co., London; Kent & Brydon, Darlington; Lamoureux & Co., Plymouth; Little & Ballantyne, Carlisle; and Oakshott & Millard, Reading. In justice to Mr. Sutton, we deem it only fair to say that immediately the paragraph appeared, he wrote to us pointing out its inaccuracy, and requesting that it might not be repeated in our columns. We published a paragraph on the subject, on p. 676, but clearly to the statements there made the protest does not apply. We may further state that Mr. Sutton also wrote to the Editor of *The Times* asking for a correction of the inaccurate observation, and stating that when he was questioned as to the practice of other seed firms, he was careful to say that he did not know that any single firm worked on Sunday.

EVOLUTION AND ADVERTISING are two very incongruous subjects, but they come readily together in a retrospect of the last fifty years as regards horticulture. Fifty years is but an hour or a second in connection with evolution; but what marvellous changes have been effected by the skill of the horticulturists in that comparatively short time! The flowers we have now would scarcely be recognised by the old gardeners, so much have they been improved or altered. What, then, must be the result of fifty centuries of cultivation and trying what can be done? Fifty years ago the old firms of seedsmen and horticulturists considered it *infra dig.* to advertise; but more enterprising rivals arose, took another course, and, by persistently telling the public what they had to sell, they gradually drove the old firms out of the market. We believe only one of the pre-Victorian "large firms" in the seed trade still exists as a leading house, though some of those which have since risen to the top of the tree had an existence in a small way fifty years ago. Certain it is that the present leading firms have accomplished their elevation primarily by persistent advertising, and secondarily by supplying good articles, for it is no use keeping the latter unless you let the public know that you do keep them, and can supply them. Fifty years, after all, tells much in favour of the evolution theory, and a great deal more about the advantages of advertising.—*Echo*.

IVY-LEAVED PELARGONIUMS AT CHISWICK.

IMPROVEMENTS are steadily being made in this class of plants, notwithstanding the comparatively small circle of growers by whom they are esteemed. The times change, and every era has its fancies and fashions; thus the day may not be far off when Ivy-leaved Pelargoniums—both single and double—will be reckoned amongst the indispensable ornaments of the conservatory, just as those of the zonal class are. Hitherto one of the chief hindrances to their popularity was their straggling loose habit, requiring close attention to keep them within due bounds in a mixed collection of plants. The old-fashioned varieties even, with the best horticultural skill, required the closest attention to restrain their rambling habit, and keep them to orthodox shapes. This, however, is gradually being effected by the production of better-habited seedlings, and the selection of dwarfer short-jointed

forms, giving a maximum of bloom with a minimum of growth.

To what extent this is being effected growers may determine by an examination of the collection at present cultivated in the gardens of the Royal Horticultural Society, Chiswick, for the purpose of comparison, and for determining their merits. Doubles seem to be the greatest favourites judging from their representatives, which far outnumber the singles. This to a great extent is no doubt owing to the irregularity of the flowers, and the narrowness of the petals, which have not yet departed from the original or parent type as the zonal Pelargonium has; nor can the former boast of so many different and decidedly distinct colours. Of course, this may be owing to the compound origin of the zonal class—that is, the varieties in cultivation are the result of the intermixture of the blood, so to speak, of different species. The under-mentioned are a selection of the more distinct, and considered best from the clearness of their colours, size and quantity of bloom, and dwarf compact habit.

DOUBLES.

Taken all round, Sarah Bernhardt seems the best and most nearly pure white. The flowers are large, freely produced, and marked with a few purple lines at the base of the petals; growth is moderately rampant and the foliage of a deep shining green. The calycine spur has almost become obliterated in most of the flowers—a very interesting fact botanically. Mont Blanc has small deep green leaves, and might be classed among the white varieties, but has a decidedly blush tint. The same applies to Jean d'Arc, a rather rampant or free-growing form. The flowers of Massent are very large, freely produced and very telling from their large size, although not very full. Fürstin J. Von Hohenzollern is noticeable for the size and intense red colour of its flowers; the latter are also freely produced, and have nearly lost their spurs, as in Sarah Bernhardt. This, in itself, is a tendency towards regularity.

With regard to habit, Gloire d'Orleans is a decided acquisition, being dwarf, compact and very floriferous, with medium-sized deep rose-coloured flowers, and comes into bloom earlier, possibly, than most of the others. Alice Crousse is an erect-habited variety, with large rich rose fairly double flowers, and otherwise possesses some merit. The flowers of Abel Carrière are large, deep rose, slightly suffused with red, and borne in bold trusses; the deep green leaves are furnished with a distinct purple zone. A. F. Barron is a splendid variety, with large trusses of distinct rosy lilac flowers produced in great abundance, and the leaves are furnished with a purple blotch. Mrs. H. Cannell has flowers a shade darker than the last, and Mrs. Moore has somewhat larger ones with a more decided pink tint; but the colours of all three may be classed in one group. A very floriferous variety named Abundance, has lively rosy pink flowers of medium size, and the habit is as dwarf as Gloire d'Orleans. Lucy Lemoine might be reckoned a useful variety with an abundance of fairly double blush-coloured flowers, but growth is rather rampant. A floriferous variety is Daniels Bros., with large rosy pink flowers borne in bold trusses. Madame Crousse has large soft pink, and Comte Horace Chassent large rosy salmon flowers, while those of Congo are rosy pink, almost white on the back of the petals, and are borne in large bold trusses.

SINGLES.

These are few indeed, Innocence, Masterpiece, and Gem being three of the best. The flowers of Masterpiece are conspicuous for their large size and deep rosy red colour, furnished with two white spots, surrounded with a crimson line on the two upper petals. Amongst its class it is a very distinct variety. Gem has large flowers of a lively blush-pink, with deeper veins and a rose-coloured blotch on the upper petals. It is also desirable on account of its dwarf habit; but the foliage is rather light with a pale bronzy zone. Innocence is the best white, with very long petals and two feathered purple stripes on the upper ones. If somewhat less ornamental, Colonel Boudaire is desirable on account of its large, deep, brick-red, distinct-looking flowers furnished with two crimson lines. The trusses are large and rather freely produced. The above is far from exhaustive; but would form an admirably representative collection for anyone inclined to give this distinct and exceedingly useful class of plants a trial.

HERBACEOUS AND ALPINE PLANTS IN FLOWER.

SCOTCH ROCKET.—This name is frequently applied to a double white and very fine form of the common Dame's Violet, *Hesperis matronalis*, of which there are numerous forms in cultivation, single, double, white, pink, and purple. That under notice, however, is the best for garden decorative purposes, and is very fragrant, especially in the cool of the evening after the sun has gone down. The flowers are fully double, pure white, and produced in masses very much resembling a double stock. Of course the blooms are perfectly barren, but the plant is easily propagated by cuttings of the short radical shoots, generally freely produced after flowering is over. Mr. Wright grows the true form on the rockery at Devonhurst; a somewhat shady position is best for it in the southern counties.

SPIRÆA ARUNCUS.—There are two forms of this noble herbaceous plant, male and female. The former is by far the showiest and most ornamental form; and the individual flowers, if not more densely arranged, are far more conspicuous than the pistillate flowers, on account of the numerous white stamens. In a rich moist border the stems attain a height of 4 ft. to 5 ft., but are frequently seen only 3 ft. high. For massive clumps in the pleasure grounds this might receive more attention than it does at present. The dwarf form, *S. a. astilboides*, more recently introduced from Japan, is a very choice plant either for the flower-garden or growing in pots. The typical form may be seen at Chiswick in the gardens of the Royal Horticultural Society.

TERRA-COTTA PEA.—Amongst Everlasting Peas, *L. rotundifolius* is a very desirable species on account of the uncommon colours of the flowers, which may be described as terra-cotta or brick-red. Of rose, purple and white flowers in this class there are plenty, including the garden forms of *L. odoratus*; but prolific as the latter species is in variety, a brick-red does not seem to occur. When once established, *L. rotundifolius* is a long-lived plant, producing annually a great profusion of flowers, which, like those of *L. grandiflorus*, are in season some weeks before those of *L. sylvestris* and *L. latifolius*, thus producing a succession for cut flower and other purposes. It commenced flowering several weeks ago in the Royal Horticultural Society's garden at Chiswick.

NEPETA TENERIFOLIA.—In many good old-fashioned gardens this free-flowering herbaceous plant is used with excellent effect, either as an edging to large beds, shrubby borders, or planted in beds in the pleasure grounds. It is so used at Gunnersbury Park, Acton, and appears a perfect sheet of blue even at some considerable distance away. The stems attain a length of 12 or 18 ins., but do not appear more than half that height owing to the graceful, arching habit. The individual flowers are much smaller than those of *N. macrantha*, but in the mass are capable of producing a striking effect. Propagation is easily managed by dividing the root-stock.

CAMPANULA RHOMBODALIS.—The habit of this hardy European species is very similar to that of the leafy varieties of *C. rotundifolia*, but is more conspicuous and consequently ornamental from a garden point of view. In some villa gardens where this has been recognised, a beautiful effect is produced by planting it in lines bordering walks. The deep blue pendent flowers thickly stud the slender leafy stems, that under good cultivation and in wet seasons attain a height of 18 ins. to 24 ins.; but ordinarily and what is more desirable they do not much exceed 15 ins. or may even be dwarfer. This species does not increase very fast, but is easily propagated by cuttings and division.

MOLTKIA PETRÆA.—This is generally considered somewhat tender for our climate, and most suitable for greenhouse culture; but in the southern parts of England, at least, it may be considered as hardy, seeing that it has withstood the severity of several winters past on the rockery at Kew, where it is now flowering profusely. Like those of many of the Borage-worts, the flowers are at first purplish; but become deep violet-blue when fully expanded. The plant is of sub-shrubby habit, 8 to 12 ins. high, producing its flowers in terminal one-sided racemes in June and July. It is frequently grown under the name of *Lithospermum petræum*; but is widely distinct from all others seen in cultivation.

FEATHER GRASS.—Both in a fresh and a dried state *Stipa pennata* is a very ornamental grass, of ancient cultivation in British gardens, and has sometimes been described as native, although this is very doubtful. The leaves are long, slender, and wiry, calling for no particular comment, and the whole plant would be uninteresting but for the long beard-like awns, which are feathered in the upper part. A line of it along the front of a border at Gunnersbury House, Acton, makes itself conspicuous by its graceful plumes; and although about 15 ins. to 18 ins. high, does not, in any way, conceal the plants behind it or look too obtrusive. If desired for house decoration in the way of everlastings, the stems should be cut before the seeds become matured.

THE FEATHER HYACINTH.

UNDER this name we figure a monstrous, and by no means too common, form of *Muscari comosum*—namely, *M. c. monstrosum*, an exceedingly ornamental form of a plant that, in its typical or wild state, is very far from handsome. As the name implies, it is furnished with a tuft of conspicuous barren flowers at the apex of a raceme of fertile ones, which are of a dingy amethystine-olive colour. The sterile ones, on the other hand, are of a bright blue, which is the case with all the flowers of the form under consideration. Not only so, but they are developed into numerous slender filamentous branches or ramifications, suggesting the very appropriate appellation of the Feather Hyacinth. The species of the genus are generally known as the



MUSCARI COMOSUM MONSTROSUM.

Grape Hyacinths, and are frequently included under *Hyacinthus*. The Feather Hyacinth is easily cultivated in any ordinarily good garden soil, and may be increased readily from off-sets, which are produced freely from good-sized bulbs. Owing to the perfectly sterile condition of the flowers, propagation cannot be effected by means of seed. It grows to the height of 12 ins. or 18 ins. under favourable conditions, and the flowers themselves cover from 4 ins. to 6 ins. The species is a native of South Europe, and was introduced in 1596, record having it that the monstrous form reached us as early. Its infrequency in gardens is therefore remarkable, considering its utility for garden, table, and other decorations.

ON TULIPS.

(Continued from p. 693).

THE late Tulips (also called fancy Tulips—*Tulipes d'amateurs*) is the class which has created the greatest and most important sensation during the period that Tulips have been introduced into the floricultural world, and it is this class which has had, ever since its introduction, most of the ambition and love of florists and fanciers. This class has received for more than 200 years all the care and attention that could possibly be bestowed upon a plant, not only by the Dutch florists, but by every skilled gardener throughout the civilized world.

The *Tulipa Gesneriana*, brilliant scarlet with black centre, is probably the mother Tulip, from which all the many hundreds of different varieties have originated in almost every shade of colour, from pure white to the darkest crimson. This sort is an importation from Asia Minor, the Caucasus, Calabrie and Central Italy. Mr. Conrad Gesner, a Swiss naturalist, in whose

honour it was named, mentioned this Tulip first and published a description of the same, accompanied by a drawing, in 1559. This gentleman obtained it first at a garden in Augsburg, where it had been grown from seed brought there from Constantinople. It was first flowered in England by Mr. James Garret, an apothecary, in 1577.

Of this class of single late Tulips there is almost an endless variety, and to select from a list so large with a view of pleasure or of securing the most desirable would be to play a game of chance. I must also mention that the amateurs and Tulip fanciers in England have also contributed largely during the last eighty years to the very great improvements among the fancy Tulips, by adding several great beauties to the existing varieties. Notwithstanding the mania of former days (of which I wish to speak later on) has safely passed over, the writer at present still keeps over 1,800 varieties of this splendid flower. When I was a young man, nineteen to twenty years old, I was apprenticed with the late Mr. Henry Groom, at that time a nurseryman in Walworth, and who used to keep a most beautiful collection of Tulips of English raising, of which he was in the habit of opening a private exhibition every year at the blooming season, to which the nobility and gentry residing in or about London were invited by private cards, and many thousands of ladies and gentlemen came to see and admire this collection.

The character of a good Tulip consists in the novelty of the sort and in its peculiar marking of colours, either feathered or blotched, with a pureness at its interior base. The ground colour should be clear and distinct, whether white or yellow. The petals should be of a firm substance, not withering soon by the action of the sun, but keeping their true colouring unwithered for at least ten to fourteen days. These late or fancy Tulips, which have been so much admired by many generations, have been grown from seed by thousands, and the result of this has been the acquisition of many superb varieties, at first in Holland and Belgium and later on also in England. There is a singularity in Tulips which belongs to no other flower, and which, as experience shows, produces an extraordinary inducement to lovers of flowers for their cultivation and improvement.

The seedlings generally, when they first bloom, produce flowers without any stripes or markings, but with a yellow base, the upright portion of the petals being self-coloured brown, red, purple, scarlet or rose. In this state, when they have been grown for years without variation, they are called breeders or mother Tulips. These are planted every year until they break into stripes, when, if the markings are fine or different from any one known, they receive names, and are taken up in the existing collections. It is often so many years before they break, and the multiplication in the breeder state is so rapid, that the border soon becomes filled with this self-coloured variety.

Each Tulip grower who has broken seedlings claims, and has a perfect right, to give it a name; but some confusion is naturally brought on, because of the fact that different names have been given to those that have broken almost exactly alike. In a bed of a hundred seedlings it is not probable that any two will be very nearly alike in their markings, which uncertainty adds greatly to the charm of Tulip cultivation. The hope of obtaining something new in the markings and pencilling is a sufficient stimulant for the enthusiast to persevere in his labour of love until he has found one quite worthy of a name. Another singular feature in the Tulip is that after it breaks it ever remains the same, and never returns to its self-colour again.

The show or fancy Tulips are divided into three classes: 1st, Byblöemen or violets, such as have a white ground variegated with purple or violet, the edges well feathered, the leaflets erect, and the whole forming a perfect cup; 2nd, Bizarres having a yellow ground variegated with rose, scarlet, purple, or violet; 3rd, Roses with white ground colour variegated with rosy red, pink, or soft rose.

The properties of a good Tulip flower are as follows:—

1st.—The cup should form, when quite expanded, from half to a third of a round ball. To do this the petals must be six in number, broad at the ends, smooth at the edges, and the divisions between the petals must scarcely show an indenture.

2nd.—The three inner petals should set closely to the three outer ones, and the whole should be broad

enough to allow of the fullest expansion without quartering, as it is called, or exhibiting any vacancy between the petals.

3rd.—The petals should be thick, smooth, and stiff, and keep their form well.

4th.—The ground-colour should be clear and distinct, whether white or yellow. The least stain, even at the lower end of the petals, renders a Tulip of less value.

5th.—Whatever be the disposition of colours or marks upon a Tulip, all the six petals should be marked alike, and be, therefore, perfectly uniform.

6th.—The feathered flowers should have an even, close feathering all round, and whether narrow or wide, light or heavy, should reach far enough round the petals to form, when expanded, an unbroken edging.

7th.—If the flower has any marking besides the feathering at the edge, it should be a bold mark down to the centre, but not reaching the bottom of the cup. This mark must be similar in all the six petals.

8th.—Flowers not feathered, and with the flame only, must have no marks on their edges. None of the colours must break to the edge. The colour may be disposed in any form so that it be perfectly uniform in all the petals, and does not go too near the bottom.

9th.—The colour, whatever it may be, must be dense and decided, whether it be delicate and light or bright or dark; it must be distinct in its outline, and not shaded or flushed.

10th.—The height should be 18 ins. to 36 ins.; the former is right for the outside row in a bed, and the latter is right for the highest row.

11th.—The purity of the whole and the brightness of the yellow should be permanent—that is to say, should stand until the petals actually fall.—*Polman Mooy, Haarlem.*

(To be continued).

ORCHIDS AT STUDLEY HOUSE, HAMMERSMITH.

I SOMETIMES think that notes on collections of Orchids are too often written for the Orchid fancy alone, and writers are apt to use certain set terms that while fully comprehended by the initiated ones, are rarely comprehended by those who may be denominated outsiders, who are anxious to learn something about Orchids, but desire to have the information conveyed to them in simple and comprehensive language. That Orchids are just now a kind of horticultural rage there can be no doubt, and gentlemen of means, from dukes down to tradesmen, are forming collections; but whether from the simple love of the thing, or from a desire to make a commercial speculation, it is not for me to say. I do not profess to know much about Orchids, and perhaps that may be a qualification for writing about them; for some of those who do write about them are apt to use learned designations that confuse a simple mind. I mean to try to set down my impression of what I saw in the collection of Mr. F. G. Tautz, at Studley House, a few days ago.

Now Mr. Tautz is an enthusiast about Orchids, and that has an important bearing on success. Further, his gardener knows his business thoroughly, and so the plants are well grown in the most healthy condition, and the houses are neat and clean as a new pin. Then the houses appear to me to be well adapted for the purpose for which they are intended; though Mr. Tautz states that if he were going to build Orchid houses again, he would have small ones, with the stages breast high, so that the plants could be kept near the glass. One thing more, I think that if anyone interested in Orchids will find their way to Studley House, they will be well received; and Mr. Tautz, and his gardener also, will take great pleasure in showing the visitor all they can.

I first of all went into what may be termed the flowering house—an oblong erection, with a stage in the centre and also round the sides. It was delightful to see so much and such variety in bloom. Here were two very fine forms of *Lælia purpurata*—a peer among Orchids, one having a singularly rich purple lip; also *L. grandis*, with nankeen-yellow sepals and petals and a rosy-lined lip. Here was *Cattleya Skinneri oculata*, with its dark throat; a very fine piece of that striking species, *Oncidium Marshallianum*, with a branched inflorescence of some sixty flowers; *Cattleya Mossiæ*

in fine variety and *C. Lawrenceana*; *Masdevallia Bella*, with its white labellum; *Epidendrum atropurpureum*, an old Orchid not often seen; *Masdevallia psittacina*; *Aërides Ballantineana*, very distinct and peculiar; a very fine piece or two of the distinct *Cymbidium Lowianum*, which has proved an excellent exhibition Orchid; *Cattleya Acklandiæ*, with spotted sepals and petals, very fine; and some fine forms of *Odontoglossum citrosimum*—one with a pale purple or mauve-purple lip; one pure white, very soft and pretty; one called *O. punctatum*, slightly spotted on the pale lip; and one pure white, with the petals densely spotted. *Cattleya Trianae Schrodere* was here in two or three forms, also *Colax jugosus* and *Dendrobium albo-sanguineum*. Here, too, was *Polystachia pubescens*, with its small yellow fragrant flowers; *Cattleya Mossiæ magnifica*; the orange *Dendrobium clavatum*, *D. suavissimum* and *D. Veitchianum*, very peculiar; *Odontoglossum Reichenheimii*, with 150 flowers on a massive branched spike, and *O. Roezlii* in variety, some very fine; the noble *Phaius Wallichii*; and *Epidendrum Parkinsonianum*, with yellowish green sepals and petals and white labellum.

Then to the Vanda house, where was also to be seen *Cypripediums*, *Phalenopsis*, &c. Here again I set down on paper such things as I liked: among them, *Cypripedium Lawrenceanum*, with two very fine flowers, having lines of dark wine-crimson on the crest; *C. Harrisianum*, *C. Morganæ*, *C. ciliolare*, very fine; *C. Swannianum*, *C. selligerum majus*, *C. Lowii*, *C. turpe*, *C. tonsium*, *C. caudatum Wallisii*, *C. callosum*, *C. Peteri*, *C. Hookeri*, and its variety *aureum*, said to be a very scarce novelty; *C. Laforcade*, *C. Io*, *C. Boxallii atratum*, of a distinct maroon-brown colour; *C. barbatum superbum*, *C. Warneri*, *C. concolor*, *C. Fairrianum*, a new species, said by Mr. Tautz to be one of the finest plants in the country; *C. microchilum*, *C. Druryi*, *C. Sedeni caudatum*, *C. Dauthierii*, *C. uivum superbum*, &c. In fact, in this collection appeared to be almost everything that is new and rare. The Lady's Slippers are potted in peat, sphagnum, charcoal and a little loam, and they appear to do uncommonly well in it. In addition, there were in this house *Phalenopsis amabilis*, *P. Sanderiana*, *P. Schilleriana*, the rare *Dendrobium ligiatum*, *Cœlogyne Massangeana*, a species that is nearly always in flower and is, therefore, extremely useful; *Cattleyas*, *Lælias*, *Aërides*, *Oncidium ampliatus majus*, *Dendrobium Parishii* and *Schomburgkia tibicinis*, or the Cow Horn Orchid, just coming into flower. The succession of bloom in the case of the *Cypripediums* is a long one: *C. insigne Spicerianum* and *villosum* come into flower in November, December and January, and then a long succession follows.

In the *Cattleya* house were many strong plants, some going out of flower and others coming on to take their places. There were fine pieces of *C. gigas*, *C. Trianae*, *C. Eldorado alba*, *C. exoniensis*, *C. labiata*, &c., and in addition, *Lælia anceps Protheri*, *Cœlogyne cristata hololeuca* or *alba*, an Orchid of lovely purity; *L. anceps Sanderiana*, *Epidendrum Randii*, very rare, just coming into flower; *Lycaste Skinneri alba*, and indeed, a fine collection of choice forms.

In the cool house, *Masdevallias* were a leading feature, among them *Harryana* and its variety *splendida*, of a rich deep magenta-crimson colour; *Veitchii grandiflora*, rich dark purple; *Shuttleworthii*, &c.; also *Oncidium cucullatum*, one form with a fine spotted lip; *O. concolor*, very pretty, and *O. macranthum*; a fine variety of *Epidendrum vitellinum majus*, *Cœlogyne nebulosum candidum* that has been in flower since Christmas, and Mr. Tautz puts a great value on it on this account; *Odontoglossums cordatum*, *ramosissimum*, *triumphans*, two very distinct forms of this, one rich dark, another pale yellow; *O. crispum*, and one or two fine varieties of *O. Cervantesii*, *O. Schilleriana*, small, but prettily spotted, and *O. radiatum*, a fine piece with sixteen flowers, &c.

In another house was a very fine show of *Odontoglossum vexillarium*; some thirty plants at least were in flower, and many not yet in bloom—perhaps 100 plants in all—varying very much, some dark and some light, and one pure white; one specimen had twelve spikes of bloom, and the dorsal sepal of some measured 3 ins. across: the varieties *superbum* and *leucoglossum* were very striking. Here, also, were *Anguloa uniflora*, *Phaius bicolor*, a very fine piece of *Stauhopea tigrina* and *Calanthe veratrifolia*.

In what is termed the show-house, were *Dendrobium nobile* in fine variety, particularly one named *Cooksoni*, *D. splendidum*, *D. Phalenopsis*, *D. Macfarlanei*, *D. hercoglossum*, quite new, and *D. Paxtoni*, *Vanda Lowii*, *Oncidium flexuosum*, *Cœlogyne Testerianum* (said to be the only piece in the country) and *Zygotepalum Mackayii*.

Here, then, is an outline of Mr. Tautz's fine collection. If he adds materially to it he will have to build new houses. The present houses appear to be as full as possible; but what enthusiast can find courage to stay his hand when there is something of value challenging attention?—*R. D.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

PELARGONIUMS which are now going out of season should at once be removed from the houses, placed on an ash border out of doors, and fully exposed, so that their wood may become thoroughly ripened. Water rather sparingly, and as soon as the wood assumes a nut-brown colour, they may be pruned back and placed in a cold frame. No water should be given at the roots until growth has again started; syringing them overhead twice a-day will be sufficient to induce root-action. To increase the stock, cuttings should be selected from the prunings and at once inserted. If these are placed in a genial heat, such as that of a Cucumber or Melon frame, they will strike much more readily than if kept in a cold pit, and make much better plants. The early batch of

CINERARIAS are quite ready for a shift into 32's, and must be attended to within a few days. They will be returned to the north pits; the lights will not be removed from them for a few days, and the foliage will be kept constantly damp until they begin to establish themselves in the fresh compost. If the last sowing has by any means failed, lose no time in making another, keeping the pan thoroughly shaded until the seed has germinated. The earliest

PRIMULAS, too, are quite ready for a shift. Hitherto they have been growing on shelves near to the glass; but as the heat is so intense, they become too dry, so must be potted and then placed in the north frames. They thrive under the same conditions as the Cinerarias, only more care must be exercised in the watering and damping; but by all means remove the lights every night while the weather is favourable. The stock of the white

BEGONIA SCHMIDTII, too, is quite ready for a shift into the flowering size; generally speaking, we find small 32's the most suitable size for them, as they do not require over-much root room; we find them also extremely useful for decorative work, lasting well on into the new year, but later on they will require stove temperature or they are apt to lose their foliage. Pay due attention to the watering of all such things as *Richardias*, *Solanums*, which were planted out; it is useless to hope for them to succeed if left to take care of themselves during such a scorching time as we are now experiencing.

NEAPOLITAN VIOLETS, too, being planted near to the frames, come in for a share of attention in this respect, and are making good crowns; unless these are looked after they are frequently infested with red-spider, which is carried into the frames, thus causing endless trouble. The largest of the seedling *Gloxinias* are now ready for a shift into small 32's, in which they will be allowed to flower, and so form a succession to those which are now in. As those in flower go over let them be removed to a cold pit with a south aspect, where they can perfectly ripen off the foliage preparatory to going to rest; water must be gradually withheld as the leaves die off. Of course, in the case of named sorts, if it is desired to increase the stock, leaves should be removed and put in at once, but do not rob the tuber of too many at one time. The mode of propagating is so well known that it is not necessary for me to describe it here.

THE FRUIT HOUSES.

MUSCATS are fast taking on colour, and we freely ventilate the house, closing rather early in the afternoon as we have allowed the fires to go out. The Lady Dowries are just now at a standstill, stoning; they are

a more even crop this year. So far we have escaped any scalding, but if proper attention is paid to the ventilation this can be reduced to a minimum; generally speaking, there is not much danger until just before the fruit begins to colour; but if care is taken previously to obtain foliage of a good substance, much of the danger is averted.

THE SUCCESSION VINERY is now nearly ready for cutting from, and less watering and damping must be done; care being taken that the house is not damp at closing-up time. As the fruit is cleared, keep the Vines thoroughly syringed morning and evening. Cucumbers in pits will need going over at least twice a week to keep the bine stopped and arranged; above all things avoid over-crowding, rather prune all unnecessary growth away, that what is left may fully develop. The same remarks apply to

MELONS, only that more care is necessary and particularly so as to the watering. All damp should as much as possible be kept from the centre of the mounds, or the plants are very apt to canker off; a little lime placed round the stems is considered a useful remedy and preventative. We have potted off the Melons sown last week, returning them to the frames, where they do much better than if housed. Keep all ripe fruit cut from the Tomato plants, and feed liberally with manure water every time; the Hackwood Park variety is doing by far the best with us this season.

THE KITCHEN GARDEN.

WATERING.—Much of our time is perforce spent in watering the different crops, but really, unless mulchings are given, the benefit derived is very doubtful; of course all kinds of salads must receive daily attention, or they will be worthless. We mulched and thoroughly soaked our early border of French Beans, and now the pods are swelling away nicely. There was a danger of our having a break in the supply, as those grown in the pits are nearly over; however, now all is put right. Peas fill very badly, and the crop is anything but satisfactory, the heat being so intense. Yesterday, the thermometer in the open, facing the north, and guarded by a stake $1\frac{1}{2}$ ins. thick, registered 102° , and on our heavy soil everything suffers terribly in such a season as the present; the grass walks are as brown and as bare almost as a road. We have manured and dug a square ready for a new

STRAWBERRY PLANTATION, and then by planting good early layers we hope to obtain a crop of fruit the first season. Herbs, as they come into flower, must be cut and hung up in some airy shed to dry before being stored, or they are apt to go mouldy. Shallots are ready for lifting, and must be attended to; we shall lay them out thinly on a hard surface, thoroughly exposed, so that they may be thoroughly ripened. Garlic must remain some time longer. The barometer is falling, and there is some likelihood of a fall, in which case all haste will be made in the planting out of green crops; ground should also be prepared ready for the sowing of Parsley, which will afford winter and spring pickings. — *Walter Child, Croome Court.*

GARDENING NOTES FROM SCOTLAND.

Vegetable Notes.—**ASPARAGUS.**—Where this is grown in quantity for forcing it is well to keep the stock thin, so that sun and air may get amongst the crowns to prepare them for early supplies—say during the latter end of October and onwards. But it need hardly be supposed that one can get fine heads half-an-inch and more in diameter from northern produce, unless the position is exceptionally favourable. We make a purchase from parts where Asparagus is raised for forcing as a speciality, ripened early and well. This vegetable (so much valued as a delicious adjunct to the dinner table at any time) is a universal favourite when ready to succeed the autumn Cauliflowers and latest Peas, and is a good contemporary with Sea Kale and French Beans. To keep up a supply from November to the following July requires abundant means to meet a moderate demand, and where ground is limited in extent it is an economical practice to purchase the roots for earliest supplies. To get plump strong crowns, liberal soakings with manure water and several dustings

of salt may be allowed during the “dog-days” and onward to the middle of August. Heavy soil or light sandy ground exposed to full sun suggests the treatment which the plants require; on the former less moisture and stimulant is necessary, but on such positions as the latter one can hardly be too liberal. We prefer the plants that are grown in rows, which can be lifted easily, and, if desirable, may be trenched for a succession plantation; but a change of land is sometimes desirable.

FRENCH BEANS, &c.—The present time is very suitable to make a sowing of kidney Beans on a well-sheltered border exposed to full sun, and upon which a frame can be placed towards the end of August or earlier. Pits not required till winter may have sowings of these made in them, and the lights could be placed over them when required for protection or to hasten their fruiting. Such applies chiefly to untoward districts; but it is also well to have such auxiliaries in the far south, where we have seen French Beans much injured during August by early frost. Where abundance of means are at command to apply artificial heat for forcing French Beans in quantity to succeed the outdoor supplies, the above suggestions are of little consequence: but economy in fuel and glass space is duly considered, and the precautions indicated are not out of place.

Now is a favourite time in the north to make sowings of Lettuce, Turnips, Carrots, Cabbages, and Onions for drawing young. Brown Cos and Hick’s Hardy Lettuces are two of the best we have tried for autumn, winter and spring, while All the Year Round is very serviceable. There are some fine hardy kinds, however, for later sowings which cannot be easily dispensed with. Turnips for autumn use are well represented by Veitch’s Red Globe and American Stone, and all the yellows are useful where such are admissible. Early French and Nantes are well-proven varieties of Carrots. Where grubs are invulnerable, these may be sown in small quantities on prepared soil every few weeks till the beginning of August. Onions, for pulling from late autumn till the ordinary spring kinds are of a serviceable size, none are more useful than Blood Red and the old Strasburg. — *Caledonian.*

Scottish Horticultural Association.—The monthly meeting of the society was held on Tuesday, Mr. Hugh Fraser, Leith Walk Nurseries, in the chair. Mr. R. B. Wright, Bowhill Terrace, read a paper on “The Cultivation of the Tea Rose by Budding and Grafting.” The process, he stated, could be carried on all the year round. Treating of budding in the open ground, which could be carried out in July and August, he said the very best stock was the seedling Briar, and the best soil a stiff loam. The stock should be planted a foot or two apart (the success of the operation depending on their being in good condition), and the buds should be placed as low as possible, and left to take care of themselves till they could be considered safe for removal, which was about the same time as the seedling Briar. The stocks when removed could be protected from the winter by potting or placing in a position where they are protected from the frost, and sufficient place for the latter operation, a low-roofed house with a good command of heat being recommended. Treating of propagation by grafting in pots, the operation, he said, might begin in October and November, the same stock being used as for the budding operation. The grafts must be carefully selected from well-ripened wood, and the style of graft was the ordinary side graft, removing the top of the stock, and leaving just as much as would enable the operator to fix the graft to the stock as near the level of the soil as possible. They should then be placed in a propagating case till they get sufficiently strong to be placed on an open bench. The grafting might be continued till the young wood on the stock-plants became firm, and the buds plump and prominent. Discussion at some length followed.

National Rose Society’s Edinburgh Show.—We understand that the number of entries already made for the Rose show, to be held in conjunction with the Royal Caledonian Horticultural Society’s summer show on Wednesday next, is already very large, so that with favourable weather in the interval, its success is assured, so far as flowers are concerned. The season as yet has been favourable for Roses in Scotland, and they are looking extremely well.

THE AMATEURS’ GARDEN.

HOEING.—Where an unlimited supply of water is difficult to get or altogether unobtainable, mulching or hoeing are the best alternatives. Weeds quickly run to seed during such dry weather as we have been having for weeks past, greatly to the disadvantage of all garden crops. Plants of a succulent nature, such as Pelargoniums, Mesembryanthemums and others coming from the Cape enjoy sunny weather and flower abundantly, although one drawback is that growth is very limited, and the beds take much longer time to be covered, and as a necessary consequence, cuttings for next year’s supply will be difficult to obtain. Lobelias enjoy sunshine immensely and are now a mass of bloom. In these cases mulching may be resorted to after hoeing the beds well to thoroughly loosen the surface; this in itself will greatly reduce excessive evaporation and save the trouble of watering where that cannot conveniently be done. This applies to all other garden crops where watering is out of the question; therefore keep the hoe at work amongst Peas, Beans, Cabbages, Cauliflower and all the Brassica tribe. Where watering must be resorted to let it be done without stint, or the labour is worse than wasted, because mere surface dribblings can never reach the roots, and only make the soil cool by excessive evaporation. This is undesirable, notwithstanding the great heat, and plants will suffer a check by this very means, by their roots being in a cold medium. Watering also tends to cake the surface, which above all things is to be avoided amongst growing crops, and more especially in dry weather. Immediately after the soil has become sufficiently dry to be workable without puddling, loosen it with the hoe, or with the hand-fork where the former is impracticable.

VINES.—The present is trying weather to Vines out-of-doors, often causing attacks of mildew and the ruin of the crops. Under glass, however, Vines are more controllable, and with due attention the abundant sunshine may be utilised to great advantage. Three things, above all others, require constant attention at this season. Except in a few cases, amateurs’ Vines are just at that stage when the result of careful attention becomes apparent in the quality and weight of the crop in autumn; this applies to Vines that are brought forward by sun-heat alone, and are consequently late compared with those that have been forced into growth, in spring, by artificial heat. Whether the borders are indoors or outside—the latter of which is most preferable for all main and late crops—abundant watering is imperative if the Vines are to be maintained in a healthy state, especially under heavy cropping. If the borders are well drained, either artificially or naturally, so as to guard against stagnant moisture at the roots, a deluging at least once a week will have a telling effect on the swelling of the fruit. The next consideration is to see that all secondary shoots are stopped beyond the first leaf, and all other superfluous wood removed so as to insure a maximum of light for that retained. Primary shoots will have been stopped ere this time, except where terminals have been allowed to grow unchecked to increase the vigour of the rods; a multiplicity of shoots should in all cases be avoided where there is no room for their insertion with full exposure to light; on the contrary, this would be conducive to weakness rather than strength. The third essential is to ventilate early in the morning and close about three or four in the afternoon according to the heat and brightness of the sun.

KITCHEN GARDEN.—Late-sown vegetables will be now causing great uneasiness, as the seedlings become crowded in the beds with no prospect of getting them planted out. In order to prevent the entire loss of a crop, and the ruin of the seedlings by crowding and drawing, exceptional alternatives to the regular course of procedure must be adopted. Before disturbing the plants, water the beds heavily, so that all parts of the roots will be reached. After allowing the seedlings to benefit by the moisture, loosen up the roots with a fork, preserving them as entire as possible. Make shallow trenches with the hoe where they are intended to be planted, and, if necessary, water the trenches a short time before planting. This ensures the roots being in a moist medium, which would not otherwise be the case if planted in unprepared ground, owing to the falling in of the dry soil. The labour incurred is much greater, but it will be fully repaid in the end.

This applies to various crops that require transplanting besides the Cabbage tribe. Water Celery in the trenches unstintingly, using weak liquid manure after the plants have fairly started into growth.

TOMATOS.—This wholesome and useful fruit is now becoming very popular with the British community, and every amateur may grow them who is possessed of a piece of garden ground in an open sunny position. Sunshine is the great factor for the production of fruit of the best quality, and the benefit of a wall should be given them if possible. In the absence of this, however, they may either be grown in pots or planted in the open ground, tying them to stakes. In the latter case, to insure ripening of the fruit, top the plants after the formation of a few bunches of flowers. Confine the plants on the wall to one or, at most, two shoots, train erect, and remove all laterals.—*F.*

HARDY FLOWERS AT WHITTON.

ONE can have little conception of the effect hardy herbaceous plants are capable of producing if experience of such is entirely confined to their cultivation in borders in the ordinary way. When recourse is had to growing them in masses or beds, their natural characteristics are often brought out in a bold and telling manner. We recently had the pleasure of being conducted through the grounds of Mr. Walker, of Whitton, who grows hardy plants extensively for market.

Early-flowering subjects are those most suitable for planting amongst fruit trees, and this arrangement seems to be followed to a great extent at Whitton. After the trees come into leaf the plants are heavily shaded, besides being robbed of moisture in dry seasons such as the present one. An open field entirely devoted to the culture of various bulbs and other herbaceous plants is a fine sight at different times as the respective subjects come into flower. At the time of our visit the herbaceous Pæonies were just commencing to bloom, and exhibited free growth and a great quantity of flowers. *P. albiflora* and *P. officinalis alba* with other of their varieties are the greatest favourites, and most acceptable to the general public. A considerable breadth of the so-called Parrot Tulips had just been cut, finding great favour with buyers. Their singular appearance, and green, scarlet and yellow-blotched and splashed flowers are very novel, and consequently attractive to many.

A great quantity of different species of Iris showed by their floriferous character how suitable the soil is to their well-being. The German or Flag Iris was represented by the type as well as *I. germanica atropurpurea*, a very dark purple form, also known as *I. g. atroviolacea*. Princess of Wales is the purest white variety grown, which was clearly brought out by contrast with *I. Florentina*, a pale lavender rather than a white colour. *I. pallida* and *I. p. dalmatica* are grown in quantity, the latter being conspicuous by its large white bracts. A very fine variety of the same species, evidently, named Madame Chereau, has white flowers conspicuously margined with beautiful blue lines and markings. To our taste, this is one of the most charming Irises grown. *I. variegata*, *I. aurea*, a beautiful golden yellow Himalayan species; *I. Eben Assan*, yellow; and *I. flavesens*, are also grown more or less extensively. The latter is a dwarf floriferous yellow-flowered Iris. A white variety of the English Iris, named Mont Blanc, is a great favourite.

Liliums seem to be very capricious, growing and flowering freely in some cases, and succeeding rather indifferently in others. *L. pyrenaicum*, *L. testaceum*, and *L. chalcedonicum*, all coming under the Martagon group, are grown in full exposure in masses. The first named is closely allied to *L. pomponium*, and is a very old-fashioned cottage garden flower, naturalised in several places in Britain. *L. candidum*, another equally old species (both being introduced in 1596), and the popular *L. auratum* were grown in another piece of ground between the lines of fruit trees. *Anemone fulgens* was also associated with these Lilies, but was almost out of bloom at the time of our visit.

Double Pyrethrums constitute another strong feature of the place, and are grown in quantities of a sort for cut-flower purposes. Whether double or single, they are admirably adapted for indoor decoration, either by themselves or, preferably, in association with flowers of an altogether different kind, and last a long time in water. Their lively colours have a telling effect, and some prefer single, others double varieties; but we

admire good specimens of either kind as affording a greater amount of variation. Princess de Metternich is a double white, and a fine, bold, massive flower. Mont Blanc is an old double white variety, particularly good for cutting purposes, and a favourite with many growers. Saltaire is another variety with a white ray and a sulphur-coloured centre—at least, when it first expands. It is, moreover, a soft colour, and finds favour with some tastes. A very conspicuous flower is a double variety named Captain Nares; it is deep rosy red and double.

A miscellaneous lot of other things are cultivated in greater or less quantity, and suitable alike for market purposes or private growers. *Inula glandulosa* is a grand herbaceous plant, and one of the best of all the species for garden decoration. It grows ordinarily from 18 ins. to 24 ins. in height, and bears an immense terminal golden yellow flower head. A mass of the old-fashioned *Lupinus polyphyllus* and its white variety at the far end of the ground resembled a body of soldiers drawn up in a square for defensive purposes; to say the least of them, they are very stately summer flowering plants. Although by no means new, *Centaurea montana rosea* is an exceedingly useful plant, but not so common in gardens generally as the typical blue form; its rosy flower-heads are very useful for table and other decoration. A quantity of the old double Persian or Turban *Ranunculus* is grown, but they do not grow satisfactory in some gardens in this country, although we cannot but admire their beautiful forms and striking colours. A deep scarlet, double-flowered variety we noticed was very fine, and the Orange Turban was another handsome, fully double, deep orange-coloured form.

ORCHIDS AT SUDBURY HOUSE.

THE grand feature of Mr. Peacock's collection at Sudbury House, Hammersmith, recently was a display of *Odontoglossum vexillarium* that commenced flowering some time ago, and is not yet over. The bulk of the collection is grown in a low-roofed lean-to structure facing the east and running north and south. A few plants are staged in another house; but the effect may be imagined from the simple fact that they carried, in the aggregate, 1,700 spikes, varying with four to six flowers each. In round numbers, this would represent a total of from 7,000 to 10,000 flowers. When to this we add the handsome and distinct-looking foliage with which this noble species must ever be associated in the minds of cultivators and Orchid fanciers generally, a sight of this kind is not soon to be forgotten.

The foliage presents a considerable range of variation with regard to the purple tint suffusing many forms of it; but curiously enough, a dark-coloured form sometimes produces pale or white flowers, which rather upsets one's ideas of the correlation of colour in homologous parts. With regard to the flowers, there is also a wide field of variation in the range of colours, as might be expected, and the originally-named and dark-coloured *O. v. superbum* pales in comparison with some of the dark forms to be seen in the collection. A very distinct form, with deep rose-coloured flowers, has a large white blotch at the base of the labellum, suffused with yellow on that part representing the almost obsolete crest. In another the petals are several shades darker than any other part of the flower; while in a third the base of the petals exhibits this dark colour only, and the labellum is almost as pure white as in the variety *O. v. leucoglossum*. Some of the darkest forms have apparently habitually small flowers, and resemble a variety named *O. v. Klabochorum*. Some of the paler flowers taken at random measured 3 ins. in breadth by 4 ins. in length.

In the cool *Odontoglossum* houses many fine forms of *O. crispum*, *O. polyxanthum*, *O. Coradinei*, *O. triumphans*, *O. gloriosum*, *O. Pescatorei*, and others were flowering, but any great display of bloom is prevented by constant cutting for decorative purposes. Many of the forms of *O. crispum* are noted for their deep rose colour. *Oncidium cucullatum giganteum* has been flowering continuously for some months back, and is very distinct for the size of its well-coloured blooms. Notwithstanding the bold and distinct appearance of *O. macranthum* it never seems to make that headway in collections which its telling character should warrant. The size of the pseudo-bulbs and the number and size of the flowers testify that its cultural requirements are understood here. A singular feature

was noticeable in the shape of a double or twin flower of *Odontoglossum citrosum*, in which the pedicels and ovary had grown together throughout their length. There was no malformation of parts, except what would be brought about by overcrowding, and no suppression of parts.

Amongst the finer *Dendrobiums* in flower we noticed a quantity of *D. Dearei*, whose milk-white flowers are rendered more conspicuous by the large green blotch in the throat. *D. Griffithianum* was noticeable for its dwarf stature and large drooping spikes of golden yellow flowers. A considerable quantity of the shy-flowering *Lælia majalis* is grown at Sudbury House, and frequently produces its showy and delicately marked flowers. The sepals and petals are warm rose, while the labellum has a rosy margin, and numerous rosy stripes on a white ground. This was flowering in a house mostly devoted to *Phalænopsis*, which produce a great quantity of bloom at different seasons of the year. Recently there were some very large and handsome flowers on *P. amabilis* and *P. grandiflora*, especially on the former. *P. rosea* is a small-flowered but very pretty species. *P. Stuartianum* and *P. Schillerianum*, although out of season, are conspicuous for the size and varied colouring of their foliage.

FLOWER SHOW JUDGING.

I AM obliged for the answer to my letter, and to "A. D." for his article; but I do not seem to get much nearer to my point. I think that the object of flower shows should be the improvement of horticulture and floriculture. Now, what *improvement* is there when one sees the same old plants year after year in similar places, bearing the same prize tickets? And what pleasure or benefit would anyone get unless there were some novelties—something fresh to see, something new to beat or to be beaten by? I hoped from your article that some movement might be on foot, or set on foot, to do away with the antique system of showing old-fashioned monsters, and that judges might be compelled to award prizes for quality and not quantity. As to "A. D.'s" letter, it *does* follow that an exhibitor of half a dozen of Laing's novelties in Begonias has more difficulty in showing good specimens of them than of plants of older varieties, because little one-year old tubers or cuttings will not make as large or as well-shaped plants as the older ones, since they mostly throw up only one stem. Novelties are usually sent out about as big as a finger-nail; older tubers will get 3 ins. to 4 ins. or more across, and send up several stems. So, if improvement is the object of shows, novelties, if *improvements*, ought to have the prize, though the plants are smaller and less well grown.

As to what he says about the big pancake zonals, I do not see why pinching is not *distorting* as much as tying to sticks—in fact, rather more so. In growing zonals as pancakes from one stem there is great art, and I hold that care and skill should be rewarded; also one thus gets the greatest amount of flowers and foliage to the space. If committees and judges require a great flare of colour, that can be easily attained—providing the exhibitor has space and carriage room—by striking forty or fifty cuttings in a tub, and letting them grow into a small forest; but I should hardly award a prize to such a tub over a well trained and flowered pancake. By the way, when I asked if pancakes were correct, I rather meant fashionable. Again, it does not always follow that judges will give right verdicts, even when there are express directions in the schedule. At a show last September, a schedule expressly stated that in four classes of Apples and Pears the prizes were to be awarded to the "best specimens of the best sorts, and not for the *then fitness* for table." There were splendid exhibits of unripe fruit, but the prizes were awarded in each instance to dead-ripe fruit; if I remember right, in one class of Apples, to Red Astrachan, Quarrenden and Irish Peach. The show was on September 3rd. Frequently, again, the award of one year is no guide for the next, or even for that very show. At the same show last year I saw first and third prizes given for quantity over quality, while the second was given for quality over quantity. I wish I could know what to be at. I expect it will come to my giving up exhibiting altogether, as many others have done before me, and for the same reason.—*Heath End.*

DAVALLIAS.

AMONGST the many species of Ferns that are grown for the purpose of cutting fronds from to mix with cut flowers, scarcely any exceed, in firmness of texture, some of the species of Davallia, many of which make fronds of considerable size, and have a bright shining appearance with them which makes them so very valuable, either as exhibition or as decorative plants. All the species have running rhizomes, which, in all cases, are covered with brown or white and brown scales, which lend a peculiar look to the said rhizome as it lies upon the soil or stones, amongst which they are generally planted. Large masses on rockwork show up the plants in splendid form, the fronds attaining their full dimensions when treated in this manner; and the rhizomes hanging over the edges of the rockwork, have a peculiar and rather animated appearance.

Nearly all of the species succeed best when grown in

scarcely be surpassed, the fine arching fronds showing to immense advantage when the plant is growing freely on rockwork.

D. Fijiensis is a charming plant, with very finely divided pinnæ, the whole frond being a splendid bright green; the rhizomes, not being so strong as the two preceding kinds, are, consequently, much closer set, the fronds springing up from them thickly, making the plant very dense and massive. This is remarkably elegant in character and outline.

D. Fijiensis plumosa is finer cut in the pinnæ, which overlap each other, giving the appearance to the frond of being more feathery than the preceding type. The rhizomes are also much stronger, more erect, and of a peculiar shade of brown, which makes it an attractive object. It is a highly decorative form which will make a capital exhibition Fern, and is one of the many good things sent out by Mr. Bull.

D. elegans makes a handsome patch or pan, the

D. hemiptera.—An extremely curious and pretty sort is *D. hemiptera*; it grows close to the ground, and makes a very nice pan, but being slower in growth, it takes longer to make a specimen than the other kinds. The pinnæ appear as if they were split in two, the lower part of the pinnæ only being there, and, this being curvilinear in outline, gives the whole frond a remarkably curious appearance.

Nearly all the above may be grown as basket Ferns, their rambling rhizomes making them specially adaptable for the purpose of suspension. All may be increased by the division of the rhizomes, and this operation should be done just as the plants are commencing to make their new fronds. They are better for being kept rather close after dividing, as they establish themselves much quicker than when left in the open house or Fernery.

There are other species of Davallia not mentioned in this article, but as I have not had much experience



DAVALLIA FIJIENSIS PLUMOSA.

heat, and the soil into which they are potted or planted should always contain a fair amount of broken sandstone, crocks, and charcoal. The soil itself being broken up rather rough as well, should be composed of peat, loam, and leaf-soil in equal parts, and should be well mixed together with the broken stones, &c. In potting it is always advisable to place a few pieces of the sandstone under the rhizomes, to which they ultimately cling, and for which they seem to have a very particular liking. The species called

D. canariense is, perhaps, one of the best known, hardiest and strongest-fronded of the genera, and after it has become established in pots it may be kept and grown in a cool greenhouse or room for a long time, without showing any signs of suffering from the effects of the cool treatment. It can be highly recommended as a Fern for window decoration, the strong leathery fronds being very easy to clean from dust, which will always settle upon them when grown as window plants.

D. Moorcana is, undoubtedly, one of the very finest species yet sent out, the peculiar light green fronds attaining a great length, making it a very valuable plant for exhibition purposes. For rockwork it can

fronds being of an exceedingly bright green, and being produced freely, makes it a capital subject for cutting from. The rhizomes run quickly, thus rendering it doubly valuable for growing in quantity for the before-mentioned purpose.

D. Tyermanii has strong, stout fronds, which are of a very dark green colour; but not being of a very great length, they make extremely useful fronds for cutting for button-hole work. *D. dissecta* and *D. bullata* are both extremely useful kinds, making fronds in abundance, which are of great utility when mature.

D. Nova Zelandia makes a capital plant for pans, the fronds being so finely divided, that they put one in mind of that elegant Fern, *Pteris scaberula*. It grows very well in a cool house, and shows to great advantage when grown upon rockwork. It does not like a position that is damp, for the fronds are rather apt to go black if too much moisture hangs about them.

D. pyxidata has fronds of a bright shining green colour, the frond, on the whole, being rather coriaceous. The rhizome grows erect, making it a valuable sort for covering walls, or straight thin stone pillars that may be erected amongst rockwork.

with them at present, I have confined my notes to those that have proved of sterling merit.—*W. G.*

CHOISYA TERNATA.—In the interesting gardens of Colonel Puget, at Totteridge, there is a plant of *Choisya ternata* growing in the open air, on a wall with a north aspect, and which has no winter protection. Mr. Diddams, the head gardener, tells me it was a very small plant when planted there four seasons ago. It has since grown very vigorously, and flowered this season very freely, now covering several square yards of wall. It has stood the test of severe winters—especially the last—with little or no injury, keeping its foliage well, the cold spring winds but slightly browning the edges of some of the leaves. This is one of the remarkable incidents of the comparative hardiness of some plants which have been introduced to us from tropical climates. When first imported from Mexico, it was treated as a stove plant, afterwards as a greenhouse subject, and now we find it will stand severe winters on a north wall in the open air with little or no injury.—*Alfred Gaut, The Gardens, Coppell Hall.*

THE GARDENERS' ORPHAN FUND.

[THE following are the rules and regulations which will be proposed for adoption at the general meeting of the supporters of this movement, announced to be held on Tuesday afternoon next at South Kensington.]—

Title.—The Fund shall be called the "Gardeners' Orphan Fund."

Objects.—The objects of the Fund shall be to make allowances or grants of money (in accordance with Rules 13 and 14), to aid in the maintenance of the orphans of gardeners, foremen in gardens, and the managers or departmental foremen in nursery and seed establishments.

Membership.—Any person contributing 5s. or more per annum shall be a "subscriber"; and a donor of £5 or more shall be a "life subscriber." Local associations or corporate bodies contributing to the Fund £5 or more shall, for a period of fifteen years, exercise the same rights of voting as a life subscriber. Annual subscriptions to be paid in advance, and shall be due on the first day of January. NOTE.—Subscriptions paid during 1887 will date from January 1st, 1888.

Management.—At the first general meeting of the subscribers to the Fund a governing body shall be elected, to consist of president, vice-presidents, three trustees, a treasurer, secretary, two auditors, and an executive committee of twenty-four subscribers, with power to add to their number; five to form a quorum. The president, trustees, treasurer, secretary, and secretaries of local committees shall be *ex officio* members of the executive committee; and the treasurer and secretary shall continue in office for one year, and shall be eligible for re-election at the annual general meeting. One-third of the members elected on the executive committee and one of the auditors shall retire in rotation each year, and the vacancies so occasioned shall be filled at the annual general meeting. The retiring members shall be eligible for re-election. The executive committee shall have power to fill any vacancy that may occur during the current year.

Funds.—No part of the general funds shall be used for the purpose of erecting any building of whatever kind; but should the Fund at any future time assume such proportions as to render it desirable to erect or purchase a building, special arrangements can then be made for the purpose. All donations and legacies, and such proportion of the annual subscriptions as shall be sanctioned by the executive committee, shall be invested in the names of the trustees on the authority of the committee, endorsed by the signature of the treasurer. The trustees and treasurer shall at all times, when requested by the executive committee, give such information concerning the funds in their hands as the committee may require.

Trustees.—All monies placed in the Public Funds or other approved securities shall be vested in the names of the trustees, who shall sign a declaration of the nature of their trust, and an engagement to relinquish it upon a resolution to that effect being passed by a general or special meeting of the subscribers. The monies so invested shall be under the control and at the disposal of the executive committee, whose order in writing, agreed to by a majority of two-thirds of the members present, and voting at any properly constituted meeting, shall be authority to and binding upon the trustees as to purchase, sale, or other disposal of the Trust-Fund. No person or persons becoming insane, bankrupt, or insolvent shall continue to be a trustee or trustees of the Fund. When any vacancy in the office of trustees shall occur it shall be filled up at the next general meeting of the subscribers, and the existing trustees shall immediately thereupon transfer the funds standing in their names into the names of themselves and the newly-elected trustee. The trustees, or any of them acting under the instructions of the majority of his colleagues, shall, from time to time, receive the dividends due upon the funded property or other securities, and pay the same over to the treasurer, and shall not after such payments as trustees be accountable or responsible for the application or misapplication thereof.

Treasurer.—The treasurer shall receive all monies belonging to the Fund, and pay them over to such bankers and at such times as the executive committee may appoint, and shall cause the balance to be reported, and the bank book to be produced when required by the committee.

He shall also, when required by a majority of trustees or committee, render to them a true account of all monies received and paid by him on account of the Fund; and he shall also, when required by a majority of the committee, pay over all monies remaining in his hands, and assign and deliver up all securities and effects, books, papers, and property of or belonging to the Fund in his care or custody, to such person or persons as a majority of the executive committee shall appoint. He shall be responsible for such sums of money as may from time to time be paid into his hands; and shall not pay any monies on account of the Fund, except on receiving a written order, signed by at least three members of the executive committee and countersigned by the secretary. No cheque shall be paid by the banker unless signed by the treasurer and secretary for the time being. The secretary may receive contributions to the Fund, and his receipt, given on an authorised printed form, shall be a sufficient acknowledgment of the same. All securities shall be lodged at the bank of the Fund.

Secretary.—The secretary shall attend all meetings, record correctly the names of the members of the executive committee thereat present, and shall enter the minutes of their proceedings in a book, which must be authenticated and signed by the chairman of the next meeting. The secretary shall receive all applications and demands of every description; shall conduct the correspondence, and lay all the correspondence before the executive committee. He shall keep the accounts, papers, and documents in such a manner and for such purposes as the committee may direct. He shall issue an annual statement of the names of the subscribers, with the amount which each has subscribed; also prepare the annual and other returns required by Act of Parliament, to be sent to the Registrar of Friendly Societies of England, and shall, on all occasions in the execution of his office, act under the superintendence, control, and directions of the executive committee, and shall also give such security as they may require. The secretary shall receive such remuneration as may be fixed at each annual general meeting.

Audit of Accounts.—The accounts of the Fund shall be regularly entered into books provided for the purpose. The executive committee shall also cause a statement to be prepared annually of the receipts, expenditure, assets and liabilities up to the end of December in each year, which, together with the necessary vouchers, shall be laid before the auditors, who will certify the correctness of the same, and make a report thereon; and the report with the balance sheet, signed by the auditors, shall be laid before the subscribers at the annual general meeting next ensuing. The executive committee shall also prepare and lay before the annual meeting a report of the general position and prospects of the Fund, the condition of the children, and any subject of interest or information in connection therewith, which may appear to them desirable to introduce to the notice of the subscribers. Every subscriber shall be entitled to receive a copy of the annual report, balance sheet and list of subscribers on application to the secretary and payment of 1s., and the books shall be open for their inspection at all reasonable times.

Annual and General Meetings.—An annual general meeting of the subscribers shall be held every year in the month of February, at such place and time as the executive committee may determine, to receive the annual report and statement of accounts, and transact such other business as may be necessary. A special general meeting may be called at any time by the committee, or by the requisition of at least forty subscribers, sent in writing to the secretary not less than three weeks before the proposed date of meeting. The secretary shall give at least fourteen days' notice by advertisement of every general meeting, such notice to state the nature of the business to be transacted.

Qualifications of Candidates.—All candidates must be (1) orphans of persons who have been gardeners, foremen in gardens, or managers or departmental foremen in nursery or seed establishments; and (2) must be nominated by two subscribers to the Fund, who shall furnish to the executive committee such information respecting their nominee as the committee may require. The committee shall decide upon the definition of the words "gardener," "foreman," "Manager," &c., and shall also decide generally upon the validity of the qualifications of candidates.

Modes of Election.—Candidates shall be elected by the votes of the subscribers at the annual general meeting. Subscribers of 5s. per annum shall be entitled to one vote at each election; subscribers of 10s., to two votes; of £1, to four votes; of £2, to eight votes, and so on in like proportion. Life subscriptions of £5 shall entitle the donors to one vote at every election; of £10, to two votes; of £20, to four votes, and so on in proportion. Any person or persons contributing special donations or payments, other than annual subscriptions to the amount of £60, may place, without election, one orphan on the Fund for an allowance of 5s. per week for a period of six years. The votes recorded in favour of unsuccessful candidates shall be carried forward to their credit in succeeding elections; and in the event of the death of a candidate after the publication of the voting papers, and before the date of election, the votes given to the deceased candidate shall be credited to a brother or sister, if eligible. Before the annual general meeting, the executive committee shall examine the claims and qualification of candidates, and prepare an approved list of those eligible, and from this list the election shall be made. A copy of the list and voting papers shall be sent to each person entitled to vote, at least fourteen days before the day of the election.

Allowances.—The allowances shall consist of any sum not exceeding 5s. per week to children under the age of fourteen years who, within the knowledge of the executive committee, may be placed with relatives or other responsible persons acting as guardians. Allowances shall be paid quarterly, in advance, except when the Committee may consider it desirable to make other arrangements. No child shall receive annual support after having attained the age of fourteen years; but the executive committee, at their discretion, shall have power to grant a sum not exceeding £10 towards apprenticing, or otherwise promoting the start in life, of any orphan on whose behalf application shall have been made to the committee. The committee shall also have power to grant, on application, a sum not exceeding £2 to any orphan who may have ceased to be chargeable to the Fund, and who shall have given evidence of his or her satisfactory conduct during the subsequent twelve months. The executive committee shall have power to suspend allowances where the circumstances of candidates have been misrepresented, or have since altered so as to render further assistance unnecessary. Arrangements may be made by the executive committee for placing the children elected to the benefits of the Fund, either with carefully-selected foster parents as cottage-boarders, or with the master or mistress of a school or institution, who shall be required to furnish satisfactory security for the proper discharge of their duties. The duties shall be to board, lodge, clothe, educate (finding all books), to do the washing, mending, and all that is necessary for maintaining and educating (including medical attendance and medicine) such child, or children, as may be placed in their care, for the term of years agreed upon. The committee shall have power to remove such child, or children, at any time, should circumstances arise which would render it desirable to do so, and such foster parent, or master or mistress, shall not be allowed to relinquish the charge of any child, or children, under their care, unless by special permission of the executive committee. The provisions and clothing shall be thoroughly good in quality, and samples shall be produced for the inspection of the committee when required.

Special Grants.—The executive committee may, if they see fit, make special grants, in cases of extreme emergency, to orphans not elected to the Fund; but such grants shall in no case exceed the sum of 2s. 6d. per week for one year.

Alteration of Rules.—No alteration in, or addition to, these rules shall be made, except at a general meeting, and notice of such meeting, together with a copy of proposed alterations, shall be sent to each subscriber at least fourteen days previously.

[Mr. Barron, Superintendent of the Royal Horticultural Society's Garden, Chiswick, W., is the honorary secretary, and to him all communications respecting the Fund should be addressed.]

MR. C. M. HOVEY.—It is rumoured that Mr. C. M. Hovey, the veteran horticulturist, of Boston, Mass., is in failing health. Mr. Hovey is an old man now; but it is the hope of all who know him that he may fully recover and his life be prolonged for some years yet.

ERICA SHANNONI GLABRA.

THE Heath, as a rule, is rather difficult of culture, more especially to the beginner in horticultural pursuits; but often when the new starter sees a collection of hard-wooded Heaths in flower he is smitten with their elegance and charms. He is often tempted to buy them, and as often loses them directly afterwards for the want of not knowing the requirements they need for their successful management.

The variety, "Shannoni glabra," is, perhaps, the finest white Heath grown; it is free from that gummy substance which cover the flowers of this class almost without exception, and which oftentimes spoil their beauty when having to travel long distances by road or rail; they invariably become covered with dust, and no amount of washing can effectually remove it.

The variety under notice is very large and oblate in the form of its flowers, the colour being at first of a beautiful ivory-white, but with exposure to the sun assume a rosy tint. The flowers are produced in large terminal whorls, the growth being free making it very useful for cutting from. For bouquets and other kinds of flowers made up it is a decided acquisition and should be grown largely where white flowers of this class are in demand. As an exhibition Erica it stands decidedly to the front, and no effort should be spared to try and make the plant assume size, for by so doing the more flowers will be produced, which are always extremely valuable.

For cultural directions on Cape Heaths the reader should refer to my article at p. 489, vol. ii, which will be found to be thoroughly explicit on the potting and general operations concerning this old-fashioned but elegant class of plants.—*W. G.*

GARDENING MISCELLANY.

Fruit Prospects in Yorkshire.—The extent of this county, the variability of surface in its hills, dales and plains, and the geological compositions of its soils, has a great bearing upon the fruit crops, as well as the temperature and exposure to winds, sun and drought. The giving off or retention of moisture by the soil, involving a deficiency of fruits in one locality, may be fully compensated for in another. Taking the county as a whole, the gardens and orchards in spring were glorious with bloom. The lateness of spring kept the embryo flowers quiescent, and there being no late spring frosts, the buds were round and plump, and developed their flowers well; but I believe fertilisation was somewhat crippled by the bleak north-east winds and cold nights which prevailed when they expanded. Apples, I conjecture, will be above the average, so far as numbers are concerned. The drought and elevation of sites have yet to determine how far some of these will swell, Ribston and Newtown Pippins, Hawthornden, Kentish Codling, Lord Suffield, Blenheim Orange, Wellington, and Yorkshire Greening being the most promising. Pears are a good average, Bon Chrétien, Autumn Bergamot, Jargonelle, Green Chisel, and Louise Bonne of Jersey taking the lead. The above Apples and Pears may always be relied upon in northern districts. Wall fruit, such as Peaches, Apricots and Nectarines, are a failure, with few exceptions in favoured situations, and so far as I have seen, miserable representations of what it should be—wall space being occupied with fruits likely to be more lucrative, such as Plums, Cherries and the choicer and more tender sorts of Pears. Plums are poor, even the usually prolific variety, Victoria; Orleans and Magnum Bonum follow next in order of merit, but the fruit is only yet poor and small. Gooseberries are excellent; Whitesmith, Crown Bob, Farmers' Glory, Hearts of Oak, and Walnut are exceptionally heavy. Raspberries have flowered well, but are setting badly, and in some gardens visited, on elevated sites, they are already shrivelling up for want of moisture. Currants, red, white and black, are a good crop, but the trees here, and in many other places, are honeydewed, testifying to the presence of aphids, and denoting a want of rain. Strawberries have thrown sturdy stems and plenty of healthy fertile flowers, but like the Raspberries are swelling badly and hardening off in their green state, giving a gritty taste, devoid of flavour, except in places where heavily mulched or watered. Vegetables are becoming blue, and Beans, Peas and

others are prematurely developing themselves. Planting winter greens seems to be out of the question, and all this for want of a bountiful supply of rain to refresh the earth. Such continued dry and droughty weather, which following upon several mouths of unusually small rainfall, is giving, and likely to give, gardeners, farmers and the whole community very grave anxiety; and should it continue, which as yet seems not at all improbable, both animals and vegetables must suffer. The hill-sides about here are already becoming brown and parched; corporate bodies are limiting their supplies of water, forbidding its use in gardens as much as possible; and this, coupled with a hot July sun, warns us to be forearmed against the contingency. Evaporation, then, should be checked as much as possible by mulching with litter and grass-mowings—and these are getting scarce—or any cheap loose material between our growing crops. Soap-suds and all available liquids from the hall should be reserved as much as possible where practicable; and in places where water is likely to be scarce this will entail more labour, though this will be compensated for by a better supply of vegetables. By perseverance and industry we may tide over this critical period of drought through which we are now passing; but, in the meantime, "hope springs eternal in the human breast." Then let us trust that ere long clouds will appear, which, if small at first, may develop and favour us with the much-needed moisture.—*B. L., Lindley, July 4th.*

Clematis flammula magnifica.—Mr. Charles Wilson, 101 & 120, Birmingham Road, Warwick, sends us a photograph of a grand specimen of this old garden plant. From the thickness of the main stem, which is visible near the base only, the plant is evidently a very old one, supporting a mass of branches apparently trained loosely against the wall of a house, and the sprays allowed to depend freely. The result is, that the whole plant is covered with myriads of its white bloom from top to bottom. The flowers are not large, certainly, but are very attractive both for their number and fragrance. There are several forms in cultivation besides the one here named, and grow vigorously, flowering from July to October.

Hybrid Aquilegias.—A charming bouquet of seedling Aquilegias comes to us from Messrs. J. Veitch & Sons, Chelsea. The forms vary considerably, but they are all evidently hybrids between *A. chrysantha*, *A. cœrulea*, and *A. californica*, or, possibly, also its varieties *A. c. truncata* and *A. formosa*. There is, however, no end of intermediate shades of colour ranging through various tints of scarlet, crimson, blue, yellow, and white. The latter colour is apparently confined to the petals, both in the forms of *A. chrysantha* and *A. cœrulea*; while the spurs of the same are coloured differently. Those of the latter species are frequently of an intense blue, even when the limb of the petal is white or creamy yellow. The sepals, on the other hand, are generally some shade of blue. In the numerous forms of *A. chrysantha* the sepals and the spurs are pink, scarlet, crimson, or deep magenta. That such a variety and range of colour can be obtained from these few species is very gratifying to those who love harmonising and pleasing colours. The contrast seems in no case too violent to be disagreeable or distasteful. With the exception of double forms, it would seem we have as much variety in these American kinds as in the European *A. vulgaris*.

Mildew on Peaches.—Some time ago I took charge of some houses in which Figs and Peaches were grown—the former on the back wall, the latter in front. The Peaches have been almost useless through mildew, and for some seasons the fruits have dropped off. This year we have a fair crop, and have managed to keep the mildew in check by the use of Fir Tree Oil. The Figs have shown small black spots on the crowns of the fruit, which gradually spread until the whole fruit becomes black, quite decayed, and falls off. Could any of your readers say what is the cause of this? I suspect the trees have long been over-watered, as the soil seems pasty and sour. Can any of your contributors enlighten me on the subject?—*J. C.*

A Grasping Tree.—A very singular and interesting phenomenon of growth is to be seen at Gunnersbury House, Acton. Many years ago an iron seat was constructed round the basal part of the stem of a Weeping Ash. It consists of bars arranged concentrically, and supported by legs of the same metal. The inner bar had been placed too near the bole of the

tree, and as growth proceeded the seat prevented the downward flow of sap and constructive material, causing undue thickening above this point. Progress of this kind continued till it has now grasped every bar of the seat on two opposite sides, and the layers of fresh material, passing down between the openings, have united beneath, so that the iron bars are completely enclosed. It is difficult to predict how long a healthy growth of the tree, under the conditions here described, may go on; but at present there is every prospect, from general appearance, that the trunk will continue to increase in thickness for some time to come. It is planted on the lawn close to a pond, so that the roots are within reach of an unlimited supply of moisture; and seeing that the younger layers of wood are in connection above and below the bars of the seat, no great inconvenience will be felt. At present the remarkable thickening resembles a mass of some molten or liquid material that has flowed downwards and become solidified.

Delphinium grandiflorum flore pleno.—This old Siberian Larkspur must be placed at the head of the family. It has quite a colour of its own, is one of the gems amongst hardy plants, and all who value these should not fail to obtain it. This plant is but seldom seen, which may arise from the fact that it does not seed. It is not, however, a weakly grower, but soon makes a strong plant when grown in good soil, and is very hardy. We have it here on the borders just now from 2 ft. to 3 ft. high, and of the most lovely blue. It is of great service to cut as single blooms for buttonholes, being so choice and showy, and of a colour not often seen.—*Con.*

Foxgloves.—I always recognise the beauty of a good strain of these, whenever I chance in some garden or other to come across them, but have never yet been fortunate in laying hold of a good strain, especially such a dwarf one as "A. D." makes note of in your last. A good strain of anything is as easily grown as a bad one. I can quite believe what effect the spikes of colour which "A. D." names will give; but, taking the season into consideration, I rather fear he will have underrated their size, as moisture, or the want of it, will influence the height or habit of a plant greatly in different seasons. Nevertheless, as "A. D." is a keen critic and close observer in all matters horticultural and floricultural, explicit reliance may be placed on this statement; and if "A. D." has a pinch of seed of this to spare I would gladly accept it, and remit to him the value for trouble incurred.—*B. Lockwood, Low Hills, Lindley, Huddersfield.*

Single Delphiniums.—A fine assortment of flowers, in several strikingly distinct colours, comes from Messrs. Dobbie & Co., Rothesay, N.B. They are all of the single-flowered class, and may be divided into two groups, according as the petals occupying the centre of the flower are white or velvety brown. In the former group, Alpha is a charming flower with large, clear, soft sky-blue sepals; Compacta, on the other hand, has about equal proportions of deep blue and purple; while Schamyl is notable for the length of its spurs and the brightness of its blue sepals. The handsomest variety amongst the brown-petalled lot was one labelled Nama; this was very striking, from the size and number of its flowers, which were blue, and heavily shaded with purple on the inner sepals. The flowers of Attraction were little inferior in point of size, and of a deep, almost indigo-blue colour. Eva resembled the last named as to size and quality, but was several shades paler. The clear but charming blue colour of Dr. McLean singles it out as a very desirable variety for garden decoration; and, indeed, the wonder is that the perennial Larkspurs are not more frequently used in private establishments, for they are capable of producing a magnificent effect, especially in beds or masses by themselves, or in association with hardy ornamental trees and shrubs, especially the variegated kinds, such as *Neguudo aceroides variegata*.

Solanum jubatum.—Although so closely related, there is no comparison between this species and those ordinarily seen in gardens, whether herbaceous, climbing or shrubby. It is a veritable tree in one of the conservatories at Pendell Court, where it has a stout woody stem, 10 ft. to 12 ft. in height, furnished at the top with huge leaves that are grey or hoary underneath. The stem, especially the upper and younger part, is densely clothed with grey scaly hairs, probably

giving rise to the specific name. This plant flowered recently, and, although the white clusters of flowers are not particularly striking or ornamental, the species is worth growing for the sake of its foliage.

Bignonia Cherere.—At some places this species would seem to have got into bad repute as a shy-flowering plant, but the truth is, that two essential conditions are frequently ignored. In the first place it requires ample head room for its development; and secondly, a cool conservatory is more essential to its welfare than a stove, notwithstanding its being a native of Demerara. This is evident from the freedom with which it flowers every year at Pendell Court, Bletchingley, under the care of Mr. Ross. The orange-scarlet flowers are produced in axillary cymes, with great abundance from June onwards all through the summer. The flowers are from 2 ins. to 3 ins. long, being not only conspicuous but highly ornamental, constituting the climber an object of great beauty.

Stephanotis floribunda in a Cool Greenhouse.—About three weeks ago I sent for your inspection the first truss of bloom off our Stephanotis, grown in a cool greenhouse. Although fully a month later than last year, the plant appears to be more than usually vigorous after its extra rest, and is now covered with bloom. These facts dispose conclusively of "W. G.'s" original assertion, that "it is a fallacy, pure and simple, to say that the plant can be grown under cool treatment; that is, make its growth and produce an abundance of flowers entirely in a cool greenhouse." Of course "W. G." may plead that my plant is an exception, and that exceptions prove the rule. But I will not admit even this, as I recently saw it mentioned in a gardening contemporary, that a large Stephanotis at a well-known nursery had—owing to an accident to the heating apparatus of the house in which it was growing—been frozen for several days last winter; that it seemed none the worse and is now flowering profusely. How can "W. G." explain away such facts? He merely stands up for the old-fashioned system—one which I consider erroneous; indeed, I go so far as to believe that some day this beautiful climber will be grown out of doors in sheltered situations. I wish somebody would try the experiment. Aucubas were for many years treated as stove plants, and it is possible that a similar mistake has been made with regard to Stephanotis floribunda.—*B. D. Knox.*

Eupatoriums.—Our last season's batch having been placed out of doors, are now ready for potting on into 8-in. pots for early autumn flowering. It is rather singular these plants are not more generally grown. Our spring-struck batch of these, with flowering Begonias, Eranthemums, Libonias and Bouvardias, have all been potted on into 6-in. pots, so that they may become thoroughly well established early in the autumn. If this class of plants are not potted on in good time they never flower satisfactorily.—*C.*

Hedychiums are now pushing up very stoutly, and to ensure fine heads, they must be liberally treated by giving them frequent feedings of liquid manure, that made of cow-dung and soot being the most suitable, as it greatly assists in giving fine foliage of a deep green colour.—*C.*

LAW NOTES.

IS THE GATHERING OF MUSHROOMS AN OFFENCE?—In the Queen's Bench Division, on Tuesday last, before Mr. Justice A. L. Smith and Mr. Justice Wills, the case of "Gardner v. Mansbridge" was heard. This was an appeal from the Justices of Sussex, sitting at Hove, refusing to convict the defendant of wilfully and maliciously committing damage to appellant's property by entering a field to gather Mushrooms. The case came before their lordships some time ago, and judgment was now delivered. Mr. Justice Smith said that, in the opinion of the court, the mere gathering of Mushrooms was not an offence contemplated by the Act under which the proceedings were taken. Some actual damage must be shown to accrue to the real property, and it was not an offence to destroy uncultivated roots or plants. It could not be supposed that, while the legislature only punished damage to cultivated plants with one month's imprisonment, the gathering of Mushrooms would render a person liable to two months' imprisonment, as he would be under the Act under which these proceedings were taken. The Justices were, therefore, right in refusing to convict, and the remedy of the appellant was by a civil action for trespass in the County Court, and not by criminal proceedings. The appeal would, therefore, be dismissed, with costs.

ORCHID NOTES AND GLEANINGS.

A Bouquet of Orchis maculata.—Those who have not seen our native Orchids could scarcely credit the amount of variety that exists in a small area where certain species especially occur plentifully. We are wont to talk of the immense variety existing amongst exotic Orchids, and in so doing are liable to overlook the fact that, scarcely two forms of *O. maculata* seem exactly alike. In most cases the flowers are closely and richly spotted, or lined with purple in varying shades on a ground colour several shades paler. Occasionally, however, we find an albino or pure white form. Mr. George Thomson, Knaphill, Woking, brought us recently a charming bunch of flower-spikes, gathered in his neighbourhood. He collected them on the downs, where, happily, they are still plentiful, and, we hope, will remain so; and that such fine wildings will never be systematically collected for market. The passage from spots to lines on the lip of this species is very singular, while in many cases the spots almost give place to lines that form a complete circuit of greater or smaller size. The flowers are also distinctly scented, although not particularly sweet.

Cypripedium Druryi.—There is no more distinct species than this amongst Cypripediums. The yellow colour so predominant in it is of a shade seldom met with in the genus, and, certainly, none exhibit so much of it. The labellum is of a rich ochraceous yellow, somewhat spotted with brown at the base. The standard is nearly of the same shade with a rich chestnut-brown stripe along the mid-rib; the broad petals are suffused with brown besides being furnished with a broad central band like that of the standard. The species is of comparatively recent introduction from India, and is by no means common in collections. In habit it closely resembles *C. insigne*, but is so widely distinct in the flowers as to bear no resemblance to the latter in that respect. Flowering specimens may be seen in Mr. Bull's show house at Chelsea.

HORTICULTURAL SOCIETIES.

National Rose Society.—*July 5th.*—The exhibition of this society was held in the conservatory and one of the arcades of the Royal Horticultural Society, South Kensington, where a good display was made; most of the classes were well represented, and in some cases the competition was very keen. General complaints were made by connoisseurs on every hand that the Roses were not equal in size to those of former years, and the effects of the severe drought was evident on every hand by the limp appearance of the blooms, and by their being too much expanded or open in the centre. Notwithstanding all this, however, some magnificent stands of Roses were staged, and there were cases of rare individual merit amongst the varieties, giving evidence of high-class cultivation.

The first prize and the challenge trophy for seventy-two varieties, exhibited by nurserymen, went to Messrs. Harkness & Sons, Bedale, Yorkshire: Madame Cusin, Princess of Wales and Thérèse Levet were some of their best Teas; whilst Sultan of Zanzibar, Chas. Lefebvre, Mons. E. Y. Teas, Fisher Holmes and La Rosière were among the finest dark or crimson varieties, noticeable for their fine form, firm and fresh condition. Mr. B. R. Cant, Colchester, was a good second, with larger blooms generally, but not in as good condition; Comtesse de Nadaillac, Marquise de Castellane, Louis van Houtte and Madame Cusin were some of his best blooms. Mr. Cant was first for forty-eight varieties, three trusses of each; and Messrs. Paul & Sons, Cheshunt, were second. For forty-eight single trusses, Messrs. J. Burrell & Co., How House Nurseries, Cambridgeshire, secured the first prize; and Messrs. Curtis, Sanford & Co., Torquay, were second, some fine blooms being shown by each. Mr. Merryweather, nurseryman, Southwell, Notts, carried off the first prize for twenty-four single trusses, and a Silver Medal for the best H.P. Rose in the show, exhibited by nurserymen. The variety was Ulrich Brunner, a magnificent soft rose-coloured bloom with large rounded petals. Mr. J. Mattock, New Headington Nursery, Oxford, was second in this class. Messrs. J. Jefferies & Son, Cirencester, were awarded the first prize for twenty-four varieties, three trusses of each;

and Messrs. J. Cranston & Co., King's Acre, Hereford, were second.

The Challenge Trophy for forty-eight varieties exhibited by amateurs, and the first prize went to W. J. Grant, Esq., Hope End Farm, Hereford, who showed fine blooms of Marie Van Houtte, Comtesse de Nadaillac, Le Havre and Xavier Olibo. The Rev. J. H. Pemberton, Havering, Romford, was second in this class with a fine stand, and he also secured a Silver Medal for the best H.P. Rose in the exhibition shown by amateurs. Ulrich Brunner was again the winning variety. There was considerable sameness throughout a great number of classes, some variation being furnished, however, by occasional uncommon varieties in the different exhibits, but Ulrich Brunner, Xavier Olibo, Abel Carrière, Niphotos, Maréchal Niel, A. K. Williams, Comtesse de Nadaillac and others, all fine Roses, testify to their popularity. E. B. Lindsell, Esq., Bearton, Hitchin, was the most successful exhibitor in the class for thirty-six varieties, single trusses, securing the first prize and a Silver Medal for Comtesse de Nadaillac as the best Tea Rose exhibited by an amateur. It is a charming Rose, of a salmon-rose colour with a coppery apricot centre.

Special encouragement for Rose growing was given in offering a few prizes in special classes. C. G. Orpen, Esq., Hillside, Colchester, was the first prize winner in the class for six single trusses exhibited by amateurs who had never before won a prize at an exhibition of the National Rose Society; W. D. Freshfield, Esq., Parkside, Reigate, was second in this class. There were few competitors for Roses grown within eight miles of Charing Cross, and J. Bateman, Esq., 72, Twicken Road, Highgate Road, was awarded the first prize. Le Havre, a fine rich vermilion-coloured variety, was one of his best blooms, as it was in another stand for which he secured the first prize. Mr. W. Northover, Haslemere, Wimbledon, was second in this class. For six new Roses, offered for the first time in English nurserymen's lists since 1884, Mr. H. Shoesmith, The Rectory, Hythe, secured the first prize, and J. Bateman, Esq., the second. J. Gurney Fowler, Esq., Glebelands, Woodford, Essex, was the first prize winner for the best six trusses of any H. P. variety, and W. J. Grant, Esq., second. The Rev. Alan Cheales, Brockham Vicarage, Surrey, secured the first prize for six single trusses of any Tea or Noisette variety—Maréchal Niel, which he exhibited, being very fine. Comtesse de Nadaillac, shown by the Rev. Hugh A. Berners, Harkstead Rectory, Ipswich, was also grand, and gained for him the second prize.

The Tea and Noisette Roses were specially attractive to the public, enlisting their admiration generally. In the nurserymen's classes, the stands of Mr. Geo. Prince, Market Street, Oxford, and those of Mr. B. R. Cant, Colchester, consisting of twenty-four varieties, were declared equal firsts. The Roses were exceedingly fine; but those of the former exhibitor seemed a trifle in better condition. The Silver Medal for the best Tea or Noisette variety exhibited by nurserymen was carried off by Mr. Geo. Prince with Comtesse de Nadaillac in a stand that only received the third prize. This was for eighteen Tea or Noisette varieties. Mr. B. R. Cant and Mr. F. Cant, Colchester, got the first and second prize respectively in this class. The Rev. F. Page Roberts, The Rectory, Scole, Norfolk, was the first-prize winner for eighteen Tea or Noisette varieties in the amateurs' classes. The best and favourite varieties, as might be expected, are frequently repeated by every exhibitor. Some of the finest blooms were Maréchal Niel, Comtesse de Nadaillac, Catherine Mermet, Etoile de Lyon, Innocente Pirola, Madame Cusin, Madame Eugène Verdier, Madame de Watteville, Niphotos, Princess of Wales, Souvenir d'un Ami, and Souvenir d'Elise.

The open class for a collection of garden Roses, excluding H.P.'s, Tea, and Noisette varieties, excited a lively competition, and drew forth a great variety of ornamental garden forms seldom otherwise seen in exhibition stands, including Chinese varieties, Moss and Cabbage Roses, forms of *R. multiflora*, and singles of such species as *R. rugosa*. Julius Sladden, Esq., Badsey, Evesham, Worcester, had a very fine and varied collection, gaining the first prize. Messrs. J. Cranston & Co. were second with another attractive collection.

For twelve bunches of Moss and Provence Roses, Messrs. Paul & Son, Cheshunt, were first, and Messrs. Bunyard & Co., The Old Nurseries, Maidstone, second. The Roses suitable for button-holes attracted general

admiration, and were exceedingly pretty, although necessarily small and firm bud-like varieties. They were shown in all shades of colour, and Mr. J. Mattock, Oxford, was first for twelve bunches. One of his most charming varieties, a fine bronzy yellow, was William Allan Richardson. Messrs. Harkness & Sons were second in this class with a very fine lot. Messrs. Curtis, Sandford & Co. were awarded the first prize for the best twelve new Roses offered for the first time in English nurserymen's lists since 1884, open to all comers. Under the same conditions as the above, Mr. B. R. Cant obtained the first prize for twelve single trusses of any new Rose; Madame de Watteville, a pale lemon and white show variety, was that exhibited. Messrs. G. Cooling & Sons, Bath, was second with Her Majesty, a fine rose-coloured variety. Mr. B. R. Cant secured the first prize for twelve trusses of any yellow Rose, showing a Maréchal Niel. He was also first for the same number of any white Rose, his stand consisting of Merville de Lyon. Marie Rady was the best crimson Rose, twelve trusses of which were exhibited by Messrs. Curtis, Sandford & Co. The best stand of twelve trusses of any dark velvety Rose was Abel Carrière, and came from Messrs. J. Cranston & Co. Mr. H. Bennett, Rose Pedigree Nurseries, Shepperton, was the most successful exhibitor of twelve single trusses of any Rose, obtaining the first prize with Lady Mary Fitzwilliam, a large and magnificent hybrid Tea Rose of a pink colour, and similar in many respects to La France.

Ealing, Acton and Hanwell.—*July 6th.*—This prosperous and most useful suburban society held its annual exhibition on Wednesday in the beautiful grounds of the Royal Indian Asylum, kindly lent for the occasion by Dr. Christie, chairman of the committee. The weather was delightfully fine, and the attendance was good, but, owing to the late season, the long continued drought, and more or less to the demands made upon gardeners during the recent Jubilee festivities, the exhibition was scarcely up to the usual standard; and in the cottagers' classes especially there was a marked falling off in quality, and in some classes in numbers also.

The leading features of the exhibition were the groups arranged for effect—stove and greenhouse plants, Roses, fruits, and a perfectly astounding competition with wild flowers collected, arranged and exhibited by children. To the first-named section Mr. Roberts, gardener at Gunnersbury Park, contributed, not for competition, a large and handsome group of Palms and other foliage and flowering plants, most conspicuous in which were numerous well-flowered examples of *Impatiens Sultani* (seedling plants) and *Souvenir de Malmaison* Carnations. The competing groups were all of a high order of merit, and in the larger class the leading award was taken by Mr. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, while in the smaller class Mr. John Sutton, gardener to Mrs. Wilkinson, Ealing, was the successful competitor. Mr. Charles Turner, Slough, exhibited an exceedingly beautiful collection of show and fancy *Pelargoniums*, which were greatly admired; and Messrs. Charles Lee & Son contributed a very pleasing group of dwarf Roses in pots, which were shown in combination with dwarf and standard-trained plants of various golden and silver-variegated evergreens.

Fuchsias were admirably shown by Mr. Wright, gardener to G. R. Springfield, Esq., The Spring, Hanwell, who was first for four, and for a single specimen; and with the latter, a large and well-bloomed light coloured variety, he also won Messrs. Wood & Son's Jubilee Medal for the best-flowered plant in the exhibition. Mr. Chadwick, gardener to E. M. Nelson, Esq., Ealing, was also a successful exhibitor of well-grown stove and greenhouse flowering and fine-foliaged plants.

The cut Rose classes brought out a capital lot of blooms for the season, both from nurserymen and amateurs, and among the latter we noted a large and fine collection from Messrs. Lee & Son, and good competing stands came from Mr. Turner, Messrs. Paul & Son, and Mr. Rumsey. The cut-flower classes, open to gardeners and amateurs, do not call for special comment; but there were some pretty things in the bouquet and vase classes, which were judged by ladies. The vegetables, as before observed, were not up to the usual Ealing standard, which we may remark is a good one, and we need only observe that in the class provided by Messrs. Sutton & Sons, the winning

collection came from Mr. Wilson, gardener to W. Lindell, Esq., Manor House, Drayton Green. The amount of fruit shown was small, but included some fine Black Hamburgh and Buckland Sweetwater Grapes, and very fine President and James Veitch Strawberries. The best collection, and a very good one, came from Mr. Daw, gardener, Castle Bar. At the luncheon which followed the conclusion of the labours of the judges, the president warmly thanked Mr. R. Dean for the able and enthusiastic manner in which he had for some years carried out the duties of secretary.

Shepperton and Thames Valley Horticultural.—*June 30th.*—This exhibition was held in the grounds of Colonel Harfield—a field thickly studded with massive old specimens of the English Elm, and bounded or belted by a great variety of other deciduous or evergreen trees. The exhibits were arranged in several large tents or marquees, with every convenience for their inspection by the public. Major Lendy, Sunbury House (Mr. S. West, gardener), staged six fine Orchids in the class open to all England, but there was no competition. The group included well-flowered specimens of *Cattleya Mossiae*, *C. gigas Sanderiana*, *Lælia purpurata*, and *Dendrobium thyrsiflorum*. Mr. J. Reeves, gardener to W. Hewitt, Esq., Oatlands Park, secured the first prize for six flowering stove and greenhouse plants with *Statice profusa*, *Clerodendron Balfourianum*, and *Trachelospermum jasminoides* as his best specimens. Mr. J. W. Reed, gardener to E. Gettitt, Esq., Oatlands Park, was second, having well-flowered plants of *Brassia verrucosa* and *Azalea Souvenir de Prince Albert*. Mr. W. Sutton, gardener to J. S. Sassoon, Esq., Walton, had the best six ornamental-foliaged stove and greenhouse plants, including *Clerodendron orientale* (*Aralia Chabrieri*), *Cycas revoluta*, and *Kentia Baueri*. Mr. J. S. Reeves was second, and Mr. J. W. Reed highly commended. Mr. S. West, gardener to Major Lendy, was first for a single specimen plant in flower, exhibiting a fine *Lælia purpurata*. In this class Mr. G. Child, gardener to Mrs. Slade, Claygate, was second with *Anthurium Scherzerianum*. Mr. J. Reeves carried off the first prize for six exotic Ferns, showing *Davallia Mooreana* and *Adiantum pedatum*, &c.; and Mr. J. W. Reed was second with a not much inferior group. Mr. J. Thomas, gardener to Colonel Harfield, Sunbury, obtained the first prize for a splendid group of six *Adiantums*, including *A. Farleyense*, *A. concinnum latum*, and *A. macrophyllum*. Mr. J. W. Reed was second with a fine group. Mr. S. West obtained the first prize for six *Caladiums*, *Clio*, *Cannartii*, and *Reine Marie de Portugal* being among the best. Mr. J. Reeves was second with larger but not so well coloured plants.

The competition was pretty keen with tuberous *Begonias*, but Major Lendy's gardener carried off the first prize in the classes for both single and double-flowered varieties. Mr. G. Child was second for single-flowered varieties; and Mr. G. Harvey, gardener to Captain C. F. Terry, Hersham, was second for doubles. Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, was first for six double zonal *Pelargoniums*; and Mr. G. Child, second. Mr. J. W. Reed was first for six small well-flowered show *Pelargoniums*; while Mr. C. Gardener, gardener to R. H. Turner, Esq., Walton, was second, and likewise second for single-flowered zonal *Pelargoniums*. Mr. C. Gardener was, however, first for six *Gloxinias*; while Mr. J. Watford, gardener to Mrs. Holloway, Sunbury, was second. Mr. J. Bowden, gardener to E. Barnet, Esq., Sunbury, secured the first award for twelve *Gloxinias*; and Mr. C. J. Waite, second. The latter was first for six *Coleus*; and Mr. J. Balt, gardener to H. W. Cuthbert, Esq., was second. The specimens were all of the natural pyramidal shape. Mr. J. W. Reed was first, and Mr. J. Reeves second, for four large Fuchsias. Mr. G. Child got the first prize for six *Achimenes*, *A. longiflora macrantha* and *Masterpiece* being fine.

The prizes offered for the best group of plants, not to exceed a space of 50 sq. ft., enlisted great competition, but Major Lendy's gardener carried off the first award; Mr. J. Reeves and Mr. J. Thomas were equal seconds; and Mr. J. W. Reed third. For the collection of twenty-four varieties of cut blooms of Orchids (open to all England), Major Lendy's gardener was again first. Mr. C. Turner, Slough, received the first award for forty-eight varieties of Roses (open to all England). For twenty-four Roses, limited to amateurs and gardeners, Mr. C. Warwick, gardener to J. P. Hitchin, Esq., Hampton, was awarded the first

prize; and Mr. W. Davis, gardener to E. Rutter, Esq., Halliford, the second. The same order of awards was made for six blooms of any one variety. Mr. C. Warwick was again first for twelve blooms; while Mr. C. Wing, gardener to R. Bridges, Esq., Hampton, was second in this class. Mr. G. Harvey was first for twelve Tea Roses; and Mr. W. Davis, second. In the classes open to amateurs, Mr. Goddard, Shepperton, obtained the first award, both for twelve and six varieties; and Miss Hitchens, Ottershaw, was first for six blooms of any one variety. Mr. G. Carpenter, gardener to C. J. Abbott, Esq., Walton, secured the first prize for a collection of cut flowers; and Mr. Reeves the second.

A whole tent was devoted to the ladies' class, and numerous tables showed that the competition was keen throughout. For the best-arranged table decoration, Miss Hedges, Sunbury, was first, using Yellow Sultan Centaurea, yellow Iris, and white *Gladiolus* on a groundwork of *Adiantum*. Miss Horne, Littleton, was second, using white Water Lilies relieved by grasses and other things from the river bank. Miss Cole, Feltham, was third; and Miss Goldingham, Anningsley Park, Ottershaw, and Miss Hichens were both highly commended. Miss E. Rutter, Halliford, was first for a bouquet of flowers; Miss Sybil Barnett, Sunbury, was second; and Miss Merrick, Upper Halliford, was third. Miss Lendy, Sunbury House, secured the first prize for a spray, consisting of *Odontoglossum crispum*, *Epidendrum vitellinum majus*, and Maidenhair Fern. The arrangement was tasteful and attractive, and the honour of winning was well contested. Miss Gittens was second; Miss Sybil Barnett was third; and Miss Hedges highly commended. Miss Lendy was again first for three button-hole bouquets, using Rose-buds, Carnations, and Tuberoses, tastefully relieved by Maidenhair Fern. Miss Gittens and Miss Sybil Barnett were second and third respectively.

Notwithstanding the lateness of the season, fruit and vegetables were fairly well represented. There was a keen competition with collections of vegetables, open to all comers. Mr. C. J. Waite secured first prize, and Mr. J. W. Reed the second. Mr. J. Osman, gardener to S. J. Baker, Esq., Ottershaw, was first for three bunches of black Grapes; and Mr. A. G. Hookings, gardener to Sir H. Thomson, West Moulsey, was second with well-coloured fruit. Mr. J. W. Reed was first for white Grapes, and Mr. J. Osman second. The latter was first for a dish of Peaches, and Mr. J. Thomas second. For Nectarines this order was reversed. Mr. H. Buggs, gardener to the Rev. H. G. Vigne, Sunbury, was first for Strawberries, and Mr. S. West second. The only Pine Apple shown was that by Mr. W. Sutton, gardener to J. S. Sassoon, Walton. Mr. A. G. Hookings had the best-flavoured Melon, which was nearly demolished by different tasters. Mr. W. Sutton had the second best. Mr. J. Bowden had the best brace of Cucumbers; and Mr. W. Merrick, gardener to A. E. Stearns, Esq., Upper Halliford, the second best. Mr. A. G. Hookings carried off the first award for Tomatos with highly-coloured, smooth-skinned fruit; Mr. C. J. Waite was second with good fruit. The latter was first for a collection of vegetables in a basket not exceeding 4 ft. in diameter. Mr. W. Galmer, gardener to W. F. Hulme Dick, Esq., Thames Ditton, was second. Mr. A. G. Hookings exhibited six well-grown Melons not for competition, including High Cross Hybrid, Longleat Perfection, Victory of Brixton (?), and Burghley Pet.

Owing to the lateness of the season, the cottagers' classes were not very well contested. In the miscellaneous class Messrs. Hooper & Co., Covent Garden, exhibited a fine group of plants, including Palms, Crotons, Ferns, Lilies, and *Gloxinias*, which were highly commended. Mr. George Taylor, nurserymen, Sunbury, exhibited a group of flowering plants and another of six large specimens of *Adiantum cuneatum*, both of which were highly commended. Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, London, exhibited an attractive group of hardy herbaceous plants, including Iris, Lilies, *Cypripedium speciosum*, *Lilium Thunbergianum alutaceum*, and others. A box of Roses was exhibited by Mr. W. Taylor, Osborne Nursery, Hampton.

Richmond Horticultural.—The exhibition was held, as usual, in the Old Deer Park, adjoining the town, and was acknowledged to be the best ever held there. The prizes offered for groups not exceeding a space of 100 sq. ft., induced a lively competition,

which constituted a great feature of the show. Messrs. Hooper & Co., Covent Garden and Twickenham, were awarded the first prize, in open competition, for a fine well-arranged group of plants; Mr. W. Brown, St. Mary's Grove Nursery, Richmond, came in second; and Mr. H. James, Castle Nursery, Lower Norwood, third. Mr. H. James carried off the first prize for six stove and greenhouse plants, exhibiting, amongst other things, an enormous specimen of *Erica Cavendishi* and a finely-flowered plant of *Rondeletia speciosa* major; Messrs. T. Jackson & Son, Kingston, were second. Mr. Bates, gardener to Mrs. Meck, Twickenham, secured the first prize and a Jubilee Medal in another class. Mr. Charles Turner, Slough, was awarded the first prize for six show Pelargoniums, and Henry Little, Esq., Baronscourt, East Twickenham, the second. In the competition for fancy varieties, however, this order of awards was reversed. Mr. Little also secured the first place for six zonal Pelargoniums, including fine specimens of *Aglaia* (double scarlet) and *Jules Simon* (double pink). He was also first for a group of Pelargoniums in small pots.

H. Little, Esq., obtained the first prize and a Jubilee Medal for six exotic Orchids, exhibiting *Cattleya gigas* Sanderiana, *C. Mendelii*, *C. intricata*, and others. Mr. H. James obtained the second, showing *Cattleya Mendelii*, *Epidendrum vitellinum majus*, &c. H. Little, Esq., also exhibited a fine group not for competition, comprising *Cattleyas*, *Dendrobiums*, *Cypripediums*, &c.

E. D. Paul, Esq., Cambridge House, Twickenham, exhibited eight fine specimens of exotic Ferns, securing the first prize, while W. Herrett, Esq., Tempermere, Otlands Park, secured the second. For six exotic Ferns confined to exhibitors in the society's district, F. Wiggan, Esq., Clare Lawn, East Sheen, was first. Mrs. Welch, Westcroft, Kingston Hill, secured the first prize in open competition for nine Fuchsias. Messrs. Hooper & Co., were awarded the first prize for six fine foliage plants, including a large specimen of *Eurya latifolia*. For six Tuberous Begonias, H. Little, Esq., was first, and W. Furze, Esq., Roseland, Teddington, second. The latter was first for six Coleus, exhibiting flat trained specimens. Messrs. Paul & Son, Cheshunt, carried off the first prize for thirty-six Roses, three trusses of each, and Mr. Wm. Rumsey, Joynings Nursery, Waltham Cross, came in second. T. W. Girdlestone, Sunningdale, Berks, secured the first prize for twenty-four Roses (single trusses), and the first in the class for twelve varieties. Mr. R. E. West, Firth Dene, Reigate, Surrey, followed close with a second in both classes. In the class for six Gloxinias, J. B. Hilditch, Esq., Asgill House, was awarded the first prize, and E. D. Paul, Esq., the second. Colonel The Hon. W. P. Talbot (C. J. Waite, gardener), obtained the first award in both cases for two special prizes for Gloxinias; H. Little, Esq., a second, and J. R. Tindal, Esq., Oxford Lodge, Twickenham, another second.

For a specimen Palm, E. M. Nelson, Esq. (Mr. E. Chadwick, gardener), was first; and Mr. H. James was first for a single specimen plant in flower. The executors of J. R. Geaves, Esq., Hatfield House, Cambridge Park, received the first prize and a Jubilee Medal for a group of plants arranged for effect, and Lady Parker, Stanwell House, was second. Mr. Goodwin, Sandycroft Road, Twickenham, received the first prize given by Lady Ellis for dinner table decoration. Mr. Chard, Brunswick Nursery, Stoke Newington, received the first prize and a Jubilee Medal for three vases of natural flowers, while Mrs. Hudson, The Gardens, Gunnersbury House, Acton, received the second. For two vases, limited to lady amateurs in the Society's district, Miss F. Howell, St. Mary's Grove, was first. Miss Hassell was awarded the first prize and Silver Medal for table decoration, consisting of three stands. She was also first for a basket of flowers and first for an arrangement of cut flowers in a soup plate. Several miscellaneous groups, not for competition, were exhibited. Messrs. John Laing & Co., Forest Hill, arranged a graceful and effective group, consisting of Begonias, double and single, Caladiums, Crotons, Palms, *Dracaenas*, Ferns and others. Messrs. Charles Lee & Son, Hammersmith and Isleworth, exhibited a large group, chiefly of variegated and ornamental-foliage plants, but also containing some fine flowering plants. There was a tolerably good display of fruit, and Mr. Cakebread, gardener to Sir P. Rose, Penn, secured the first honour for six dishes. Mr. Osman, Ottershaw, Chertsey, had the best three bunches of Grapes, both black and white; and Mr. Bates carried off the honours in other classes. Mr. C. J. Waite, a very successful exhibitor, was first for Tomatoes, and also first for Messrs. Sutton & Sons' prizes for vegetables and those of Messrs. J. Carter & Co. A fine collection of fruit came from Mr. Rivers, Sawbridgeworth.

QUESTIONS & ANSWERS.

OYSTER PLANT.—*G. Davidson*: The plant to which this name has been given is *Mertensia maritima*, synonymous with *Pulmonaria*, a native of the sandy or shingly sea-beach towards the northern part of this island and the northern hemisphere generally. It is a Boragewort, producing long procumbent stems and blue flowers, with leaves of a deep glaucous or sea-green colour, similar to that of many others growing in dry, sandy, exposed places. It derives its name from the taste of the foliage resembling that of Oysters. The plant is occasionally grown in pots out of curiosity, and for its distinct-looking foliage.

NAMES OF PLANTS.—*Liverpool Horticultural Co.*: The numbers had fallen from the two *Thunias*. The large one seems to be *Thunia Veitchiana*, a cross between *T. Bensonia* and *T. Marshalliana*; it has also been called *T. Wrigleyana*; if imported it would be a similar natural cross. The smaller one is imperfect and not distinguishable as we received it. *G. Huxkinson*: 1, *Myricaria germanica*; 2, *Rhus cotinus*; 3, *Spiraea arifolia*; 4, *Deutzia crenata flore pleno*; 5, *Buddleia globosa*; 6, *Neillia opulifolia aurea* (syn. *Spiraea opulifolia aurea*); 7, *Colutea arborescens*. *Alex. Chalmers*: *Angulosa uniflora*; *Lælia purpurata* is a very fine form and comes very near *L. p. Brysiana*. There is no form named *Pallada* or *Pallida* that we are aware of, nor would the name in this instance be very appropriate, as the sepals and petals are pale rose with darker veins, and the lamina of the lip, with the exception of the tip, is rich crimson.

COMMUNICATIONS RECEIVED.—H. B.—W. G.—C. H. S.—R. L.—H. E.—W. G. H.—G. B. C.—A. R. S.—G. C.—W. S.—J. R. J.

TRADE CATALOGUES RECEIVED.

BARR & SON, King Street, Covent Garden, W.C.—Special Offer of Daffodil Roots, collected in Spain, Portugal and the Pyrenees.

R. B. LAIRD & SONS, 17, Frederick Street, Edinburgh.—Descriptive Catalogue of Dutch Flowering Bulbs.

DANIELS' BROS., Norwich.—Midsummer List of Seeds for Summer and Autumn Sowing.

LONDON SEED TRADE.

July 6th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report very little trade in Farm Seeds, and the long-continued drought retards demand for Mustard and Rape, prices of which are unchanged. *Trifolium incarnatum* is still offering from France at rates current last week; the English crop is not yet harvested. Clover seeds are firmly held. Blue Peas are dearer; the growing crop are reported short through want of rain.

COVENT GARDEN MARKET.

July 7th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, ½ sieve	1 0	2 6	Peaches, per dozen	4 0	12 0
Grapes, per lb. 1 0	2 6		Pine-apples, St.		
Grapes, Cban. Islands, per lb.	0 9	1 6	Michaels, each	3 0	8 0
Kent Cobbs, 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Melons, each	1 6	3 0	Strawberries, per lb.	0 3	0 8

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Asparagus, per bble.	2 0	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6	2 0	Lettuces, per dozen	1 6	2 0
Beet, per dozen	2 0	3 0	Musbrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel	4 0	5 0
New Carrots, per bnn.	1 0	1 6	Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	6 0	9 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salad, punnet	0 4	
Cucumbers, each	0 6	1 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatoes, per lb.	1 0	1 6
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.			Turnips, per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones, 12 bnn.	2 0	4 0	Pansies, 12 bunches	2 0	3 0
Arum Lilies, 12 blms.	3 0	5 0	Pelargoniums, 12 spys.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pelargoniums, scarlet, 12 sprays	0 9	1 0
Carnations, 12 blooms	0 9	2 0	Pinks, colored & white, dozen bunches	2 0	4 0
Cornflower, 12 bun.	2 0	3 0	Polyanthus, 12 buns.	2 0	5 0
Day Lily, 12 bunches	4 0	6 0	Primula, double, bun.	0 9	1 6
Eucharis, per dozen	3 0	6 0	— single, 12 bun.		
Gardenias, 12 blooms	1 0	3 0	Pyrethrum, 12 bun.	2 0	6 0
Heliotropes, 12 sprays	0 6	1 0	Roses (coloured)	1 0	4 0
Iris, various, 12 bun.	6 0	12 0	Roses, Tea, per dozen	0 6	1 6
Lilium longiflorum, 12 blooms	4 0	6 0	Roses, mixed, per doz.	0 6	2 0
Lilies of the Valley, 12 sprays			— Safrano (French), per doz.	0 6	0 9
Marguerites, 12 bun.	3 0	6 0	Spiræa, 12 bunches	4 0	6 0
Mignonette, 12 bun.	3 0	6 0	Stephanotis, dozen sprays	2 0	4 0
Myosotis, 12 bunches	2 0	4 0	Tropæolums	1 0	2 0
Narcissus double, 12 bunches			Tuberose, per dozen	1 0	
Narcissus, 12 bunches			White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi, doz.	6 0	18 0	Lily of the Valley, 12 pots	12 0	18 0
Calceolarias, per doz.	4 0	9 0	Lilium longiflorum, per doz.	18 0	30 0
Cineraria, per dozen	6 0	9 0	Marguerites, per doz.	6 0	9 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	4 0	9 0
Dracena term., doz.	30 0	60 0	Musk, per dozen	3 0	6 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Erica, various, doz.	18 0	30 0	Pelargoniums, doz.	6 0	15 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ferns, in var., do	4 0	18 0	Rhodante, per doz.	6 0	9 0
Ficus elastica, each	1 6	7 6	Roses (various), doz.	18 0	30 0
Foliage Plants, various, each	2 0	10 6	Scented Verbena	4 0	6 0
Fuchsia, per dozen	6 0	9 0	Spiræa, per dozen	9 0	12 0
Genista, per dozen	6 0	9 0	Tulips, per doz. pots		
Heliotrope	4 0	8 0			
Hydrangea, per doz.	9 0	12 0			

GARDENERS' ORPHAN FUND.

NOTICE.

THE FIRST GENERAL MEETING of the supporters of this Fund will be held in the Conservatory of the Royal Horticultural Society, South Kensington, on TUESDAY, July 12th, at 3 p.m., to receive and adopt the Report of the Provisional Committee as a basis upon which to establish the Gardeners' Orphan Fund, and to Elect Officers, Executive Committee, &c., &c.

It is hoped that all sympathisers with this movement will make it convenient to attend.

A. F. BARRON, Honorary Secretary.

Donations and Subscriptions already promised or sent.

SECOND LIST.

	Donations.			Subscriptions.		
	£	s.	d.	£	s.	d.
Swanborough, W., Gardener, Glasslough, Ireland	1	0	0	0	10	0
Smith, J., Gardener, Waterdale, St. Helens	1	1	0	0	5	0
Smith, W., Gardener, Warefield Park, Bracknell	1	1	0	0	5	0
Swanborough, H., Gardener, Warfield Hall, Bracknell	1	0	0	0	5	0
Smith, B., Gardener, Botleys Park, Chertsey	1	0	0			
Smith, C., Gardener, St. Anne's, Cloutarf, Co. Dublin	1	0	0	1	0	0
Veitch & Sons, R., Royal Nursery, Exeter				1	1	0
Vert, J., Gardener, Audley End, Saffron Walden	1	0	0	0	10	0
Wentworth, J. F. C. Vernon, Wentworth Castle, Barnsley	1	0	0			
Whibley, A., Gardener, New Lodge, Hawk-hurst, Kent	1	0	0	0	5	0
Wilkins, T., Gardener, Inwood House, Henstridge, Blandford	1	0	0	1	0	0
Weller, R., Gardener, Glenstal Castle, Limerick	1	0	0	0	10	0
Webb, John, The Arboretum, Wood Lane, Isleworth	1	0	0			
Young Men, Trentham Hall Gardens, Stoke-on-Trent				1	0	0
Young, A., Gardener, Abberley Hall, Stourport	1	0	0			
Miles, G. T., Gardener, Wycombe Abbey, Bucks	1	0	0	0	10	0
Peed & Sons, J., Roupell Park Nurseries, S.W. Roberts, C. F., Gardener, Copse Hill, Moreton-in-Marsh	1	0	0			
Snelling, D., Gardener, Laleham House, Staines	0	5	0	1	0	0
Alexander, D., Gardener, Brankstone Grange, Alloa, N.B.	0	5	0	0	5	0
Adams, W., Gardener, Lyme Hall, Stockport	0	10	0	0	5	0
Ashwood, H., Gardener, Pinewood, Witley, Godalming				0	5	0
Archer, W., Gardener, Hill House, Saffron Walden				0	5	0
Allsop, J., Gardener, Dalton Hall, Hull				0	5	0
Armstrong, J., Gardener, The Landing, Newby Bridge, Ulverston	0	5	0	0	5	0
Alford, J., Gardener, Pyt House, Tisbury				0	5	0
Armstrong, A., Gardener, Ember Court, Thames Ditton	0	10	0			
Allen, W., Gardener, Normanburst Court, Battle	0	10	0	0	5	0
Anness, T., Gardener, Keswick, Norwich	0	5	0	0	5	0
Aslett, G., Gardener, Warren Wood, Hatfield	0	10	0	0	10	0
Allen, L., Gardener, Buckhurst, Wokingham	0	5	0	0	5	0
Anderson, J., The Cottage, Gibson's Hill, Norwood				0	5	0
Allen & Sons, John, Ivy Bridge	0	10	0			
Arnold, J., Grdnr, Merden Hall, Knutsford	0	5	0	0	5	0
Amys, J., Gardener, Hamble Cliff, Netley	0	10	0	0	5	0
Amateur Gardener, Bury St. Edmunds	0	1	0			
Appleton, G., The Gardens, Tranby Croft, Hull	0	5	0	0	5	0
Allis, G. R., Gardener, Old Warden Park, Biggleswade				0	5	0
Allan, W., Gardener, Barton Hall, Bury St. Edmunds	0	5	0			
Bailey, F. A., Gardener, Rode Hill, Stoke-on-Trent				0	5	0
Brown, W., Grdnr, Prideaux Place, Padstow				0	5	0
Bull, F., Clairville, Birkdale				0	5	0
Bloxham, G., Gardener, Brickbill Manor, Bletchley				0	5	0
Bleas, J., Gardener, The Flosch, Cleator via Carnforth	0	5	0	0	5	0
Bolas, G., Gardener, Hopton Hall, Wirksworth				0	5	0
Batchelor, H., Gardener, Catton Park, Norwich				0	5	0
Brunt, G., Gardener, Bretby Park, Burton-on-Trent	0	5	0	0	5	0
Batts, C., Ashley Clinton, Lynnington				0	5	0
Bettesworth, T., Gardener, Burton Grange, Cheshunt, Herts				0	5	0
Brownell, T., Gardener, Ryecroft, Bray, Co. Wicklow				0	5	0
Boatwright, C., Gardener, Moor Park, Farnham, Surrey				0	5	0
Bott, A., Biltung, Wye, Kent	0	5	0	0	5	0
Beesly, J., Gardener, Denbies, Chiswick	0	5	0	0	5	0
Barry, J., 1, Annandale Road, Chiswick				0	5	0
Burt, J., 16, May Bank Villas, Hither Green, Lewisham	0	5	0	0	5	0
Bastin, G., Gardener, Farm Hill, near Stroud	0	5	0	0	2	6
Barker, A., Gardener, Walworth Castle, Darlington				0	5	0
Bissett, J., Gardener, Conholt Park, Andover	0	10	0	0	5	0
Breese, W. C., Grd., Moreton Hall, Congleton				0	5	0
Baker, J., Gorey Lodge, Grouville, Jersey				0	5	0
Barnett, G., Gardener, Hiltou Park, Wolverhampton	0	5	0	0	5	0
Biggs, E., Grd., Frome, Whitfield, Dorchester				0	5	0
Browning, A., St. Mary's Isle, Kirkcudbright				0	10	0
Budd, G., Grdnr., Wadhurst Park, Wadhurst				0	5	0
Burt, G., Gardener, Snunningdale, Ascot	0	10	0	0	5	0
Blaney, J., Grd., Huntley Manor, Gloucester	0	5	0			
Bone, J., Gardener, Latimers, Chesham				0	10	0
Bowler, J., Gardener, Caldecote, Nuneaton				0	5	0
Bartley, J., Gd., Wentworth Castle, Barnsley				0	10	0

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RATING OF NURSERIES.

AT A MEETING of Nurserymen and Market Gardeners, held on 28th of June, 1887, at the Horticultural Club, London, it was decided to take such steps as might be necessary for the purpose of obtaining a reduction in the amounts at which Nurseries and Market Gardens are assessed, and also of obtaining a basis on which such assessments should be made. A Committee was formed for the purpose of carrying this into effect, and a guarantee fund was started to meet the necessary expenses. The Committee at present consists of Mr. Beer (Worthing), Mr. Bennett (Sheperton), Mr. Bunyard (Maidstone), Mr. Daniels (Daniels Bros., Norwich), Mr. Haynes (Penge), Mr. Horsman (Bradford), Mr. Low (Uxbridge), Mr. Pearson (Chilwell), Mr. Sharman (Carter & Co., London), Mr. Veitch (Veitch & Sons, Chelsea), and Mr. J. Wood Ingram (Huntington). Gentlemen who are willing to join the Committee, or to subscribe to the guarantee fund (such guarantee not to exceed £10), will please communicate with the Secretary, Mr. F. C. GOODCHILD, 25, Old Jewry, London, E.C.

The Liverpool Horticultural Association.
THE EIGHTH GRAND SUMMER EXHIBITION OF PLANTS, FLOWERS, FRUIT AND VEGETABLES will be held in SEFTON PARK, on SATURDAY, JULY 30th, and BANK HOLIDAY, AUGUST 1st. Entries close July 23rd. Schedules of prizes can be had on application to the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Tarbock Road, Huyton.

Next Week's Engagements.

MONDAY, July 18th.—Christleton Rose Show.
TUESDAY, July 19th.—St. Peter's, Hammersmith, Horticultural Society's Show. Leek Rose Show. Sale of Imported Orchids at Protheroe & Morris's Rooms.

WEDNESDAY, July 20th.—Lewisham and District Horticultural Society's Show (2 days). Birkenhead Rose Show.

THURSDAY, July 21st.—Lichfield Horticultural Society's Show. Southwell Horticultural Society's Show. Rose Shows at Salterhebble and Carlton-in-Lindricks. Sale of Imported Orchids at Stevens' Rooms.

FRIDAY, July 22nd.—North Lonsdale Rose Show. Manchester Rose Show. Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, July 23rd.—Ulverstone Rose Show.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 16, 1887.

GARDENING. — When Bacon delivered his celebrated dictum with respect to the pleasures of gardening, he doubtless thought only of the purely romantic side of the matter. Those who have good gardens, and nothing to do in them but to enjoy the beauties surrounding them, may, of course, do so in a very philosophic spirit, drinking in all that is enjoyable, and troubling about nothing. Bacon, as a philosopher, doubtless regarded gardening as a philosopher would, and when he wrote of its pleasures, knew little of the worries, cares, anxieties, and troubles which vex and oppress the minds of modern gardeners. To myriads, now, a close shaven lawn is beautiful, only because it affords good tennis play; whilst the gardener, who has the beauty of his lawns deep at heart, is troubled because drought burns the grass to a dingy brown, and only bents, Plantain and Daisies grow. But lawns, after all, are small matters when such seasons of excessive heat and drought as we have just passed through prevail.

Probably, Bacon gave vent to his poetic soul some time in the spring, when gardens, putting on their first dress of summer beauty, are, as a rule, delightfully enjoyable. A long spell of drought, or, on the other hand, one of unusual coldness and moisture, soon destroys poetic illusions, and brings the soaring mind back to mother earth with distressing rapidity. Gardening can have little of pleasure if its pursuit be not associated with successful issues; for failures, whether the result of want of knowledge or suitable weather, can only bring pain and disappointment. For several weeks past gardening has been associated with hard labour, and very much of pain, because plants of all kinds have suffered

from drought and heat, and man has been unable to give relief. Watering can do something to alleviate the sufferings of plants, but, still, very little after all; whilst watering, even with an abundant supply of the limpid element, is very laborious and painful. We cannot tell whether plants really feel. We believe they do not in any way; but it is hard to dispel the illusion, when we see them flagging from intense heat and drought, that they do not feel pain.

But the gardener, who sees day after day the burning heat withering up his crops which he has in the past laboured so hard and so patiently to plant or to sow and to cherish, feels real pain, and his disappointment merits sympathy. The cultivator of the soil is peculiarly the sport of circumstances, and specially of circumstances over which he has no control. He may find, though it rarely happens, a season which is peculiarly favourable; but, in the majority of cases, he finds conditions of weather which baffle his best endeavours. Just such conditions has the unwonted heat this season furnished, and for all early crops have proved exceedingly disastrous. The gardener specially merits sympathy when he has to provide his employer with all sorts of garden products which weather prevents maturing.

Little enough of allowance is made for conditions which prove the gardener's master. Abundant rains now may serve to bless that which is to follow where not too late, but of that which is past no help can be given. Who can tell what may happen yet? We may see this drought extended all the summer, creating loss upon loss. We may see it followed by unusual rainfall to provide the needful meteorological balance, and that would be disastrous also if coming during the summer. Fine dry weather is delightful for the butterflies of the human family, but to the gardener, if too long extended, it means pain and disappointment.

ADMIRERS of CANON HOLE will be glad to know that he has not accepted the offer of the vacant bishopric of Nova Scotia, and, consequently, is not going to banish himself to that colony.

THE Annual Exhibition of the CREWE HORTICULTURAL SOCIETY will be held on Saturday, August 6th.

THE Annual Summer Exhibition of the CHURCH COPPENHALL HORTICULTURAL SOCIETY will be held on August 13th, and the Annual Chrysanthemum Show, in the Town Hall, Crewe, on November 26th.

MESSRS. JAMES CARTER & Co. were awarded a Silver Medal at the Royal Botanic Society's Evening Fête last week, for a very striking group of annuals and ornamental grasses.

THE title of CANADIAN FRUIT KING is considered to belong to Mr. A. McDonald Allan, of Goderich, Ontario, who is the president of the Ontario Fruit Growers' Association, and the largest exporter of Canadian fruit.

AT the fifth annual meeting of the AMERICAN SEED TRADE ASSOCIATION held last month at Philadelphia, Mr. James H. Gregory delivered an address on "Experimental Stations"—and proposed a uniform method of testing, to place all parties on a like basis. A committee was appointed to carry out the resolution.

AT the meeting of the Scientific Committee on Tuesday, Mr. James O'Brien made some comments on a paragraph lately published in the columns of the *Gardeners' Chronicle*, on the subject of HAY FEVER, and detailed his own experience with reference to the flowers of Golden Feather, Pyrethrum, insect-powder, Hibbertia volubilis, Patchouli, Lilium auratum and other plants, by the perfume of which he was to a greater or less degree affected. Other cases of a similar kind were mentioned by members of the committee—the general inference, from the varied nature of the plants, being that the real causes of the symptoms must also be varied, and that the pollen alone cannot be credited with the mischief.

At the Floral Committee meeting on Tuesday, Dr. Lowe showed a specimen of a Rose which this year had produced on the same stalk a red Rose and a white Rose. Dr. Lowe stated, on the authority of the late Rev. H. Ellacombe, that the Damask Rose with striped petals, now commonly called the York and Lancaster Rose, is not rightly so called, and that the true plant was the one of which he exhibited flowers.

WE are informed that the committee of the English subscribers to the VAN HOUTTE MEMORIAL PRIZES have determined to offer two prizes of the value of £10 each to be competed for at the next quinquennial international exhibition to be held in April, 1888, at Ghent, under the auspices of the Société Royale d'Agriculture et de Botanique—one prize for the best new varieties of *Azalea indica* obtained since 1880, and one prize for the best collection of hardy trees and shrubs. The Conseil d'Administration of the society have intimated their acceptance of these prizes.

THE death is announced of the REV. THOMAS STANFORTH, of Storr's Hall, Windermere, at the ripe old age of 80 years. In his college days, Mr. Stanforth was known as a first-class amateur oarsman, and has always been a good patron of horticulture; one of his favourite flowers was the *Amaryllis*, in the cultivation and improvement of which he took great interest. He was, we believe, the "Amateur" who gave the prizes offered for seedling *Amaryllis* a year or two ago at the shows of the Royal Horticultural and Royal Botanical Societies.

WE have before us a copy of the schedule of prizes offered by the SHEFFIELD AND WEST RIDING CHRYSANTHEMUM SOCIETY, and note with pleasure that very liberal inducements are offered to competitors in the open classes. The leading class is for forty-eight cut blooms, twenty-four incurved, and the same number of Japanese, in which the prizes are, first, a Silver Cup value 15 guineas, and £10 in money; second, £10; and third, £5. Such handsome prizes as these should bring out a grand competition. Further particulars can be obtained from Mr. Woodcock, The Gardens, Oakbrook, Sheffield.

THE GARDENERS' ORPHAN FUND.

THE first general meeting of the supporters of this Fund was held at South Kensington on Tuesday afternoon, Sir Julian Goldsmid, Bart., M.P., presiding. There were also present Dr. Hogg, representing the Council of the Royal Horticultural Society; several members of the Horticultural Club, representing that body; Dr. Masters, Mr. Harry J. Veitch, Mr. Shirley Hibberd, Mr. G. Deal, and Messrs. J. Fraser, John Laing, D. T. Fish, C. Penny, J. Udale, C. Noble, W. Bull, W. Roupell, A. F. Barron, R. Dean, J. Roberts, J. Wright, H. Turner, B. Wynne, W. Holmes, H. Herbst, J. Smith, H. Cannell, J. Gibson, T. W. Saunders, C. Ross, J. Newton, W. Richards, G. T. Miles, W. G. Head, J. Withers, T. Griffin, J. Fromow, and others whose names we did not learn.

MR. DEAL read the following report of the Provisional Committee:—

TO THE DONORS AND SUBSCRIBERS TO THE GARDENERS' ORPHAN FUND.

LADIES AND GENTLEMEN,—

We, the members of the Provisional Committee, nominated to conduct the initiatory proceedings in connection with this Fund, have now the pleasure to present our report, which is, in fact, an epitomised statement of our labours, and will show how the idea of the "Gardeners' Orphan Fund" originated, developed, and step by step reached its present proportions.

Early in March last Mr. Penny, gardener to His Royal Highness the Prince of Wales, Sandringham; Mr. Clayton, of Grimston Hall, Tadcaster; and Mr. Udale, Elford Hall, Tamworth, suggested in the horticultural papers that the most fitting way for the gardening community to commemorate Her Majesty's Jubilee would be to establish a Gardeners' Orphanage or Fund for the benefit of orphan children of gardeners. The idea met with approval, and a meeting was held on March 22nd in the Conservatory of the Royal Horticultural Society, South Kensington, to take into consideration the suggestion and the best means of furthering it. The subject having been fully discussed, a resolution was passed to the effect that it was desirable to establish such a Fund, but that it was not desirable to purchase or erect any building as an Orphanage. It was further resolved to appoint a

Provisional Committee to prepare a scheme for carrying out the objects of the meeting, and the following gentlemen were nominated:—Dr. Masters (*Gardeners' Chronicle*); Mr. Shirley Hibberd (*Gardeners' Magazine*); Mr. Deal (Weeks & Co., Chelsea); Mr. James Douglas, Great Gearies, Ilford; Mr. C. Penny, Sandringham; Mr. C. H. Sharman (James Carter & Co., Holborn); Mr. H. J. Veitch, Chelsea; Mr. J. Roberts, Gunnersbury Park; Mr. J. Woodbridge, Syon House; Mr. A. F. Barron, Chiswick; Mr. R. Dean, Ealing; Mr. J. Matthews, Weston-super-Mare; Mr. J. Wright (*Journal of Horticulture*); Mr. B. S. Williams, Holloway; Mr. W. Richards (*Gardeners' Chronicle*); and Mr. B. Wynne (*Gardening World*).

This committee held its first meeting on March 25th, and again met on April 12th, when the members present (after first agreeing to defray the preliminary expenses should the scheme fail to mature), discussed the lines upon which the Fund should be organised and conducted. A circular letter was drawn up and widely circulated, with a view of testing the feelings of gardeners respecting the proposals. The result was highly gratifying, inasmuch as in a short time promises of support were received in the form of donations and subscriptions to the amount of £400. By May 24th the amount had reached nearly £600, and now exceeded £980.

At a meeting of the committee on the last-mentioned date, the progress made was considered sufficiently satisfactory to warrant the calling of a public meeting to establish the Fund. It was therefore resolved to convene such meeting for July 12th, and a sub-committee was appointed to make the necessary arrangements, also to draw up rules and regulations for the general management of the Fund.

This sub-committee, consisting of Messrs. Barron, Deal, Dean, Roupell, Woodbridge, Wright, and Wynne, at once proceeded to consider and revise the draft rules submitted by the chairman, which, after much anxious consideration, were agreed to, and are now recommended to the subscribers for adoption.

The committee have been much encouraged in their labours by the fact that so distinguished a friend to horticulture as Sir Julian Goldsmid, Bart., M.P., &c., has kindly consented to accept the office of president, and trust that the donors and subscribers will cordially endorse this selection, and approve the initiatory proceedings in general.

In conclusion, the committee beg to offer their best thanks to the subscribers and all who have so kindly given them their assistance and support.

SIR JULIAN GOLDSMID: It becomes my duty as chairman of the meeting to-day to move the adoption of the report, and of the rules which are recommended to you by the Provisional Committee. I have just looked at their minute book, and I see that they have held nine meetings, and consequently it is obvious that they have carefully considered the various questions which they have had to deal with, because, as they are all business men, and know the value of time, I am sure they would have been unwilling to spend time over nine meetings unless it had been necessary to mature the proposal they put before you. The proposal is one which recommends itself to everyone who has an eye to nature. I think that we shall all agree that the gardeners of to-day offer us beautiful objects to look at which in former days were almost unknown. I was looking, for instance, just now at that wonderful collection of *Begonias* downstairs. When I was a boy I think that many of these were not known at all, and consequently our forefathers lost the advantage and beauty of those splendid objects. So, in the same way, all through the different classes of plants you will find that wonderful improvements have been made by the able gardeners of to-day. I am quite sure that the gardeners who look after these things which are so beautiful, ought also to look after themselves and their families. Now, every one of us is liable to sickness, and of course now and then the head of the family is removed, and his children are left to battle with an eager and a greedy world. Just as it is the duty of those in other trades and occupation of life to endeavour to provide for their poorer neighbours, and for the orphans of those removed from them in an untimely manner, so I believe those who originated this idea were right in saying that it is in the same way the duty of gardeners to provide for those connected with them who are placed in similar unhappy circumstances. We all know that there is an excellent society called the Gardeners' Royal Benevolent Institution, which looks after gardeners when they are broken down and cease to be able to take their share in their work; but there has hitherto been no organisation to provide for the children of those who were suddenly removed by death; and it is to fill up this gap, to avoid in future the risks and the difficulties that the children of gardeners who die are naturally exposed to, that it has been decided

to establish the Gardeners' Orphan Fund. It is in promotion of this organisation that the Provisional Committee have called you here to-day. I have much pleasure in presiding at this meeting, and am glad to be able to ask you to adopt this report and to accept the rules which are recommended to you. Of course, I do not say that the rules now proposed to you are the most ideally perfect that can be prepared, but I do say that in every institution it is desirable to have rules. These have been carefully considered. If in the course of a few years' experience it is found by the committee which manages this institution that any modification is desirable I am sure they will be prepared to recommend them to the subscribers. At the same time, I think we cannot do better than adopt the rules which they recommend to us, for they have very carefully prepared them, after having considered the various points brought before them by their chairman and others. Consequently I have much pleasure in moving the adoption of the report and the rules.

MR. CHARLES PENNY seconded the motion, and said he thought that they would all feel that they were now placed in a much different position to what they were on the 25th March, when they met in the conservatory, without any rules and without any money. Since then the object for which they met had, to a great extent, been achieved, and he expressed the hope that the institution would go on and prosper, and make as much progress in the future as it was already making. With reference to the rules, the committee had worked very hard in order to make them what they were. He wished, however, to state that if anyone had any suggestion to make, if he would write to the secretary those suggestions would receive proper consideration. He hoped that those who did not join the society would not find fault with them; but if anyone had a suggestion to make for the improvement of the organisation, he had no doubt that those suggestions would be well considered.

MR. SHIRLEY HIBBERD said he wished to make an observation in reference to Rules 9 and 10. In Rule 9 it was provided that a charge of 1s. should be made for a copy of the annual report, balance-sheet, and list of subscribers. It had occurred to him that 1d. would be a more reasonable charge. That was a small matter, but the next thing was, from his point of view, of considerable importance. It was provided that the annual meeting was to be held in February. That seemed to him to be fatal to its success. Meetings in February in London did not succeed as one could wish. Men of years did not attend them, wherever they might live. Men who lived in the country would not attend them, for it was not a time for travelling. He therefore suggested that they should fix the price of reports at 1d., and that the annual meeting should be held in May instead of February.

MR. ROUPELL said he had found in practice that no objection was made to paying for the report and list of subscribers. Anyone who applied for a copy with some business-like object would not object to pay 1s. for it; and he had never found any complaints made on the part of such applicants because they had to pay for the report. As to the time of meeting, that, of course, was a subject for consideration. Many of the charities held meetings in the beginning of the year, and they generally got a good attendance.

MR. D. T. FISH objected to the mode of election provided by Rule 12 in the case of candidates for the benefits of the institution. The system, he knew, prevailed in other similar institutions, and he had had some experience of this mode of election by the votes of subscribers. He thought that the system led to a great deal of abuse in the administration of such charities. He saw a statement made the other day by a society that was trying to abolish this mode of election, that at least one-third of the benefits were paid in postage and canvassing. He thought that in establishing this new institution they should consider whether it was not practicable to abolish this mode of election, and allow the committee to elect the candidates. According to the rule, the committee were to select a list of candidates, and he thought the selection by the committee would be the same as if they had actually elected the candidates. ("No, no.") As they had gone so far in giving the committee that power, he did not see that they should not go a step further, because he had no doubt that the committee who would administer the Fund would be highly influential and thoroughly representative. His experience in three institutions

with which he was connected was that the result of canvassing, bartering, and higgling about the votes was that the most deserving candidates were not elected. He would far rather trust to such a body as he knew would be elected by this institution than to the votes of subscribers. He had heard it said that a good many subscribers would not contribute if they had not the power of voting. All he could say was that it would be a great relief to him if he were not pestered with applications in reference to his votes.

MR. DEAL said perhaps as chairman of the Provisional Committee he might be expected to say a word or two upon the rules. He would take Mr. Shirley Hibberd's objection first, with reference to paying 1s. for the report and list of subscribers. He thought that it was very well known that whenever an application was made for the rules and list of subscribers of any institution, it was generally for the purpose of getting the list of subscribers, and not so much for the rules. The committee had wished as far as possible to check any undue expenses which might be thrown upon the Fund in printing these rules. They must bear in mind that even the first issue would be at a considerable cost. They had 700 names to put into the book; they had the report, the list of officers, and the report of the meeting, and to issue all that for the nominal sum of 1d. would be throwing a considerable cost upon the Fund. He was quite prepared, if it were thought advisable, to agree to presenting reports to a certain number of the leading subscribers, but he assured them that they would be considerable losers by the transaction if they charged only 1d. for a copy. The matter had been thoroughly threshed out by the committee, and he hoped the meeting would adhere to the 1s. With regard to holding the annual meeting in February, he was willing to agree to the alteration suggested by Mr. Hibberd, and to hold the meeting in May. With regard to the mode of election, that had received the serious consideration of the committee. It had been thoroughly discussed, and arguments had been advanced *pro* and *con*. Other charities had been consulted on the matter, and he might now say in the briefest manner that, without exception, every person who had had practical experience in promoting the welfare of such institutions, had one and all told him—and he thought that he had the support of the committee in what he was saying—that, if they took away the voting from subscribers, they would take away the interest, and if they took away the interest they would get no money. He was afraid that if they abolished the rule it might give rise to the impression that the whole institution was the property of the committee, and that subscribers who lived at Carlisle or Newcastle for instance, would have very little to say in the matter. He was for spreading the power of voting throughout the length and breadth of the land. He was therefore against abolishing the rule, and was decidedly in its favour.

THE CHAIRMAN: I should just like to say a word or two upon the matters mentioned. The point with regard to the charge for the annual report, balance sheet, and list of subscribers is, I think, an important one in this sense, that if you do not make some charge you may have to print a very large number, and as it is hoped that all the gardeners of England will ultimately belong to this society, you will find that to get up a book of subscribers will be a very expensive affair. Consequently you will diminish the fund which you are establishing for the benefit of the orphans. I therefore think it would be better to charge 1s., or some sum which will amply cover the cost of the book. With regard to the second proposal, on the whole I agree with the gentleman who said that February is not so good a time as some later month for an annual meeting. There is this to be remembered, that the committee hope gardeners will come from all parts of England to attend this meeting. As you know, the month of February this year was very disagreeable, and the weather was very bad, and many people would hesitate before they took the journey up to London. Gentlemen who live in the country would not be very anxious to come here even to attend the annual meeting of such a useful institution as this. What I suggest to the committee is, that they might put in the word "Spring," which will leave a little margin to the committee to fix the exact date of the meeting. It does not signify very much whether it is held in April or May. With regard to the mode of election, I very much sympathise with what Mr. Fish has said. Belonging,

I think, to about forty institutions, I get applications without number to vote for various candidates, and if I had not a very excellent secretary, who is good enough to keep lists of all these institutions, and the persons to whom I have promised my votes, I should be in very great difficulty. At the same time we must look at the practical side of the question. Theoretically it would be a good thing if the committee could select the most deserving candidates, but you must remember that everybody is not so high-minded and generous as Mr. Fish; and consequently some people like to have what they call full value for their money, and to many people full value for their money, even when given in the form of a subscription, is the vote. I have tried over and over again in other institutions to persuade the subscribers that they would relieve themselves of great trouble by dispensing with their voting power, and they have replied, "It is not trouble, but a pleasure." Therefore, what are you to do? On the whole, I think the Provisional Committee have struck a very capital road between these two opposing powers. If you look at the latter part of the clause, they say that "before the annual general meeting, the Executive Committee shall examine the claims and qualifications of candidates, and prepare and approve a list of those eligible, and from this list the election shall be made." That indicates that the committee will strike out any candidates whom they do not consider to be deserving candidates. In that respect they exercise a certain amount of selection. Having chosen the eligible and deserving candidates, they say to those who subscribe, "Out of those you choose whom you like." I think, therefore, it is a good middle road between the two opposing powers, and on the whole, though sympathising very much in what Mr. Fish has said, I should advise the meeting to adopt the plan suggested in the proposed rules.

MR. GREEN said that the month of May was a busy time with gardeners, and would be an inconvenient time for the annual meeting. He suggested that it should be held in August or September, or, at all events, at a less busy time of the year. He would also suggest that at the same time there should be some other attractions for gardeners, such, for instance, as the show like that which was then being held.

MR. VEITCH proposed that the annual meeting should be held in July. This was agreed to, and the motion for the adoption of the report was then carried.

MR. VEITCH proposed "That Sir Julian Goldsmid be elected president of the Gardeners' Orphan Fund." He felt that in selecting him they would have the right gentleman in the right place. Sir Julian had already told them that he was connected with forty institutions. He, the speaker, was thankful to say that theirs was the forty-first with which he had associated himself. He was quite sure that the experience which Sir Julian Goldsmid had gained in connection with other institutions would be for the advantage of the Gardeners' Orphan Fund. Sir Julian was in great sympathy with the gardeners of England, and the interest which he took in their occupation was shown by the beautiful place which he had at Tunbridge Wells, and the beautiful gardening which he carried out, by means of an English gardener, in the south of France. He might mention, as another evidence of the interest which the chairman took in this movement, the fact that he had given £100 towards the fund. DR. MASTERS seconded the motion, which was unanimously adopted.

THE CHAIRMAN, in acknowledging his appointment, said: I am very much obliged for the kind observations which my friend, Mr. Veitch, has made. Of course we all know that he stands at the head of that enterprising profession to which he does so much honour. I am quite sure that in the interest that can be taken in the progress of gardening I can equal anyone, because I know that more is to be gained by the observation of the beauties of nature than almost any other kind of intellectual work, and I am satisfied that you who spend your lives in producing beautiful things are devoted to a profession that does you great honour. I have to thank you for the honour you have done me, and I have great pleasure in accepting the post of president.

MR. DEAL proposed "That Messrs. H. J. Adams, E. J. Beale, W. Bull, Shirley Hibberd, Dr. Hogg, Dr. Masters, J. M'Intosh, H. M. Pollett, Baron Schroder, A. W. Sutton, H. J. Veitch and F. G. Tautz be elected vice-presidents of the Gardeners' Orphan Fund." He explained that this was only the list made

up to the present time, and that under the rules the committee would have power to add to their number. MR. B. WYNNE seconded the motion, which was carried.

MR. J. FRASER moved "That Mr. S. Courtauld, Mr. J. T. D. Llewelyn, and Mr. A. H. Smee be appointed trustees of the fund." MR. C. Noble seconded the motion and it was carried.

MR. SHIRLEY HIBBERD moved the election of Mr. T. B. Haywood as treasurer, and said many of them knew Mr. Haywood was treasurer of the National Rose Society, and in various ways was interested in horticulture. He would take this opportunity of saying in reference to the suggestion which had been made, that holding the annual meeting in July would afford them an admirable opportunity of increasing the burdens on the treasurer's shoulders. A gentleman had suggested that on the occasion of the annual meeting, or in connection with it, they should have some kind of floral jollification. If that could be carried out in a large way, there was no doubt whatever that it would conduce to the prosperity of the institution. They might have some outdoor festival in which gardeners and horticulturists generally might take an interest. He would mildly suggest a comfortable meeting, in which the ladies might be associated with them, and where something to eat and drink be provided; or they might have a Strawberry feast or what they liked. An outdoor festival for the benefit of the orphans would have a certain domestic character, and he was sure would be calculated to enlarge the labours of their worthy treasurer. MR. J. LAING seconded the motion, and it was carried.

MR. DEAN proposed the election of Mr. A. F. Barron as secretary of the fund. He said that in asking Mr. Barron to accept the post they were selecting a gentleman who was known to all of them. There were three reasons why they should appoint Mr. Barron to the secretaryship. The first was that he was the best known man in the horticultural community. In the second place he was greatly esteemed for his high personal character and business capacity. In the third place, from the very inception of the fund, Mr. Barron had taken an important part in bringing the scheme up to its present point of success. MR. J. ROBERTS seconded the motion, and it was unanimously adopted.

MR. WRIGHT moved the appointment of Messrs. J. Fraser and W. Sharp as auditors, remarking that both those gentlemen were well and widely known—the former as a horticulturist, the latter as being specially identified with work of the nature indicated—and he did not think that two more suitable for the position could be chosen. The motion was seconded by Mr. W. Richards and carried.

On the proposition of Mr. Fish, seconded by Mr. Udale, the following gentlemen were appointed an executive committee, with power to add to their number:—Messrs. P. Barr, W. Bates, H. Cannell, R. Dean, G. Deal, J. Douglas, W. Goldring, W. G. Head, H. Herbst, W. Holmes, J. Wood Ingram, J. Laing, G. Nicholson, C. Penny, W. Richards, J. Roberts, W. Roupell, C. H. Sharman, J. Smith, H. Turner, H. Williams, J. Woodbridge, J. Wright, and B. Wynne.

MR. DEAL, in reference to a wish expressed that country members should be represented on the committee, explained that the rules provided that the secretaries of local committees were to be *ex-officio* members of the committee, and as it was the intention of the committee to establish a large number of local secretaries, the country would be largely represented.

On the motion of Mr. Wright, seconded by Mr. Deal, a cordial vote of thanks was accorded to the Royal Horticultural Society for the use of their room for this meeting.

On the proposition of Dr. Masters, seconded by Dr. Hogg, the chairman was cordially thanked for his kindness in taking the chair, and Sir Julian Goldsmid briefly acknowledged the compliment.

MR. W. BULL proposed, and Mr. Herbst seconded, a vote of thanks, which was passed, to the Horticultural for their interest and assistance in reference to the Press Institution. The compliment was briefly acknowledged by Mr. B. Wynne, and the proceedings then terminated.

HOARY VERONICA.—The flowers of *V. incana* are in themselves sufficiently ornamental to warrant the cultivation of this plant; but, in addition, the foliage, as the name implies, is of hoary or conspicuously white appearance. For this reason the plant is often grown as a margin to beds or borders, where it has a telling effect whether in flower or not.

NEW PLANTS CERTIFICATED

At the Crystal Palace,

July 9th, 1887.

PICOTEE, AGNES CHAMBRES.

Blooms of this new variety were exhibited, and were conspicuous for the delicacy of the marginal markings. These were confined to a slender line at the extreme edge, and consisted chiefly of pink and rose tints, so arranged as to be continuous. The ground colour of the petals was a delicate soft yellow. The petals were broad and somewhat undulated, but neither crowded nor giving the flower a lumpy or solid appearance. The size at present is not equal to that of older varieties, but another year of cultivation may effect improvement in that direction. Exhibited by Mr. J. Douglas, Great Gearies, Ilford.

CARNATION, AMBER.

A basket of plants showed their natural habit, giving the public a general idea of their floriferous character. The leaves were narrow and of a deep glaucous colour, from which the stems rose to a height of 2 ft., or a little over that, branching freely towards the top, bearing numerous flowers. The latter were of medium size, naturally well-shaped, and of a fine uniform yellow colour. The petals were slightly undulated and toothed at the margin. Exhibited by Mr. Charles Turner, Slough.

GAILLARDIA MAXIMA.

As shown in contrast with numerous other varieties, the flowers of this form were justly entitled to the name, being considerably larger than any other in the collection. Only cut specimens were exhibited, but the larger heads were even and flat, of an almost uniform reddish crimson colour, with a narrow, yellow margin, just sufficient to relieve the leading colour, and give it an air of liveliness. The broad wedge-shaped segments were trifid at the apex, and flat, not tubular. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

By the Floral Committee of the R.H.S.

July 12th, 1887.

ODONTOGLOSSUM VUYLESTEKIANUM MACULATUM.

The habit and general appearance of this plant resembles that of *O. crispum*, and it doubtless requires the same treatment. The flowers, however, are different, and have primrose-yellow sepals well marked with chestnut-brown blotches; the petals, on the other hand, are broader, white with a yellow tip, and have comparatively few blotches; the lip is broad throughout, of a creamy white colour marked with numerous pale brown blotches, and very shallowly fringed or toothed at the margin. Exhibited by Sir Trevor Lawrence, Bart., M.P.

LÆLIA BATEMANIANA.

This hybrid *Lælia*, whose parentage is *Sophronitis grandiflora* as the seed-bearing plant, and *Cattleya intermedia* as the pollen parent, is decidedly a great acquisition, producing a fine effect with its lively coloured flowers. The small fusiform pseudo-bulb bears at its apex two ovate leathery leaves about 3 ins. in length, and at this flowering has produced five flowers in a raceme. The whole plant does not exceed 6 ins. in height. The sepals are rosy scarlet, the petals broader and darker, and the three-lobed lip is white in the lower part, suffused with purple at the edge, while the terminal lobe is obovate and crimson. Exhibited by Mr. Ballantine, gardener to Baron Schroder.

EPIDENDRUM PARKINSONIANUM.

The specimen shown was a good example of careful cultivation, being in healthy condition, and more profusely flowered than is generally seen. Several of the small pseudo-bulbs or stems bore three flowers each in a cluster, all of good size. The sepals and petals are pale yellow, while the lip is pure white and deeply three-lobed; the lateral lobes being half ovate, and the middle one linear. The long lanceolate leaves are very fleshy, and serve the same purpose as pseudo-bulbs in other cases. Exhibited by H. M. Pollett, Esq., Fernside, Bickley.

SCOLOPENDRIUM VULGARE VALLAISII.

Three specimens in a pau produced a fine mass of this hardy Fern. The most striking feature of the form consisted in the large, dense tassels, or clusters of segments terminating the fronds. Many of the latter, however, were divided nearly to the base into

two main branches, such as we see in some varieties, and not so heavily crested at the apex. In other characters the frond is similar to the normal form, and is about a foot long; while others multifid in a like manner, such as *Wardii* and *Kelwayi*, have very short fronds. A useful decorative plant. Exhibited by Messrs. J. Veitch & Sons.

BERBERIS ARISTATA INTEGRIFOLIA.

The variety here named differs from the type in having entire leaves, as the varietal name implies; and in this respect it is very distinct. The type is more or less furnished with bristly serratures; but here the leaf is obovate, with an entire narrow red margin. The flowers, which are pale yellow, are borne in pendent many-flowered racemes from the apex of almost every short axillary shoot. The spinose primary leaves are strongest on the barren and current shoots of the year. It is perfectly hardy and very ornamental. Exhibited by Messrs. J. Veitch & Sons.

VARIETIES OF IRIS KÆMPFERI.

CRITERION.—The flowers of this variety as shown were 6 ins. to 7 ins. in diameter, and the segments corresponding to the standards in other species were large, horizontal and flat. The whole six segments were heavily suffused with purple on a paler ground, suffused with violet towards the base, and furnished with a large golden yellow blotch.

UNIQUE.—The three inner segments of this variety nearly equal the outer in size. The flowers are somewhat smaller than in *Criterion*, but are several shades paler, and veined with purple on a pale ground, and furnished, as in all other forms of the species, with a golden yellow blotch near the base.

ACQUISITION.—The flower here measured over 6 ins. in diameter, and was like the two preceding, flat. The white ground colour is the most predominant, showing off, by contrast, the violet-blue veining, and the yellow blotch. The stigmas still retain their violet-purple colour. Exhibited by Messrs. J. Veitch & Sons.

EXQUISITE.—Nearly the whole flower of this form is of a violet-blue colour with white veins, strongest at the base and in the region of the yellow blotch. The segments are large, rounded, and of good substance, standing well in a cut state in water.

ECLIPSE.—This is a deep purple variety with slender white veins radiating from the base. Notwithstanding the dark colour of the rest of the flower, the petaloid stigmas are white, tipped with pale purple. Another feature of this flower was that a greater number of segments than usual constituted the flower semi-double, a thing that has already occurred in many of the forms of *I. Kæmpferi*. Exhibited by Mr. William Gordon, Amyand Park Nursery, Twickenham.

TUBEROUS-ROOTED BEGONIAS.

ALBA MAGNA.—The habit of this, as indeed that of all the doubles exhibited, is dwarf and sturdy. The flowers are large and pure white, with the petals arranged round many centres. It is the largest white yet produced.

SNOWBALL.—This is another splendid white variety, and perfectly distinct from the former. The habit is dwarf, erect, and the flowers tend towards being self-supporting. The petals are shallowly lobed or crenate at the margin, and arranged around several centres, making the flower fully double.

JUPITER.—The large full double scarlet flowers of this variety are very conspicuous and telling, owing to their brilliancy. The petals, like that of many double forms, are arranged round several centres, resulting from the main axis being prolified, producing several lateral and shorter ones which are in reality branches.

ROSEA COMPACTA.—Dwarf and compact in habit and very floriferous. It was the only single variety certificated on the above date, and had large, orbicular, flowers of a fine lively rose colour with rounded, slightly undulated petals. A very meritorious variety.

ADONIS.—Habit dwarf and erect, the flowers being double rosy salmon, and of great beauty. The petals in this case are generally arranged round a central axis, giving the flower the appearance of one large rosette.

CLARIBEL.—The crown of this double flower is rather higher than in most other forms certificated, and white, while the outer and by far the greater number of the petals are of a rosy salmon and very pleasing, quiet, attractive colour. The white crown constitutes the axis of the whole flower, and the petals are slightly undulated.

PERFECTION.—Those who delight in brilliantly coloured flowers will find in this variety a lively brilliant scarlet seldom seen except amongst the singles. The petals are undulated, but otherwise compactly arranged round a central axis, making a large perfect and fully double flower 3 ins. to 4 ins. in diameter.

JUBILEE.—Flowers large, perfectly double and of a magenta-rose colour. A very conspicuous feature of the flower, however, is the enormous number of small centres, round which the petals are ranged, giving the whole the appearance of a collection or small bouquet of flowers.

LUSTRE.—The stems of this variety at present do not exceed 10 ins. in height, branching freely from the base. The flowers are freely produced, large, perfectly double, and scarlet in colour, having nearly flat petals arranged round one or many axes in different flowers. They are of good substance moreover, and the lobed and serrated leaves are of a fine deep green colour, setting off the highly coloured flowers to advantage. The whole of the above were exhibited by Messrs. John Laing & Co., Forest Hill, S.E.

MRS. LEWIS CASTLE.—The specimen of this exhibited was very dwarf, with obliquely heart-shaped leaves of unusual size amongst doubles. The flowers are also large, fully double with several centres, and rounded petals of a soft salmon-pink colour. The size of the leaves, the flowers, and their soft colour are the most conspicuous features of this form.

PRINCE OF ORANGE.—The flowers in this case are large, flat, single, and of good size. They might also be described as orange-scarlet rather than of a purely orange colour; but quite free of the bronzy tints so frequent in many of the yellow or so-called orange-coloured *Begonias*. The habit is also dwarf, and the unequally cordate, deep green leaves are of great size. Exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

TREE CARNATIONS.

SOUVENIR DE LA MALMAISON, PINK VAR.—The flowers are similar in every respect to the old and well-known form—a favourite plant in almost every garden where Carnations are grown, but they are decidedly pink, and deliciously fragrant. The stems vary from 12 to 15 ins. in height, grow slowly, are short-jointed, and bear several flowers that open in succession. The leaves are of medium size and glaucous.

AMBER.—For description of this variety, see the first column of this page. Exhibited by Mr. Charles Turner, Royal Nurseries, Slough.

SWEET PEAS, LATHYRUS ODORATUS.

PRIMROSE.—From a number of very distinct varieties, this and the two following were selected as the best. The flowers are large, well formed, and of a pale primrose-yellow; a colour by no means common in the species.

SPLENDOR.—The standard in this case is large, deep rose, and very conspicuous. The wings are paler on the inner face, hiding the pale or white keel, but owing to their position and direction all the pale colours are hid, giving the whole flower the appearance of a deep rose-coloured self.

MAUVE QUEEN.—The flowers of this variety are large, which, owing to their almost uniform mauve colour, constitute it the most distinct and handsomest form shown. When nearly expanded the standard is slightly tinted with purple, but this disappears entirely when the flowers attain perfection. The whole formed a sweetly scented, very distinct trio, useful for garden decoration, and equally so as cut flowers, for which their long peduncles and long-lasting properties render them very suitable. Exhibited by Mr. H. Eckford, gardener to Dr. Saukey, Borreaton Park, Shrewsbury.

DEUTZIAS, LILACS, AND OTHER SHRUBS that were forced, must now receive attention, and any that require shifting on should be seen to at once; but in all cases the plants should be turned out to make sure that the drainage is perfect. They should then all be plunged to the rim in their summer quarters, and encouraged to thoroughly ripen up their growth, without which it is useless to expect anything like a good show next season.—C.

SMALL AURICULA GROWERS.

I HOPE the readers of THE GARDENING WORLD are not quite tired of this subject, for I have a twofold object in asking for a little space once—possibly twice—more. First, I want to thank Mr. Fife very cordially for his notes in the issue of July 2nd, kindly illustrated, as I had ventured to hope they might be, by a sectional drawing of one of his Auricula frames. I gather from the expression “block” that Mr. Fife’s frames are not lifted very high above the ground, perhaps not more than 1 ft. Here, in a confined little London garden, our frames have stood upon rather long legs, after the model sketched in Johnson’s *Cottage Gardener’s Dictionary*, because where light and air are scarce, it seemed advisable to lift the plants to meet all that can be had of both. But I think Auriculas are more comfortable nearer the ground; in dry windy weather such a very great deal of arid wind sweeps beneath high frames that the pots become dry too rapidly, and a dewy atmosphere cannot be maintained. So I shall have a good many inches sawn off the legs of my plants’ lodgings, and hope to cover them next winter as systematically as Mr. Fife does. Again, many thanks to him for his courteous kindness.

My second object in writing is to circulate a tale of woe. Within the last fortnight I have lost four valuable Auriculas,—(two plants of Lancashire Hero, one of Acme, and another,—) and yet, unless it is the practice of all growers to bake the compost intended for their plants, I cannot blame myself for neglecting any customary precaution. The foliage suddenly curled, withered, drooped, and in a few days the green part of the plant fell off. In vain I probed and examined the soil; nothing was to be seen. There was no surplus damp, no lack of drainage, nothing that could afford a clue. At last my anxiety was at once relieved and heightened; relieved by the discovery of the evil-doer, heightened by the dread that such children of darkness might be in any and every pot of my collection. About half-way down the “carrot” of Acme, I thought that I saw a slight movement of what at first sight I took to be merely a tiny scale of the outer rind. I looked again:—could it be? yes, it was! the tail of a malignant being! And sprouting from that unhappy “carrot” were other tails of brother-abominations, like odious flags hung out to say how much at home the imbedded owners were. Too much at home, happily for me, to protect their own tails,—by which, as by handles, I drew forth the murderers, one by one. Detestable creatures! white, transparent, footless grubs, pointed at one end, (the end that had signalled to me,—) blunt at the other, and varying in length from $\frac{1}{8}$ in. to $\frac{3}{4}$ in. They wriggled, they stood on end, they clasped each other in a sickening embrace, seeking sympathy, no doubt, in the sudden and trying introduction to daylight that abashed them. Meanwhile we ran hither and thither; one fetched a little box, another brought damp moss to fill it, a third had muslin ready to sew it up in. But I must not be too circumstantial; let it suffice to say that this Pandora’s box without the least atom of hope at the bottom was promptly delivered at the Natural History Museum in Cromwell Road, and this very afternoon I have sent another collection of the same horrors, together with the luckless plant they have killed, in the hope that the fly may be successfully developed, and I may know my Arch-enemy by its very particular name.

If anyone will turn to p. 46 of Miss Ormerod’s book, *Guide to Methods of Insect Life*, he will see there depicted precisely what I saw in my poor Auricula,—(“the infested Carrot,” bristling with hateful tails whose hateful heads were burrowing in its very heart)—and the insect responsible for this species of murder is there stated to be the Carrot Fly, *Psila rosæ*. Now I would beg any readers of THE GARDENING WORLD who know anything about this Carrot Fly,—its haunts, its habits, its general history,—kindly to share that knowledge with me, and with any other Auricula lover who may desire it. Should the very kind entomologist in Cromwell Road succeed in his endeavours to “get the Fly” from the maggots now in his possession, we shall of course know exactly the nasty branch of the nasty family to which it belongs; but success is doubtful when circumstances are not wholly favourable, and meanwhile, whatever sub-division of the clan *Psila rosæ*,—whatever circle within the circle—may claim the creature as a scion, it is pretty certain that it does

belong to that clan,—that it is nearly related, at least, to the Carrot or Negro Fly.

I must in candour state that the plants I have lost came into my possession since last autumn, and I am therefore unable to describe their “environment” up to December, 1886. When I repotted them with the rest in May, nothing was observable about them except that the base of the “Carrot” was decayed, a common occurrence among Auriculas. I cut off the rotten part, dressed the wound with powdered charcoal, and re-potted in fresh compost, bought of one of the leading “horticultural requisite” merchants in London. Were I to say no more, one might hastily conclude that the eggs of the fatal fly were introduced with the fresh soil, perhaps in the loam which might have been underlying the “wild grass” on which Miss Ormerod says the insect sometimes lays in autumn. But I must mention that when I first discovered the enemy in the “carrot” of my beloved Acme, I thoroughly overhauled the two Lancashire Heroes that have since succumbed to the same pest, scrutinising them and their soil through a magnifying glass, and washing the roots well in weak soft soap suds. Nothing whatever was to be seen to account for the languid foliage and general limpness of the plants. Their soil was renewed, and they were placed carefully under a bell-glass,—yet in less than ten days their “carrots” were alive with the vile creatures of which no trace had then been found.

No manure had been used by me since these plants were mine, but there was a proportion of it in the top-dressing of the soil in which they were growing when they came. Can the autumn fly have deposited her eggs in it, and the maggots found winter quarters in the roots of the plants? For Miss Ormerod says: “Many of these crop flies are alike in the habit of going through all their changes,—egg, maggot, pupæ, and fly,—quickly in summer, so that there may be two, three, or four generations, and the pupæ of the last autumn brood often lie safely, and uninjured by common amount of moisture, during winter, so long as they are in their own natural shelters; and in the case of these insects we know where they are *all the year round*.” And again: “These autumn (Corn) flies have been found to lay their eggs on autumn-sown Corn, or on wild grass; the maggot when hatched pierces into the heart of the young plant, and there it passes the winter. When spring comes it is stated that the un-attacked parts grow as usual, but the attacked portion only produces a diseased growth of broad leaves and thickened shoot, which commonly perishes. . . . We learn from this that maggots can live as maggots within their food plants during the winter, and also that the same kind of maggots can form different kinds of diseased plant-growth, according to the season, or the condition of the plant it attacks. This is an important point to know, for there are other insect-attacks of which we only know what we may call the summer half; we need the winter history too, to be able to check attack, and this one history gives an example of a winter state not at all in accordance with the fanciful theories sometimes started, but the plain, straightforward fact that the autumn fly lays its eggs in the food-plant in its autumn state, and the maggot lives on these.”

I apologise for having occupied so much space, but I think it will be granted by my *confrères* that the subject is worthy of the attention of Auricula growers, especially of those who grow their plants in open frames. In conclusion, may I ask whether it is customary to bake all soil intended for full-grown Auriculas, as one does for tiny seedlings? And if so, does the process rob the soil in any degree of its nutritive powers? And further, has it been within the personal experience of any Auricula-grower who may read this that a Carrot (or kindred) fly has deposited its eggs within the outer rind of the Auricula’s stem, piercing the skin to do so? Everything appears to me to depend on the manner in which the mischief is done;—is it *viâ* the soil, or is it directly inflicted, like the sting of a gnat? If I suspect the present soil, must I disturb all my healthy plants to analyse it, since the same compost was used for the beloved dead that is now nourishing the living? And once more, does the Carrot-fly frequent London gardens? This last question is not irrelevant, for one wishes to leave no stone unturned under which a solution may lurk; and with the same wish to explore every corner of the situation, I may just add that the dear deceased came to me in *glazed pots*, which, by the way, your correspondent, “Amateur,” may like to note. I carefully eschew glazed pottery myself.

“Amateur’s” communication, under date July 2, was very interesting to me, as he predicted it would be.—*C. A. G.*, 11th July.

GARDENING NOTES FROM SCOTLAND.

Notes from Usan, near Montrose.—Amongst the many good plants which are splendidly grown at Usan, by Montrose, the seat of George Keith, Esq., *Clianthus Dampieri* and *Mitraria coccinea* may be especially mentioned. For some years past I have had the pleasure of seeing these two plants in great perfection at Usan, and good specimens, 3 ft. through, are now in full bloom there. I often wonder more attention is not paid to some of our good old-flowering plants. It is sadly to be regretted that we do not meet with them more often. What can be more beautiful, for instance, than a good plant of Dampier’s Glory Pea, as it is grown here by Mr. Wyness—a nice, clean, healthy plant, with three dozen magnificent clusters of its peculiar scarlet and black flowers. Mr. Wyness informed me that this same plant was raised from seed sown in February. The *Mitraria* was also beautifully flowered, the bright orange-scarlet blossoms being very showy. A house full of well-grown *Gloxinias* is also very attractive, and, although seedlings, the strain includes fine spotted varieties, and intense rich crimsons, purples, and the other shades of colour, peculiar to this grand class. There is also at Usan a choice collection of Orchids and miscellaneous stove and greenhouse plants, and in the fruit-houses may be seen magnificent crops of fruit. Gardening in every department is thoroughly well done, showing that the establishment is in able hands.—*A. O.*

Tropæolum polyphyllum at Scone Palace.—*Tropæolum polyphyllum* is a fine plant when well grown. It is well cared for at Scone Palace, where it is seen to great advantage, planted outside, and trained up the front of the vineries. It grows about 3½ ft. high, and its intense bright yellow flowers produced in great profusion, and glaucous foliage render it most attractive. I thought what a glorious effect could be produced by introducing this with the scarlet *T. speciosum*. Anyone visiting these gardens now, and who saw them in former days, would be agreeably surprised to find what great improvements have been made. New houses have been erected, which are in keeping with the character of this fine estate, such as good ranges of vineries, Peach houses, and plant houses, which contain collections of fruit and plants capable of meeting the necessary requirements of such an establishment. Mr. McKinnon does everything well, and good management is everywhere apparent. I was much pleased with the pleasure grounds, the noble specimen timber and ornamental trees, the old-fashioned ribbon border, and herbaceous borders, which are a great feature. The kitchen garden is well cropped, and produce of all kinds was looking remarkably well, considering the great drought of the past two months. Mr. McKinnon makes a speciality of the *Gloxinia*, growing some 500 plants, many of which are in 4-in. and 6-in. pots; the strain is a very fine one, varying from the purest white to the richest purple, scarlet, and spotted ones it is possible to see. The plants are magnificently grown, and very finely flowered.—*A. O.*

Seakale and Rhubarb.—What applies to Asparagus (see p. 711) being raised for early forcing is, in some respects, suitable to the preparation of Sea Kale, especially in northern climates. The roots are not easily grown in condition to be forced early—say, for use in November. Ripeness appears to be of primary importance for all vegetable products which are to be forced, and to secure this an early position, well exposed to sun and air, is of great moment. The crowns of Sea Kale and Rhubarb as well should be quite free from crowding; single ones are by far the best and most manageable. It is a mistake to allow the plants to have it all their own way till late in the season, then making an onslaught and clearing off all superfluous crowns at once. Success can only be expected from early attention to the removal of young growths. Absence of weeds is advantageous to the development of crowns and their early ripening. Rhubarb allowed to form a single row in full sun is ripened early, and breaks out into strong growth when placed in gentle heat. Prince Albert is still one of the best for early work.—*Caledonian*.

MARKET GARDENING.

COMPLAINTS are heard on all sides both from the market gardener and the consumer, but little is said of the middle man, into whose pocket is going the bulk of the profits to be made upon vegetable products. The market gardener is unable at the present time to realise sufficient for his crops to pay the labour of picking and sending to the market; whilst, on the other hand, the consumer is paying his greengrocer a high price for his goods, and if a suggestion is made to him that the goods are dear, the honest tradesman is offended, and retorts with some such remark as that it is impossible to get a living at the price he has to sell his wares, or that the particular class of goods complained of are scarce. Here is an example of the very meagre living obtained by the middle man. Only a few days since good summer Cabbages were sold in the London market at 6d. per tally (sixty), whilst a greengrocer, within a quarter of a mile of the market gardens where the Cabbages were grown, was charging his customers 2d. and 2½d. each.

This is only one instance of the profit of the middle man at the expense of both the producer and the consumer; and it is not an isolated case, for all green crops have this spring been sold at ridiculously low prices, so low, indeed, that the producer has been getting about one-tenth of the price paid by the consumer as his share of the profits, whilst the middle man is scarcely content with the other nine-tenths. Within the last few weeks some of the lowest prices realised in the London markets have been: Lettuces, 3d. per score (twenty-two); Greens, 3d. per dozen bunches; Radishes, 6d. per dozen bunches; and Spinach, one day, was actually sold as low as 1½d. per bushel, and other days the market gardener has had to take scores of bushels of Spinach home again to turn it on to the manure heap, for it would not even fetch 1½d. a bushel. A bushel of Spinach will weigh about 25 lbs., but I very much doubt if the consumer reaped the benefit of these low prices, or was able to purchase this Spinach under ¾d. to a 1d. a pound.

The prices I have quoted will seem almost incredible to those of your readers who are unacquainted with the practical part of market gardening; but I am in a position to prove the correctness of the figures. One thing is certain, that unless the middle man will be content with a fair share of the profits, and allow the producer sufficient for his goods to pay him to grow them, there will shortly be thousands of acres of land lying idle which are now cultivated by market gardeners, and, as a result, green produce will be really scarce, and the consumer, who does not get the benefit of a glut in the market, will have to pay a higher price for his vegetables than he does now.

The market gardener is an intelligent, hard-working, industrious man. It is not necessary to qualify that remark by saying that some of them are, because unless a man has all these good qualities he never becomes a market gardener. His business is not learned in a season, or even two; but it must be actually born in him—he must be brought up to his trade from infancy. Yet no man, however clever he may be, will succeed if goods do not realise sufficient to pay for labour.

The producer of green crops seldom has a speciality. Unless he possesses a lot of glass, he has to grow a mixed crop in order to work his ground to the best advantage by keeping it always occupied. In addition to the bad prices his crops have realised, the producer has this season another difficulty to contend with. The drought we have had is literally crippling the market gardener; acres of land have for weeks been lying idle; plants—such as Cauliflowers, Cabbage, Savoys, Brussels Sprouts, &c.—which should have been planted long since, are still in the seed-beds, and to improve matters, are at the present time being devoured by caterpillars; so that not only is the market gardener losing money by reason of the low price his goods are realising at the present time, but his prospects of recouping these losses from the autumn crops is very remote.

The outcome of the season's misfortunes for the producer must be that it will only fall to the lot of the men with large capitals to stand against it. The small men, who cannot put their hands upon a substantial reserve fund, must give up cultivation; but the middle men will continue to flourish, whatever the price of vegetables may be.—*Practical.*

GAILLARDIAS.

CONSIDERABLE attention has been given to this class of plants recently, and the number of varieties now obtainable is very great. This is not to be wondered at considering their noble and telling appearance, whether used for ordinary garden decoration, or as cut flowers for table work where their bold and striking colours have gained for them the approbation of not a few. They also last well in a cut state, an additional recommendation not to be overlooked amidst the numerous large gaily coloured things that are so perishable, and can only be depended on for a day or two at most. The range of colour certainly is not extensive at present, seeing that we can only boast of yellow in various shades, chestnut-brown, orange, crimson and red in varying tints. Generally there are two or more of these shades in one flower head, although we have already obtained a self-coloured yellow, and may expect, sooner or later (if improvements continue to be effected as they have been within the last few years), a race of self-coloured flowers in the various colours above mentioned. The object of this would merely be to increase the variety of select kinds, as we have in the parti-coloured flowers a race of great beauty, such as we rarely find in the great family of Composites.

Besides the single-flowered forms there are now numerous so-called doubles and semi-doubles of the



GAILLARDIA LORENZIANA.

Lorenziana type, not more attractive or handsome, it is true, than the singles, but which find their admirers. Owing to the predisposition of Gaillardias to sport from seed, it was long ago predicted that we should ultimately be able to obtain double forms. This has been accomplished in the forms coming under Lorenziana, which have their florets developed with a long tube, and a fine lobed, regular or nearly regular lamina. Curiously enough, the semi-double forms have several rows of these regular florets, forming a ray. In the single varieties the ray is flat and formed of broad wedge-shaped three-lobed florets, whose lower part is generally highly coloured, often similar to the disk, and tipped with yellow to a greater or less extent, forming a marginal band, and imparting additional effect and liveliness to the whole flower-head.

Gaillardias are sufficiently hardy to be classed as such, but they often prove somewhat short-lived. This is the less to be regretted, seeing how easily they are propagated from cuttings or seeds. The latter is the most popular method of raising them, entailing the least labour, and affording a ready means of obtaining new varieties. They also flower most profusely, and form better plants when so raised. They should be sown about August or September in pans or boxes, pricked out when sufficiently large to handle, in cold frames, and planted out in spring where they are to flower.

Several species are concerned in the production of the numerous fine flowers in cultivation; but Grandiflora and Grandiflora maxima are products of *G. aristata*.

The variety Maxima has flower-heads about 3½ ins. to 4 ins. in diameter, and is of a deep reddish crimson with a yellow margin. Boreas, Juno, and Apollo are also very distinct and handsome forms, for the illustration of which we are indebted to Messrs. Carter & Co. Apollo is a large deep maroon flower, with a golden yellow margin. Boreas is crimson, with more than half the length of the ray-florets of a golden yellow. Juno, on the other hand, has the whole of the ray of a self-coloured brilliant yellow. Other fine and distinct varieties issued by the same firm are Ceres, golden yellow with a bronze margin; Helicon, bright yellow; Minerva, golden yellow with a narrow red ring around the central disk; Olympus, crimson with the ray-florets tipped with gold; Orpheus, a crimson and golden yellow quilled form; and St. Blaise, a distinct blood-red variety, having the ray-florets tipped with yellow.

FANCY PANSIES.

A FEW days ago a box of blooms of beautiful fancy Pansies reached me from Mr. John Forbes, nurseryman, of Hawick, N.B. Mr. Forbes is not only a grower of Pansies in a large way, but he is a raiser also; and among the blooms sent me are some new ones of the last year or two, and they are so good that they seem to me to maintain the high character of the flowers the raisers in Scotland have obtained for us during the past few years. I am persuaded that the flowers raised by growers in the United Kingdom are in decided advance upon the very best that can come to us from the Continent. They are of stouter build and finer texture; the colours are well distributed, rich and bold in some, soft and delicate in others, and better suited for our English climate than those obtained from abroad. I would strongly advise anyone having a *penchant* for these beautiful fancy Pansies to obtain a select few. Grow them well, save seed, and raise seedlings from them, and by so doing they will perpetuate a strain of a high order of merit.

In sending the flowers, Mr. Forbes stated they were "not so large in size as they might be, as the weather was very hot and dry at the time they were gathered, and had been so for the space of seven weeks. The plants were suffering very much, and the flowers opening smaller every day"; yet I thought them very fine indeed, and I could only imagine what they would have been had the weather been moist and cool.

The new varieties of the present year, sent out by Mr. Forbes, were Arab, Distinction, James Thomson, Jessie Forbes, John Davidson and Robert Campbell; all these I unquestionably pronounce first-class. I have not given descriptions of these because they are fully described in Mr. Forbes' catalogue. Other new varieties of this year were David Christie, Display, John Young, Meteor and R. G. Head; these were not in good form, and probably the weather had materially affected their character. The new flowers of 1886 were Alexander McKinnon, George Innes, Joe Chamberlain, Lizzie Allardyce, Laurence McCormick, Mrs. Gordon, Mrs. Johnstone and Mrs. C. Russell, all fine and striking varieties. Of those forming the general collection the following were particularly fine:—A. McMillan, Donald Sinclair, Earl of Beaconsfield, Edward Caird, Evelyn Bruce, General Grant, James Gardiner, John Thomson, John Sutherland, a grand crimson self; May Tate, extra fine; Miss Bliss, Mrs. E. H. Wood, Mrs. Duncan, extra fine; Mrs. Sutherland, extra fine; Pilrig Perfection, Princess Beatrice and William Dean.—*R. D.*

CONCERNING RHUBARB.

EVER since my paper under the above heading was published in the GARDENING WORLD of May 28th, I have been intending to supplement it by a note or two. The hot weather and the Jubilee must be my excuse for not having done so before. I think I ought to have emphasised rather more than I did—the point of view from which the paper was written. It was written from a strictly private establishment point of view; that is to say, the needs and supply of the private establishment, by the gardeners of that establishment, was the first and last consideration I had in my mind. Commercial growers then would have read it with caution; if any did, I have no doubt that they drew their own and rightful conclusions about it. At the same time, I have thought it necessary to bring the matter up again in order to accentuate the fact that

the bearing was more on the growing of Rhubarb for the private establishment than for market.

The next point is, I think, that I ought to have given credit to whom much credit is due, as to the introduction into notice of Hawkes' Champagne Rhubarb. To Mr. Gilbert, of Burghley, is the honour due, primarily and largely, for the introduction and persistency of advocacy of this kind of Rhubarb. He has advocated its claims to the notice of all Rhubarb growers steadily and persistently for a long time. The early numbers of the *GARDENING WORLD* bear witness to that, and he wrote of it many years before it was in the hands of nurserymen to circulate. I, myself, am indebted to him for it; as I said in my paper, I was always on the look-out for better kinds of Rhubarb, so, amongst our correspondence (an honour I prize highly) having seen one of his panegyrics on Hawkes' Champagne in one of the gardening papers, I wrote, asking him to bless me, "even me," with this inestimable variety. Almost before I had time to look around and fix on a place in the garden where to put it, a hamper full of roots was in the garden from Burghley, waiting for attention as to planting. Mr. Gilbert has the gardener's generosity in him in full measure, as those can testify (they are many) who have been recipients of his bounty. So much for my point on Hawkes's Champagne, except that now more

FLOWER SHOW JUDGING.

"HEATH END" is perfectly right in demanding that judging at shows shall in all cases have a tangible basis, and not be subject to the whims and fancies of men, not all of whom, even though having great names, are the most consistent or practical. I have seen quite as many mistakes made by "big pots," as they are irreverently termed, at shows as by comparatively unknown men, and I strongly advise committees to ignore all chattering gossiping judges who think far more of their talk than of their work. But do what one may, there will ever remain grave differences of opinion between judges as to what constitutes merit in exhibits; but those differences can be endured if the judging throughout be consistent and intelligent. "Heath End's" case of Apple judging shows that the judges deliberately ignored the conditions of the schedule, unless the dead ripe fruit named were after all the best specimens of the best sorts shown. On that point no evidence is given.

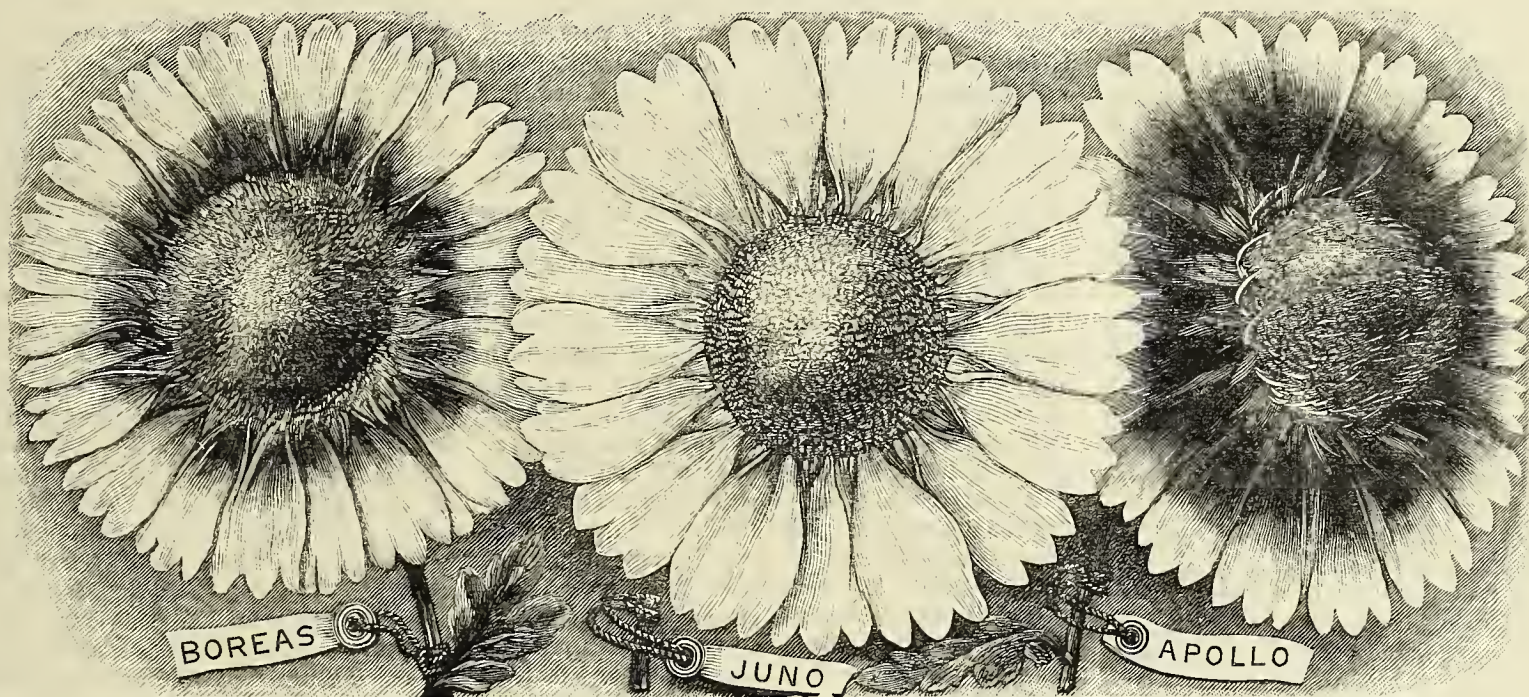
I am rather surprised that so practical a writer should suggest that judges be *compelled* to award prizes by quality and not to quantity, without indicating how the compulsion is to be applied. Possibly, if before judging commences, the judges were informed by the officials of the show that the awards were to be

mind with bias. I do not for one moment subscribe to the opinion that pinching a plant is *distorting* it. So far from that being the case, we are really helping nature to establish a good base upon which, when the pinching is over, she can erect a superstructure of substantial beauty.—A. D.

HERBACEOUS ALPINE PLANTS IN FLOWER.

LINARIA PALLIDA.—While much larger in all its parts than *L. hepaticifolia*, this species forms a beautiful and interesting rockery plant. Its creeping underground stems penetrate the soil in every direction and appropriate or monopolise all the available surface, showing, moreover, great preference for the moist surface of rocks or stones with which they come in contact. Although it may be described as perfectly hardy, the underground stems close to or in the vicinity of sunken stones retain their vitality best, and constitute the head-quarters or starting point from which it pushes again in spring. The leaves are kidney-shaped, and the comparatively large flowers are pale purple.

DOUBLE-FLOWERED SNEEZEWORD.—Few unacquainted with this form of *Achillea ptarmica* would recognise in it a native weed, common in many places, and by no means conspicuous. The double form pro-



CHOICE VARIETIES OF GAILLARDIA.

than one or two trade establishments have it in stock, therefore there can be no difficulty in getting it, and getting it true. Certainly, Mr. Gilbert's is the true variety.

My last point is a duty to Johnstone's St. Martin's Rhubarb. It possesses, for the gardener, one invaluable property, and that is the property of throwing up young sticks or stalks all through the summer. Where a gardener is situated as I am, with a daily call for Rhubarb for stewing as a sweetmeat, fresh young stalks are a necessity, and a godsend is that variety which will produce them. My favourite sort, Hawkes', will, but not to the same extent as Johnstone's; at least, that is my experience, and therefore I shall never give up the growing of this variety—indeed, a gardener who possesses Hawkes' Champagne, Johnstone's St. Martin's, and Victoria or Stott's Monarch Rhubarb, or both these Rhubarbs, has, I consider, the best and most useful varieties in cultivation.—N. H. Pownall, *Lenton Hall Gardens, Nottingham, July 11th, 1887.*

CRESTED MOSS AND WHITE MOSS ROSES.—Some sprays of these before me seem to ask the question so often suggested by fine old plants, "Why are we not more grown?" Surely, they are both beautiful enough to please everybody—the crested Moss, with its well-formed pink buds seemingly already set up in the tops of Fern-fronds, and the white ones nestling in their mossy beds. Some day a good stand of each will be exhibited, and then they will get another start, perhaps.—O. B.

based absolutely upon "quality," without reference to dimensions or quantity, of anything, something in the direction which "Heath End" looks for would follow. But we have not yet any definition as to what constitutes *quality*. I have my opinions on the matter, and "Heath End" has his; but it is obvious that no two persons may absolutely agree as to what constitutes quality in all cases—perhaps, in few. Begonias have been referred to for instance. Now, I do not think that big flowers on these plants constitute quality; I rather think them objectionable. Medium-sized well-formed flowers, very freely produced on stout erect stems, the plants being of robust but compact habit, would be, in my estimation, the perfection of quality. As to big 3-in. or 4-in. flowers, sparsely borne on lanky stems, I think them ugly.

Again, I find beautiful quality in the drooping strains of Begonias, which bloom so profusely, and seem so admirably adapted for vases, brackets or baskets. These, perhaps, would not carry weight at flower shows, but to me they are far more beautiful than are the staring big-flowered kinds. Another person, perhaps "Heath End" himself, would prefer the large-flowered sorts. So much for attempting to compel equitable judging. To some persons the glorious uncertainty of human judgments at flower shows constitutes a special attraction. No man can thus in all cases be certain as to his position, and if hard and fast or rule of thumb lines were always followed, judging would lose all its present interest. We must bear in mind the exhibitor is always the worst of judges, because regard for his own products overwhelms his

duces little globular flower-heads in great abundance, and of the purest white. As cut flowers they are pretty and extremely useful for mixing with others for certain purposes, and although they lack the size and gaudy appearance of many exotics from climes more favoured than ours, yet their purity and neatness render them very useful for decoration in various ways. The cultivation of native plants should be encouraged, keeping their improvement in view.

THE CARDINAL MONKEY FLOWER.—The flowers of *Mimulus cardinalis* must not be compared to *M. luteus* or any of its large improved garden forms in the matter of size; but so far as colour is concerned, there are none to equal it in the genus. It belongs to the erect stemmed and narrow-mouthed type, and grows generally about 18 ins. high, but under favourable conditions as to moisture and soil, it may attain a height of 3 ft. The flowers are not scarlet, as the name implies, but are rather of an intense rose-red in the finer forms, several of which occur in gardens.

DIANTHUS GRIEVEL.—Under this name a rather attractive and ornamental hybrid form is grown on the rockery at Kew. It is said to have a parentage between *D. alpinus* and *D. barbatus*. In habit it certainly resembles the latter, but is scarcely half the height, while the flowers are much larger, and apparently intermediate between the two. The colour is rather inconstant, being generally of a rosy pink, but flowers frequently occur, even in the same truss that are white, or almost so, with a distinct pink Picotee margin. In the pink colour, and deeply toothed margin to the petals, a trace of *D. alpinus* is discernible.

GARDENING MISCELLANY.

Austrian Briar.—Nothing can be prettier than a bed of the different varieties of this Rose on a lawn, or even planted singly or in clumps on the margins of the shrubbery. At Gunnersbury House, Acton, they are planted in a bed on the grass, and pegged down so as to cover the surface. Several varieties are grown, such as Harrisoni and Persian Yellow; but their flowering season has been curtailed, like that of many other Roses, by the intense heat and long-continued drought. The foliage is slender and beautiful, resembling that of the Scotch Rose, and when to this is added the distinct yellow flowers, we have, indeed, a charming combination. Harrisoni is a fine bright yellow semi-double, while the Persian Yellow is double. The Copper Austrian is another form well worth cultivation, with single coppery yellow flowers.

The Tulip Tree.—The leaves of this tree in themselves are invested with an unusual amount of interest from their remarkable shape, being often compared to a saddle, and the tree itself is called the Saddle Tree. No other form of vegetation has this remarkable shape, peculiar to the leaves of the Tulip Tree, so named from the shape and appearance of the flowers, which, at a distance, are not particularly conspicuous by reason of their most prominent colour being greenish yellow. Close at hand, however, they are seen to be most exquisitely marked with orange and yellow. Their fragrance is delicious, and flowers for decorative purposes would be in great request, provided they were more accessible, and within reach of the flower collector as he goes round with his knife and basket. At Gunnersbury House, Acton, there is a large tree covered with a mass of bloom that would simply be magnificent if more under the eye; but the effect is to a great extent lost owing to the height of the tree.

Antirrhinum, White Swan.—Mr. J. T. Poë, Riverston, Neuagh, Ireland, sends us a beautiful pure alabaster-white variety of this popular old-fashioned garden flower under the above name. It is dwarf and attractive, and like all other varieties of *A. majus* so long cultivated in British gardens, must be propagated by cuttings. A pinch of seed from a well-selected strain gives us such an amount of different colours that few resort to the trouble of propagation by cuttings; but they strike so readily, and require so little attention in the matter of housing, that good varieties well repay it. Several distinctive features, especially with regard to the colour, the form of the stripes, and markings, are not infrequent on the same plant; but notwithstanding all their beauty, their cultivation is frequently neglected when the remnant take to the tops of garden walls and similar places, till their attractiveness is again recognised and taken under the protective care of man and improved. Mr. Poë grows the above variety in beds associated with a dwarf, double, crimson Sweet William, which is generally cultivated in England under the name of *Dianthus barbatus magnificus*. This also must be a very old garden form, seeing that it is so widely distributed. Both the above are fine, but the *Antirrhinum* is specially valuable.

A Prolific Allamanda.—In a low span-roofed stove at Gunnersbury Park, Acton, is a vigorous specimen of *A. Schottii*, generally known as *A. Hendersoni*. It covers the roof at one end of the house; but this area is comparatively limited, owing to the lowness of the structure. The flowers are produced in cymes from the axils of the leaves, attaining a diameter of 6 ins. to 7 ins. across the lamina, and are, as is well known, of a bright yellow streaked with brown in the throat. From this plant fifteen to eighteen dozen blooms are cut weekly; and during the course of the season 150 to 200 blooms are expected, judging from past experience and the present floriferous condition of the plant. No other stove-flowering subject probably furnishes such a quantity of yellow bloom for the trouble incurred in its cultivation, and those who have to supply flowers for table and other decoration would find it exceedingly useful.

A New Apple Pest.—As long ago as 1872 I found the larva of a little flea-beetle known as *Haltica punctipennis* in Missouri, feeding upon Hawthorn. In 1877 I found it again in Colorado, but the species has never been considered injurious until the present year.

This spring, however, it has appeared in great numbers in the vicinity of Dallas, Tex., and of Gainesville, Tex. Mr. J. R. Johnson, of Dallas, writes that they appeared in great numbers about the first week in May, and that within two or three days thereafter they had destroyed his entire lot of Apple and Pear grafts. They then removed to his one and two year old Apple trees. Mr. Johnson had never been troubled with them before, although he remembers to have seen them in limited numbers in 1883 upon his young Apples. The habits and general appearance of this new Apple pest are quite similar to those of the Grape Vine flea-beetle, *H. chalybea*. The larva is rather slender, dark yellow-brown in colour, with darker head and prothoracic shield, and each segment bears four transverse dorsal warts. The legs are black, and project out at the sides of the thorax. The adult beetle is shining green rather than steel blue, and is distinguished from the Grape vine flea-beetle by its smaller size, and the numerous impressed dots on the thorax and wing covers. This insect, although exciting considerable alarm, will easily be subdued by arsenical poisons, the use of which is well understood in Texas.—*Prof. C. V. Riley, in the American Gardeners' Monthly.*

Carnation, Souvenir de la Malmaison.—This beautiful Carnation is now in bloom, and a houseful of plants in their full beauty is one of the loveliest sights in the floral world. As cut flowers they are invaluable, the perfume being so very agreeable and sweet. It is the exception rather than the rule to see them grown to perfection, either because their culture is insufficiently understood, or through want of convenience for their proper treatment. The chief points to be noted can be briefly described thus:—*Modes of Propagation*: By cuttings or by the process of layering; the latter mode is far preferable to the former, being safer and more effectual. A good time for layering is the beginning of August, or thereabouts. These should be ready for potting off into 60's or 48's, according to the size of the plant, about the middle of October. Through the winter a cold frame is suitable for them, the exclusion of frost being all that is required. A sharp watch for slugs should also be kept, as they are so destructive to the plants. In February another shift into 32's should be accorded them, arranging them in the greenhouse in a light and airy position. The final potting should take place in August or the latter end of July into 8-in. or 10-in. pots, at which time the shoots will need staking, to prevent them breaking from the stem. *Soil*: They succeed well in good loam, with a proportion of rotten manure or contents of an old Mushroom-bed, which must be made firm when potting. *Watering*: This is important, and must be carefully done. It is well to keep on the dry side till the plants are fully established in their pots, otherwise they are liable to rot, and, consequently, to wither away. Stimulants can be safely given in the shape of liquid manure, guano, or soot-water, the latter helping to ward off the attacks of green-fly, and giving the foliage a dark green and healthy appearance.—*F. R. S.*

Spiræa Aruncus at Buckminster Park.—This lovely border perennial is doing remarkably well on the lawns near the kitchen garden at Buckminster Park, the seat of Earl Dysart, near Grantham. With the grass growing right up to the crowns of the plants, it does not seem to feel the drought this scorching weather. Mr. Sage told me the specimens had only been planted a few years, and when I called on the 6th inst., I counted several plants which measure about 10 ft. through, with from 80 to 100 flower spikes producing long white feathery plumes—most graceful specimens for a lawn or border. Considering that the plant is so cheap, it is strange that this lovely *Spiræa* is not more often seen.—*J. D.*

Dwarf Foxgloves.—Mr. Lockwood is not correct in assuming that the dwarf Foxgloves to which I referred are so caused by drought. When some plants now are only 30 ins. in height, and have done blooming, whilst others have reached a height of 5 ft. close by, it is evident that the dwarfness is constitutional, and not due to other causes. A dwarf habit in the Foxglove may be desirable; but many like to have them amongst shrubs, and for that purpose prefer the taller growers. Still, all are beautiful.—*A. D.*

The Mikado Flower Holders.—A very simple and artistic ornament for holding cut flowers in water has been made from the stems of a Japanese Bamboo by Mr. W. L. Hodgson, 9, St. James's Square,

Notting Hill, London, W. One or more joints of the wood may be used, and the transverse partitions at the joints, with the preparations they undergo, retain water without being specially lined. The flowers may be inserted at the apex or cut end, and also at the side in specially prepared notches or holes cut horizontally in the lower part, and slanting upwards and outwards. These pieces of Bamboo are made so that they can be hung up on a nail or suspended from any other ornament or piece of furniture at will. Variety may also be secured by getting pieces consisting of several joints, each acting as a separate water holder, and having its own lateral opening for the insertion of the flowers. The holders are prepared and supplied in different lengths by the maker, and are either simply stained and varnished, or they are ornamented with paintings of flowers or butterflies. They are furthermore used in the same way as clear or coloured glass tubes for table decoration, and in the decoration of the fireplace in summer.

Herbaceous Pæonies.—When looking over a collection of these a short time ago, I made a note of the following as being well worthy a place in the herbaceous border. There is now a very large number of varieties, and I endeavoured to select those that were quite distinct, and at the same time produced handsome full flowers. My selection is as follows:—*Gloire de Douai*, rosy purple, very fine; *L'Esperance*, bright rose; *Lemoinei*, pure white; *Noemi*, delicate blush; *Prince Imperial*, rich glossy rosy purple; *Festiva Maxima*, white; *Amathée*, pale blush-rose; *Glory of Somerset*, delicate blush-pink, very fine; *Fabia*, pale fleshy pink; *Empress Queen*, white; *Cyclops*, bright purple; and *Cabrero*, deep rosy purple. As to the cultivation of Pæonies it is not necessary to say much. They do well in a good deep rich loam, and once established they grow to a great size if well looked after. The best time to get plants from a nursery is in early autumn, when the plants have been divided, and the sooner they can be planted where they are to flower, the sooner will they establish themselves in the soil before winter comes on. What can be more striking in the open border than Pæonies?—*R. D.*

Double White Dianthus.—For the first time last year I grew a few plants (seedlings very scarce) of a novelty in the shape of a pure white double *Dianthus* of the *Heddewigi* type. The strain needed some ranging, but the true type gave flowers very double and pure white. A large piece of several hundred plants this year has given the strain wonderfully true, not two per cent. being coloured. This is the more remarkable that within a few yards was growing a large breadth of the beautiful single crimson kind *Brilliant*, thus showing that cross-fertilisation with these flowers is not the rule. One coloured double, and the only one out of the entire batch, is a beautiful magenta hue. These self-coloured forms are far more pleasing than are the variegated hues found in the ordinary doubles.—*A. D.*

New Patent Glazing.—A sample of this was exhibited by Messrs. E. & F. Newton, Hitchin, Herts, on Tuesday last, at South Kensington. Simplicity, durability, and efficiency were claimed by the exhibitors. The framework of the structure, whether house or sash, consists of galvanised iron or zinc, which accordingly, from the small area it occupies, can offer but little obstruction to light. A ledge alongside the supporting-beam holds the glass, and as the sheets are laid on they are held in position by a brass spring running through the beam. The spring itself is held in position by an iron wedge or key that fits into a hole beneath it; and the squares of glass are, at the same time, effectually prevented from slipping downwards by this iron key. They are therefore held in position by an iron wedge at their lower ends, and by the pressure of the brass spring above them. The object of the brass spring is to allow of expansion by heat, while immunity from breakage is secured for the glass. The whole is of simple construction, and no putty is required.

A Dimorphic Tree.—A singular feature is noticeable in a Horse Chestnut tree at Gunnersbury Park, Acton, bearing two kinds of leaves. The difference was readily discernible as soon as the leaves were fully expanded, and even now the most casual observer could not fail to be impressed with the difference in size of the leaves on some branches. There did not appear to be anything striking or unusual in the flowers, which were of the ordinary colour. All the

leaves, however, have a soft, leathery texture, and are downy underneath; whereas those on the ordinary form are membranous and almost smooth. The former have also a somewhat hoary appearance; but their most striking characteristic is that all the leaves on certain branches are only half the size of the others, although both kinds are borne on boughs common to both. Flowers were produced freely in both cases, but only those on branches bearing large leaves have set any fruit. This dimorphism does not seem to arise from want of vigour, and it would be interesting to note whether the peculiarity is repeated next year.

Holmskioldia sanguinea.—Such is the name of an Indian plant introduced as early as 1796, yet does not receive the attention its near ally, *Clerodendron Thomsonæ*, enjoys in almost every British garden of any note. It is synonymous with *Hastingia augusta*; but neither of them are very familiar names to the English-speaking populace, especially the accepted one. Three species only are known to science, *H. sanguinea* being the best, hailing from the interior of Bengal, the Himalayas, and, probably, other parts of India. The broad, shallow, bell-shaped calyx is of a deep red or crimson colour, and would thus form a fine contrast to the *Clerodendron* already mentioned. The elongated tubular corolla is crimson, and, of course, similar to that of the *Clerodendron* named. In our northern climate it, of course, requires the protection of a stove; but in the New World it finds a temperature to its liking, and also flourishes in South America, from whence Mr. R. Ward, Botanic Gardens, Demerara, sends us dried specimens furnished with an abundance of flowers in axillary cymes. The calyx is particularly conspicuous, and very striking from its peculiar shape—at least, in a dried state.

Ataccia cristata.—The old name is still retained by the gardening community who are very conservative with regard to nomenclature, and strictly adhere to that by which they first knew the plant. Botanically, *Tacca cristata* is the accepted name; but whatever it is known by, it remains a most curious, interesting and even ornamental plant for the stove. The leaves somewhat resemble a huge Plantain, from amongst which the flower-scapes arise to the height of 18 ins. to 24 ins., bearing a lateral or one-sided drooping umbel of purplish brown flowers. It derives its specific name from the upper two large, erect, purple, involucre bracts, reminding one of a crest, like the feathers of a Red Indian. Numerous long slender bracts also depend from the inflorescence, giving the whole a curious tassel-like appearance. It flowered grandly a short time ago in the nurseries of Messrs. J. Veitch & Sons, Chelsea.

Gloxinia, Comet.—The somewhat older variety known as *Flambeau* is a fine thing, and has found its way into several gardens; but that under notice, a selected seedling from it, far surpasses it in merit and general excellence. The flower is nearly regular, and stands erect, showing off its white or pinkish tube in conspicuous contrast to the rich scarlet lamina. Towards the throat this scarlet passes into a rich crimson. In these days, when an immense variety of flowers can be got by sowing a pinch of seed, few trouble about preserving and propagating old plants; but exceptionally fine varieties like the present are certainly worth the trouble. It is one of Messrs. J. Veitch & Sons' raising at Chelsea, and may be seen there.

Antirrhinums, Marigolds.—It is gratifying to know that these old-fashioned flowers, especially the former, still receive a fair share of attention by some cultivators. A boxful of cut spikes just to hand from Mr. John Jardine, Portland Gardens, Kilmarnock, N.B., shows some fine stripes in both of the above classes of plants. The ground colour in the *Antirrhinums* varies through shades of white, yellow, and orange, variously marked, mottled, or sometimes heavily striped with rose or purple. The upper part of the flower, and especially the palate, varies with shades of a much darker tint, determining the value of these striped forms. A pinch of seed of a good strain gives endless variation, but first-class selected varieties are best preserved by propagating from cuttings. The blooms sent are of great size, and were taken from plants so propagated and preserved. The sender has taken over 100 first prizes for them during the last three years. The strain of *Marigolds*, judging from

the flowers sent, is excellent, the flower heads being very double, golden yellow, with distinct and well-marked velvety crimson margins, and, of course, belong to the *Tagetes erecta*, or French type.

Annual Chrysanthemums.—We have grown rather largely most of the different varieties of *Chrysanthemum carinatum* (or tricolor), and notwithstanding the dry season when they have been kept well watered, they have done well. We find them invaluable for cut flower work, as they present such a diversity of colour in themselves alone; a vase of the different varieties, well arranged, produces a pretty effect. They are also remarkably showy in beds or borders, and they delight in a cool moist half-shady situation with a light rich soil, and under such circumstances some of the varieties (*Burridgeanum* for instance) will produce flowers between 2 ins. and 3 ins. in diameter, lasting a long time in flower.—*Alfred Gaut, The Gardens, Copped Hall, Totteridge.*

WORMS AND THEIR WORK.—III.

Food.—Worms are not very dainty in the selection of food, but swallow almost anything. They devour decaying leaves of almost any kind, except those that are too tough for their toothless mouths, or are unpalatable for their taste. Leaf-stalks, flower-stalks, and decaying flowers themselves are relished, as well as sugar, starch, raw and wasted meat, and raw fat. The latter is easily devoured in large quantities, and fresh is preferred to putrid meat. They are cannibals, and will devour dead animals of their own kind—a new species of worm recently discovered at Kew, namely, *Bipalium Kewense*, has no objection to living specimens of his congener, the common earth-worm, so that the latter has, at least, subterranean enemies to fear, including the larva already mentioned, and the mole. Spores, ova, larvæ, small animals and small seeds must also be swallowed in large quantities under certain conditions; as when the worms swallow decaying leaves and mould containing such. Immense quantities of earth are swallowed under certain conditions or at certain seasons, as is evidenced by the numerous castings thrown up by worms. When leaves are dragged in great numbers into their burrows, they subsist on these, and few castings are thrown up; while, on the other hand, when no leaves are to be had, they subsist on the black surface-soil, consisting of vegetable humus. When the land is poor, castings are thrown up in much greater quantity, and there is every reason to believe that, in order to get a sufficient amount of nourishment for subsistence, worms are obliged to swallow a much greater amount of soil from which to derive such sustenance.

Doubtless many have observed, especially in moist autumn weather, numerous tufts of leaves stuck in the ground, as if some one had been amusing himself planting dead leaves, petioles and similar things. These have been collected by the worms themselves, and drawn into their burrows to stop them up, or serve more often as food when they become partly decayed. The manner in which the leaves have been collected, folded and drawn in worm burrows, shows a considerable amount of that intelligence to which we have previously alluded, and which has furnished Darwin with a considerable amount of study and experiment. From the fact of the leaves being drawn in, generally in the most advantageous manner, we cannot consider the doing of it mere chance work, but must attribute to worms their due share of animal intelligence.

EXCAVATING THEIR BURROWS.

Burrows serve worms as a means of protection from extremes of heat and cold, drought, and above all as a stronghold of safety to which they may retreat and live secure from the numerous enemies that prey upon them in vast numbers. They possess two methods of excavating them—namely, by inserting the thin anterior end of their body between the interstices of loose soil, and pushing the latter on each side; or, secondly, by swallowing the soil bodily and ejecting it behind them on the surface. We have already observed that worms swallow soil in order to extract organic matter from it. Some doubts have been expressed whether worms ever swallow soil for the mere purpose of excavating their burrows; but Darwin has furnished conclusive proof of it in the case of a body of barren sand, 23 ins. deep, that had been pierced by worms

and appeared in their castings; secondly, in the case of castings consisting almost of pure chalk; and, thirdly, in a layer of decayed concrete and mortar that had been penetrated by worms.

From the fact of its being rich in humus, the upper layer of soil is that most frequented by worms; but we read of cases where they occasionally penetrate to the depth of from 3 ft. to 8 ft. The dark tint of the surface-layer of soil is due to the presence of decaying vegetable matter or humus, and this is constantly being augmented by worms. The superficial layer of mould is calculated to pass bodily through the intestines of worms every few years. As the soil becomes riddled with their burrows, it gradually collapses, and so may be considered as in a continual state of turmoil, passing through the grinding apparatus of worms, being cast on the surface, and again buried under fresh material.

Worm-castings collected on a square yard during 367 days, by a lady who assisted Darwin in this work, were calculated to weigh, when dry, 16.1 tons per acre; while that collected by Darwin in a field overlying chalk was calculated at 18.12 tons per acre. Other cases showed a much smaller amount, according to the kind of soil and the number of worms living in it, so that it will be a fair average to calculate that over 10 tons of earth annually pass through the bodies of worms on an acre of land in Britain. There are, at least, 32,000,000 acres of land capable of supporting worms in Britain, and this multiplied by 10 gives 320,000,000 tons of earth annually passed through the bodies of worms and deposited on the surface. In 1,000,000 years this weight would amount to 320,000,000,000,000 tons!

WORMS IN THE GARDEN.

We have already said that worms are generally looked upon with a kind of loathing or disgust, and their presence in the garden is generally regarded as detrimental rather than beneficial to horticulture and its interests. The presence of worms is an indication of a rich soil, and the richer it is the greater the number of worms that can subsist there. By counting their number within a given area in a garden, Hensen has calculated that 53,767 exist in an acre of land. They, however, vary in number to an extraordinary extent in different soils, and half the above may be taken as a fair average on land under tillage by farm machinery. It is a frequent remark, especially in the case of Potato culture, that nothing will grow on account of the enormous number of worms in the soil. Land of this nature may, and does, produce an exuberance of haulm without a proportionate number of tubers; but that is merely the result of too much decaying organic matter in the soil, and worms, instead of being harmful, are really of the greatest service in reducing this organic matter to a condition fit for the support and production of fresh vegetable life. The number or quantity of castings in this particular case would be no measure or guide to the number of worms, because, as we have already seen, the greatest quantity of soil is swallowed and ejected by them in that of a poor nature; but if we compute that even in this case ten tons of earth per acre annually pass through their bodies, we have the land ameliorated and enriched with that amount of earth rendered more soluble and suitable for the support of plant life. The whole is subjected to a crushing, rubbing, or grinding process in the gizzard of the worm, and then to the digestive influence of the intestinal secretions. The mere grinding of the food has the effect of bringing a greater amount of surface in contact with the pancreatic juices, and also with air, rain, and frost after being deposited on the surface. The small stones are triturated and rounded at each successive swallowing by the worm, so that they gradually become reduced to a condition of solubility fit for the support of plant life. No matter how much plant food may exist in a soil, it is useless unless in a readily soluble state. Soil that has passed through the gizzards of worms contains three times as much soluble and useable nitrogen as it did previously. This is a matter of no small importance, as nitrogen in this condition is one of the most useful fertilisers in either agricultural or horticultural economy. They also ameliorate sandy and other soil injurious to vegetation from the amount of oxide of iron with which the particles are coated. Acetic, hydrochloric, nitric, and sulphuric acids have less effect in dissolving oxide of iron adhering to grains of sand than the humus acids generated in the intestines of worms.—*J. F.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.—Ventilation in Hot Weather.—I find in some collections that much mischief is caused to the plants by opening the ventilators top and bottom too wide, and thus causing excessive aëration, and a too frequent alternation between a moist and a dry state of the atmosphere in the houses, caused by the rapid evaporation of the moisture frequently distributed on the floors and stages in the attempt to keep down the temperature. A moment's thought will soon convince one that at times when the air outside the houses is hot and dry, and especially during the periods when there are light breezes, the temperature of the houses, and the necessary moist state of the atmosphere in them, is better arranged when the ventilators top and bottom are only opened sufficiently to allow the air in the houses being renewed without a current being set up. For this purpose, in hot weather, it is best to evenly balance top and bottom ventilation by opening each ventilator 1½ in. or 2 ins. only at the same time, carefully shading and damping down the houses; and if the shading can be arranged so that it runs on supports, which keep it off the glass, a further benefit will be experienced. Carefully managed, our Orchid houses should feel in summer much cooler and more comfortable than it is outside, and those who arrange their houses so that this is attained fail not to get good results.—*James O'Brien.*

Orchids from Southampton.—A box of Orchids from H. J. Buchan, Esq., Southampton, both from their size, richness of colour, and general excellence, bespeak a high state of cultivation on the one hand and careful selection on the other. These are no botanical curiosities; but all are popular garden species or varieties, and with one exception they are *Odontoglossums*. *Oncidium macranthum* is a grand plant, and the blooms sent measured over 3 ins. across the petals, while individually they were more than 1 in. across, and of a fine yellow colour. The labellum, not only in this species but in all the others belonging to the section *Microchila*, is the least conspicuous, although very curious organ of the flower. The forms of *Odontoglossum crispum* exhibited great substance of petal, even after being cut for several days, and were notable both for their size and the fineness of their blotches, characterising them as of superior merit for general decorative purposes, and creditable to the grower. The same might be said of the numerous excellent forms of *O. luteo-purpureum*, forms that circulate in gardens under the names of *O. radiatum*, *O. hystrix*, and others. Their size and the depth of their markings deserve all praise. The charming *O. tripudians* is comparable to the latter, but is smaller and furnished with a large violet blotch on the lip. There is no denying the beauty of *O. hastilabium*, but we can scarcely be reconciled to the peculiar odour emitted by it at certain stages of its flowering. The blooms of *O. cordatum*, but more especially those of *O. Uro-Skinneri* are noticeable for their size and the depth of their spotting, and a third might be added, namely, *O. cirrosum*, making a trio of charming flowers, whose beauty and usefulness cannot be overlooked.

***Oncidium macranthum*.**—What a grand old thing is this! At present a great number of plants in flower may be seen in Mr. William Bull's Orchid show-house at Chelsea. Notwithstanding the heat and the drought, the Orchids in general have lasted in excellent condition, but none of them better than that under notice. The massive flowers, which are of a wax-like consistency, look as if they would endure for weeks to come. The petals are golden yellow, heavily suffused with purplish brown, and the sepals, which are of a clear golden yellow, with a few spots at the base, contrast finely with the former. The hastate fleshy lip has rich purple lateral lobes, and the upper part yellow or suffused with brown. Good pseudo-bulbs flower grandly every year.

***Epidendrum macrochilum roseum*.**—This is to be seen in fine form in Mr. William Bull's show-house at Chelsea. The large, obovate, wedge-shaped lip is wholly of a deep rose colour, whereas in the ordinary form there is only a blotch of the same colour on the lip. There is also a handsome white-lipped form. The sepals and petals are deep rich purple, incurved at the tips, and of great firmness of texture. The flowers are borne on arching stems arising from

plump egg-shaped pseudo-bulbs, and at certain stages are deliciously scented. The species is generally grown on a block, with a little sphagnum moss at the roots, and is so treated at Chelsea. It is also known as *E. atropurpureum roseum*.

***Cypripedium Pearcei*.**—Under this name is grown in gardens an elegant and graceful little species, more correctly and botanically named *Selenipedium caricinum* from the sedge-like appearance of its narrow, arching, deep green leaves. It is one of the parents of *C. Dominionum*, and there is considerable resemblance between the flowers of the two, but they differ in size. The sepals and petals are pale green, with a conspicuous white margin, and the latter are very slender and much twisted. The pale yellow labellum is pouch-shaped, lined with green veins, and furnished with two lines of brown spots on the claw-like base. The flower-scape stands erect, bearing four to seven flowers, which thus hang clear above the grassy foliage. It has been flowering for some time at Gunnersbury Park, Acton.

***Odontoglossum Harryanum*.**—We understand that Messrs. F. Sander & Co. have this fine new *Odontoglossum* in flower at the present time in their nursery at St. Albans. It is described as having a large and very conspicuous blue and white labellum; while the sepals and petals are brown, blue and yellow, very prettily blended.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CYCLAMENS.—It is now time to look over the last season's stock of *Cyclamen*, as they should now be making signs of new growth; if this is so, let them be at once re-potted or they will be seriously injured, in fact, they scarcely ever recover if neglected early in the season. Carefully shake all the old soil from the roots, and, before re-potting, dip the roots into a can or bucket of clean soft water; this dipping will greatly assist in the roots re-starting. All old half-decayed roots must, of course, be removed; much depends on the condition of the roots as to the size of pot required, but, generally speaking, a 6-in. is large enough for any of the bulbs. Over-potting of these plants is at all times to be deprecated; in the case of old tubers, too, they should, like *Gloxinias*, never be subject to a shift, but should at once be placed in their blooming pots, and if well filled with healthy roots they can be fed with liquid manure. The seedlings now require potting on; they will be given, according to their root condition, small and full-sized 48's. In this size pot we find them succeed best for the first season, and they are extremely useful for the facing up of staging and also for room decoration, for which they are admirably adapted.

BEGONIAS.—We have given a shift to the small plants of Laing's *Begonias*. The early lot are now flowering, and amongst them are some really good things worth propagating. They will, for the greater part, be kept growing on in the intermediate house, but some few of them will be spared to decorate the greenhouse, as preparation must now be made for a general exodus from "town." *Celosias* we have placed in a single line along the back of a heated pit in which Cucumbers are growing, so that they may be kept turned round and fully develop. As the plumes come up they will be much benefited by a dose of liquid cow-manure; when once the plumes are full they must not be syringed, as damp causes them to discolour.

BALSAMS, too, will be found most useful for staging purposes; as required, they may be allowed to flower, reserving some as succession, but at all stages treat liberally. If at all subject to neglect, they become quickly infested with red-spider, and in such a season as the present it is difficult enough to keep clear of this pest; in fact, the rule generally applicable just now will be ventilate freely, shade judiciously, and water, syringe, and damp down abundantly.

CHRYSANTHEMUMS.—Be careful that the *Chrysanthemums* are subject to a damping overhead both morning and evening, as there is such an absence of dew; and with the fierce heat prevailing, they suffer very much, and are apt to lose much of their foliage, which greatly disfigures them. The summer-flowering varieties we have removed to the stage in the greenhouse; the flowers are not at all satisfactory if left to open out of doors. Keep *Fuchsias* neatly staked and looped, so as to form perfect specimens.

THE FRUIT HOUSES.

THE SUCCESSION PEACH-HOUSES in which the fruit is swelling off need constant attention in the way of keeping all lateral growths closely stopped, and tying the foliage back to thoroughly expose the fruit, so that the deepest colouring may be attained. The borders must, if properly drained, be well supplied with water, and manure of some kind given at each watering. As the fruit approaches ripeness, manure must not be given; in fact, to ensure good flavoured fruit, a much cooler atmosphere must be given, the house very freely ventilated, and the syringing of the trees discontinued, particularly in the case of *Nectarines*, which are liable to crack. Through the late cold spring our house is nearly a fortnight behind, and to hasten on the fruit we have started the fire, so as to give extra warmth to the house at closing time, and also the first thing in the morning. About 9 p.m. air is put on, and allowed to remain all night.

FIGS.—Where the second crop of *Figs* is swelling the border must receive copious supplies of liquid manure. The syringe should also be freely employed, lest red-spider establish itself, and the house be now closed early in the afternoon, while the temperature may be allowed to run as high as 95° with sun-heat alone. Let the Strawberry layers be well attended to with regard to watering. The earliest ones should now be ready to sever; in which case let them be removed to the cold pit, kept close for a day or two, and frequently sprinkled overhead, so that they may not receive any check, which it is at all times desirable to avoid.

THE KITCHEN GARDEN.

WATERING.—It is difficult indeed to determine what is to be done in this department. One thing is absolutely necessary: the continuing the watering of all crops, taking care to give a thorough soaking. We have waited in vain for rain to put in another sowing of French Beans, so have drawn the drills, giving a good soaking of water before sowing, and covering the seed with waste soil from the potting bench. Our late sowing of Peas we treated in the same manner. Wherever crops are watered it is better to scuffle the ground next day to prevent the surface baking.

LETTUCE AND ENDIVE.—We have pricked out a good bed of Lettuce, afterwards thickly shading with Laurel boughs. At the same time frequent waterings must be given, or they will bolt; good salading will indeed be difficult to obtain unless the weather changes. The principal sowing of Endive should now be made; the kinds we find the most serviceable are Improved Batavian and Picpus. We shall also make another sowing of Lettuce, using for one kind the Brown Cos, which is invaluable in the autumn.

THE PLANTING OF GREEN CROPS must not be longer delayed, so follow the directions lately given. Now will be found a good time to make a sowing of Spinach for winter and early spring pickings, but another sowing must be made later on, as if the weather be very severe, in all probability this early sowing will be killed, as it is too sappy to stand any great amount of frost.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*July 12th.*—The meeting on this occasion presented a gay appearance from the several exhibits of hardy plants, chiefly herbaceous, and from a magnificent collection of tuberous-rooted *Begonias* from Forest Hill. Mr. T. S. Ware, Messrs. Carter & Co., and Messrs. J. Veitch & Sons were the principal exhibitors of hardy plants. Fruits and vegetables also contributed to the interest of the meeting, especially as far as the exhibits of Peas, Strawberries, and Melons are concerned. Special prizes for the Peas were offered by Messrs. Carter & Co., Messrs. Sutton & Sons, and Messrs. Webb & Sons.

Messrs. J. Laing & Co., Forest Hill, were awarded a Silver Gilt Banksian Medal for a large and handsome collection of tuberous-rooted *Begonias*, mostly new varieties. The greater proportion of them were double, and a considerable number received First Class Certificates, and are described in another column. Of previously certificated single varieties Duke of Edinburgh, deep velvety maroon, and Princess of Wales, deep rosy pink, were very conspicuous. Charmer, deep rose with white centre, and Guardsman,

lively scarlet, were striking single-flowered forms; while the Czar, a full double scarlet; Ball of Fire, a brilliant free-flowering scarlet; and Flore pleno erecta, a double white, were all extremely desirable varieties. The latter was only 8 ins. in height, free-flowering, and bore its blooms erect, a habit which it is desirable to infuse into doubles generally, except in very special cases. An unnamed seedling of small size bore an immense double flower of a pink colour. Other meritorious seedlings named or unnamed are too numerous to mention here. A Silver Gilt Banksian Medal was also awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a large collection of hardy flowers, comprising many Liliiums, such as *L. testaceum*, *L. lucidum*, *L. philadelphicum*, *L. elegans alutaceum*, *L. pulchellum*, and *L. pardalinum*. The collection also contained Gaillardias, Tritelias, Delphiniums, and others. *D. excelsior* was a fine new double with blue sepals and purple petals. A special vote of thanks was given for each of the following, namely, *Spiraea japonica variegata*, *Gaillardia splendens*, and *Helianthus japonicus*. A Bronze Banksian Medal was given for a fine collection of annuals and other things exhibited by Messrs. James Carter & Co., Forest Hill. Amongst annuals, *Eucharidium concinnum*, *Phlox Drummondii* in variety, *Viscaria*, *Calliopsis coronata*, *Nycteria selaginoides*, *Godetias* and Stocks were noticeable. Fine grasses were *Agrostis pulchella*, *Lagurus ovatus*, and *Fiorinia pulchella*. Petunias were also in strong form. They were also accorded a vote of thanks for a fine collection of summer-flowering Gladioli, including *Delicatissima* and *Blushing Bride*, pale forms with three fine white blotches, edged with rose; *Fire King*, fiery scarlet with rose blotches; *Prince Albert*, rosy scarlet, with large white blotches; Brilliant, brilliant scarlet with white blotches and *Colvillei albus*.

Besides the plants certificated, Messrs. Veitch & Sons exhibited a collection of numerous varieties of Iris Kämpferi in many colours. They also showed *Clematis coccinea*, *Escallonia philippiana* (a Hawthorn-scented species), *Andromeda speciosa cassinaefolia*, *Adiantum Capillus Veneris* (Japanese form), *Anthurium Rothschildianum*, *Nothospartum Carmichaeliae*, and *Nephrolepis rufescens tripinnatifida*. The latter Fern had tripinnatifid, beautifully overlapping pinnæ, and is a very ornamental plant. *Miconia Hookeriana*, a Melastomad, with green, white-veined, elliptic leaves, would be a useful ornamental-foliaged stove plant. Of the numerous varieties of Iris Kämpferi exhibited by Mr. William Gordon, Twickenham, none were larger than the white-flowered *Beatrice*, whose blooms measured 8 ins. in diameter, but lacked substance. Several were certificated. He also exhibited *Lilium Kramerii* and *L. auratum* in very fine form.

A Cultural Commendation was awarded to Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley, for several well-flowered sprays of *Lagerstrœmia indica*, whose rosy pink, crumpled long-clawed petals are very conspicuous and attractive. F. G. Tautz, Esq., Studley House, Hammersmith (Mr. Cowley, gardener), staged two new forms of *Cypripedium*, namely *C. selligerum rubrum*, a distinct dark variety and *C. Curtisii*. *Epidendrum atro-purpureum Randii* is a pretty variety with olive green sepals and petals, with a large rose blotch on the white lip. A vote of thanks was accorded for this exhibit as well as for that sent by Mr. Evans, The Gardens, Lythe Hill, Haslemere, consisting of *Odontoglossum crispum*, which produced some three dozen flowers on a branched stalk, and of a form named *O. Alexandræ*, heavily spotted with brown. A beautiful variety of *Croton* named *Etna*, exhibited by Mr. H. B. May, Dyson's Lane, Upper Edmonton, had obovate, oblong leaves, heavily reticulated with yellow, but which becomes heavily suffused with brilliant crimson ultimately. Mr. Eckford, gardener to Dr. Sankey, Borreaton Park, Shrewsbury, forwarded a handsome collection of Sweet Peas in very distinct named varieties; some of them were certificated, and most were very distinct, and testified by their size to superior cultivation. Messrs. Collins Bros. and Gabriel showed a tall plant of an Ox-eye Daisy, named *Chrysanthemum leucanthemum imperiale*.

At the meeting of the Fruit Committee, a superb collection of fourteen varieties of Strawberries, exhibited by Mr. Allan, The Gardens, Gunton Park, Norwich, was awarded a Bronze Banksian Medal: The Countess, Mr. Radcliffe, Amateur, British Queen, and Crimson were grandly represented. Messrs. J. Veitch

& Sons exhibited four dishes of a large, handsome, intensely dark—almost black—sweet, but not highly flavoured variety of Strawberry, named Waterloo. Stewart Hodgson, Esq., Lythe Hall, Haslemere, exhibited two Pine Apples, apparently of the Queen variety, of large size, that had been fruited in sixteen months from the suckers. General Gordon, Peach, and Lord of the Manor Melon were shown by Mr. Maher, The Gardens, Yattendon, Berks. Thames Ditton House Melon was exhibited by W. Hume Dick, Esq. (Mr. W. Palmer, gardener), Thames Ditton House. Two seedling Melons of large size were exhibited by Mr. Chas. Ross, Welford Park, Newbury, and four varieties of Strawberries were brought up by Mr. H. Farmer, Louth, Lincolnshire.

A lively competition took place for the special prizes offered by Messrs. Carter & Co. for the best fifty pods each of Peas—Anticipation, Stratagem, Pride of the Market, and Telephone. The first prize was awarded to Mr. H. Marriot, sen., Skirbeck, Boston; the second to Mr. H. Marriot, jun., Prospect House, Boston; and the third to Mr. T. A. Beckett, Cole Hatch Farm, Amersham, Bucks. All these prizes were given for very fine samples of high cultivation. There was a good competition also for the prizes offered by Messrs. Sutton & Sons for thirty pods each of Duke of Albany and Royal Jubilee Peas. Mr. T. A. Beckett carried off the first prize in this case; Mr. R. Timms, Hamersley Lane, Penn, Amersham, won the second; Mr. C. J. Waite, Glenhurst Gardens, Esher, Surrey, was third; and Mr. H. Marriot, jun., came in fourth. Mr. C. J. Waite had the best specimens of Sutton's Magnum Bonum Cauliflower; and Mr. T. A. Beckett got the third prize, no second being awarded. Messrs. Webb & Sons offered prizes for the Wordsley Wonder Pea. Mr. H. Marriot, sen., won the first prize in this case; Mr. H. Marriot, jun., secured the second; and Mr. E. S. Wiles, The Gardens, Edgcote, Banbury, was third.

Crystal Palace Rose Show.—July 9th.—Notwithstanding the great heat and continued dry weather the show on Saturday last was a great success, and although many of the exhibitors were highly successful at the National Show on the previous Tuesday, they even scored greater successes than on that occasion. Messrs. Harkness & Sons, who were the winners of the Challenge Trophy and the first prize for seventy-two varieties on Tuesday, suffered a signal defeat on Saturday, their blooms being small compared with the prize winners in the same class at the Palace. The Roses in many of the classes were of superior merit to those shown on Tuesday, and the Comtesse de Nadaillac, which carried off the Silver Medals in both cases as the best Tea Rose in the show, was undoubtedly the premier one at the Palace. The blooms (one out of three good blooms especially) shown by E. B. Lindsell, Esq., Bearton, Hitchin, were larger than those shown at Kensington, and in excellent condition. The number of visitors in the afternoon was large, and the exhibition on the whole was exceptionally successful.

Mr. B. R. Cant, Colchester, carried off the first prize in a keen contest of numerous entries. Many favourite exhibition blooms were shown in his stand as well as in those of other competitors. Among H.P.'s, A. K. Williams, Abel Carrière, Xavier Olibo, Reynolds Hole, Duke of Wellington, Prince Arthur, Duke of Edinburgh, Dr. Sewell, and Eclair were in fine form and very charming. Comtesse de Nadaillac, Etoile de Lyon, Madame Cusin, Maréchal Niel, La Boule d'Or, and Innocente Pirola, were amongst the best and most perfect Teas exhibited. Mr. F. Cant, Colchester, was second in this class; and Messrs. Paul & Son, Cheshunt, were third. The latter were more successful in the class for forty-eight varieties, being first, exhibiting, amongst others, good examples of Abel Carrière, Souvenir d'Elise Varden, Ulrich Brunner, Catherine Mermet, A. K. Williams, and Reynolds Hole. The second prize in this case went to Mr. B. R. Cant. There were numerous entries and a keen competition in the class for twenty-four varieties, three trusses of each, and Mr. C. Turner, Slough, was awarded the first prize. His blooms were noticeable in the nurserymen's classes for their great size and freshness, A. K. Williams, Reynolds Hole, Harrison Weir, and The Colonel being some of his finest blooms. Messrs. Keynes, Williams & Co., Salisbury, were second; and Messrs. Balchin & Sons, Hassocks Gate Nurseries, were third. Messrs. Keynes, Williams & Co. secured the first prize for

twenty-four single trusses; Mr. G. W. Piper, Uckfield, was second; and Mr. J. House, Peterboro, third.

As usual, the Tea-scented and Noisette Roses were a feature of great attraction to the general public, and Innocente Pirola, from its occurrence in almost every stand, would seem to be one of the greatest favourites. It is a creamy white Rose, slightly tinted with pink, and similar in form to the white Niphetos. Devoniansis, Souvenir d'Elise, Madame Cusin, Madame de Watteville, and Etoile de Lyon, were also in fine form. Mr. B. R. Cant, Mr. F. Cant, and Mr. Geo. Prince, 14, Market Street, Oxford, were first, second, and third respectively, for eighteen varieties. Mr. B. R. Cant was also first for a collection of yellow Roses, Comtesse de Nadaillac, Jean Ducher, Maréchal Niel, and La Boule d'Or being very fine; Mr. Geo. Prince was a close second; and Mr. Geo. Mount, Rose Nurseries, Canterbury, was third. In the class for white Roses, the very same order of success was maintained for the first and second prizes respectively. Mr. F. Cant was first for pink Roses, and Mr. B. R. Cant was second. Messrs. Balchin & Sons secured the first award for crimson Roses, and Messrs. Paul & Son were second. Charles Lefebvre, Alfred Colomb, Fisher Holmes, A. K. Williams and Comte Rainbaud were the favourite varieties of this colour. Velvety crimson Roses were represented by Reynolds Hole, Victor Hugo, Xavier Olibo and Abel Carrière; and Messrs. Balchin & Sons took the first prize, while Mr. B. R. Cant was second. The latter was first for eighteen trusses of Maréchal Niel, and Mr. G. W. Piper was second, both showing good blooms, but rather pale in colour. Mr. B. R. Cant secured the first prize for any Tea or Noisette Rose with Innocente Pirola, and Mr. F. Cant was second. The former was again first with Ulrich Brunner, and Mr. George Prince was second with Marie Baumann. For eighteen trusses, resembling the latter in colour, a prize was offered for a similar number of Prince Camille de Rohan, or a like colour; but none were shown, and, indeed, few were in the show at all. Messrs. J. Cranston & Co. were first in this class, showing Abel Carrière. For eighteen trusses similar to François Michelin, Messrs. Paul & Son exhibited Ulrich Brunner, securing the first prize. Mr. H. Bennett, Shepperton, exhibited a fine lot of Her Majesty, securing the first prize in the class for varieties resembling Lady Mary Fitzwilliam; the second and third prize winners also showed Her Majesty. The first prize for the Rose A. K. Williams went to Mr. B. R. Cant, and the second to Messrs. H. Low & Co., Clapton, E. Messrs. J. Cranston & Co., King's Acre, Hereford, were awarded the first prize for a variety similar to W. A. Richardson. Mr. G. W. Piper secured the first prize for a stand of Niphetos, the blooms being of large size. The exhibits of Rosa polyantha, in varieties, were fine, but were amongst the first to suffer from the heat of the day. Perle d'Or, Mignonette and the Pet were favourite flowers; Mr. C. Turner was first in this class, and Mr. George Prince second.

The Roses in the amateurs' classes were generally noted for their great size, which would seem to indicate more attention in the way of stimulants or manurial feeding. W. J. Grant, Esq., Hope End Farm, Ledbury, was awarded the first prize in the class for forty-eight varieties, and the Rev. J. H. Pemberton, Havering, Essex, the second. The blooms in both cases were large, but a great percentage were of the same popular character as shown by the nurserymen. E. B. Lindsell, Esq. was first both in the class for twenty-four varieties, single trusses, and for the same number, three in each truss, his specimens of Comtesse de Nadaillac being magnificent, as already stated. Mr. Geo. Christy, Buckhurst Lodge, Westerham, was second in the former, and Mr. J. Brown, gardener to Mrs. Waterlow, Great Doods, Reigate, was second in the latter class. Mr. H. Shoesmith, Saltwood Rectory, Hythe, Kent, was awarded the first prize for twelve blooms. The Rev. E. G. King, Madiugley Vicarage, Cambridge, secured the first prize for Tea and Noisette varieties with large-sized blooms, and E. M. Bethune, Esq., Denne Park, Horsham, was a good second.

Pinks, Carnations and Picotees received some encouragement by the offering of a few prizes for each. Mr. J. Douglas, gardener to F. Whitbourne, Esq., Great Gearies, Ilford, was the only exhibitor of Picotees, showing some fine blooms of Agnes Chambres, Redmond and Refulgence. Mr. C. Turner secured the first prize for Carnations with blooms of great size.

Mr. J. Douglas was second in this class with twelve seedlings of his own raising. Pinks were well shown, being mostly of good size. Mr. F. Hooper, Widcombe Hill, Bath, was awarded the first prize, and Mr. H. Catley, 16, Claverton Buildings, Widcombe, Bath, came in second.

Several miscellaneous exhibits were made by nurserymen, chiefly of hardy plants; but Messrs. J. Veitch & Sons, Chelsea, staged a collection of cut blooms of Roses in eight boxes; Abel Carrière, Duke of Wellington, Duke of Teck, Madame G. Luizet, Maréchal Niel, Ulrich Brunner, Reynolds Hole and Marie Verdier were some of their finest and freshest blooms. Messrs. Barr & Son, King Street, Covent Garden, exhibited a group of hardy plants, including early-flowering Gladiolus, such as Sarnian Gem and Delicatissima, very fine flowers and excellent for forcing purposes. Amongst other things were Lilioms, Iris Kämpferi in variety, Tropæolum polyphyllum and hardy annuals in great variety. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, showed many Gaillardias, of which one was certificated, Delphiniums, Lilioms, Iris Kämpferi, Eryngium giganteum, Alpine Poppies, varieties of Lythrum Salicaria, Malva moschata alba, and numerous other hardy flowers. Messrs. H. Cannell & Sons, Swanley, Kent, had a collection of cut flowers of Verbenas, Pelargoniums and tuberous-rooted Begonias, single and double. Roses, Delphiniums, Lilioms and other hardy plants were shown by Messrs. J. Cheal & Sons, Crawley, Sussex. Messrs. Hooper & Co., Covent Garden, also staged a group of Delphiniums, Roses, Pinks, Iris, Gladiolus, Spirea palmata, Gloxinias and others. A small but beautiful collection of Iris Kämpferi was exhibited by Lady Ashburton, Croydon, (gardener, Mr. R. Ridges). The flowers were cut, and showed an endless variety in colour and markings.

FLORICULTURE.

DAHLIAS IN HOT JULY.—At the Crystal Palace Rose Show I asked Mr. Williams (Messrs. Keynes & Co.) how the Salisbury Dahlias were looking this hot weather, and his reply was, "Splendid." So far the drought does not appear to have affected their development in the least. When put out it was into deeply-dug well-manured soil; rain fell, they got well established, and the progress made since has been of a very satisfactory character. But close attention is necessary. The drought is already telling upon the plants in places, and the Dahlia cultivator, in common with gardeners generally, is looking anxiously for rain. The watering-pot must be kept active, giving a good sprinkling overhead at night, and frequent root-waterings. If the plants are permitted to suffer from want of moisture just now, there will be great fear that the bloom will be unsatisfactory; therefore water and water, keeping the plants growing, clean and healthy. When water is poured over the plants at night, soft rain-water is the best for that purpose. If carwigs have put in an appearance, let no time be lost in trapping them; for they will get into the plants, as if lying in wait till the flowers appear. Nothing has yet appeared to take the place of the old inverted flower-pot as an earwig trap—a little moss put into a small 60-size pot, and then inverted on the top of the main stake, affords shelter for the earwigs, and the pots should be examined daily to see if they harbour any of the enemy. Sweeping winds appear to be frequent just now, and care should be taken that the plants are firmly secured to stakes, so that none of the flowering branches be injured.—R. D.

QUESTIONS & ANSWERS.

ROSE.—*Mrs. K.*: The flowers were so withered that they fell to pieces before we could identify the variety. If you could send us a fresh bloom or two, in damp moss, we will do our best.

ELLAM'S EARLY CABBAGE.—*T. B. T., Glastonbury*: It was sent out by Messrs. James Veitch & Sons, King's Road, Chelsea, but can be obtained now from any of the leading seedsmen.

SOIL FOR ANTHURiums.—*W. W.*: "Trephe," or compressed moss, has been used successfully in the cultivation of these beautiful stove plants, and to some extent recently. It answers very well where peat is with difficulty obtainable, and may be used with broken potsherds, and plenty of charcoal if it can be had. Owing to the nature of their roots, these and other Aroids resemble Orchids, and are very impatient of a heavy or close retentive soil. Fibrous peat, where that is obtainable, mixed with about half its bulk of good lumpy loam, to which is added some newly broken crocks and some sharp silver sand, will also answer the purpose admirably.

SOIL FOR LYCASTE SKINNERI.—*W. W.*: Rough fibrous peat and sphagnum are the principal ingredients used in the potting of the species of Lycaste; but some cultivators use a good bit of fibrous loam and old cow-dung. Amateurs, however, should keep on the safe side, as it requires more skilful management to retain the plants in a healthy condition when using the two latter ingredients. They, however, grow and flower more strongly in a compost of that nature, when under the care of experienced hands. Along with the peat and sphagnum a considerable quantity of broken crocks or charcoal should be used to keep the whole sweet and open. Abundance of drainage in all cases should be employed, owing to the necessity of giving abundance of water during the growing season.

CARPET BEDDING.—*C. B.*: Sorry we cannot give you any addresses near either Manchester or Liverpool, but probably the Superintendents of the Parks could help you. We do not know Achyrocline Saundersoni, but will look up the information you require.

PELARGONIUMS.—*Omicron*: For simply wintering the plants a temperature ranging from 40° to 50°, and a fairly dry atmosphere will answer very well.

NAMES OF PLANTS.—*P. G. E.*: 1, Campanula glomerata; 2, Stachys sp. (unrecognised); 3, Oenothera fruticosa var.; 4, Lysimachia punctata; 5, Clematis integrifolia; 6, Veronica longifolia var. *J. T. Poë*: Oncidium longipes, sometimes called *O. janeirensis*. *W. W.*: Verbascum thapsus, or Shepherd's rod, of which there are five or six British species, and eighty to ninety altogether scattered over Europe, Western and Central Asia, and North Africa. *W. H. R.*: The bloom sent is a fair average specimen of Oncidium crispum, and seeing that it has been grown in a cool house we must give it all due praise: the sepals, petals, and especially the lip, are of great substance. *J. Potten*: Bromus secalinus, downy var. *Omicron*: 1, Sedum reflexum; 2, Sedum spurium.

COMMUNICATIONS RECEIVED.—*J. C. & Co.*—*M. T.*—*Leo Gordon*.—*W. D.*—*W. C.*—*R. P.*—*A. O.*—*F. S. & Co.*—*R. C.*—*T. S.*—*A. H. E.*

LONDON SEED TRADE.

July 13th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance at to-day's market. New samples of Trefoil are to hand from abroad; the grain is small, but good in colour. New imported Italian Rye Grass promises to be a fine sample. There is no change in Trifolium, and prices keep steady. Canary, Hemp and Linseed are firm, with rather more doing in these articles. Blue Peas are dearer, with a fair inquiry for fine samples.

COVENT GARDEN MARKET.

July 14th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve			Peaches, per dozen	4 0	12 0
Grapes, per lb. 1 0 2 6			Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3 0	8 0
per lb. 0 9 1 6			Pine-apples, Eng., lb.	1 0	1 6
Kent Cobbs, 100 lbs.			Strawberries, per lb.	0 3	1 0
Melons, each 1 6 3 0					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Asparagus, per bdle.			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6	2 0	Lettuces, per dozen	1 6	2 0
Bect, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel	4 0	5 0
New Carrots, per bun.	1 0		Parsley, per bunch	0 6	
Cauliflowers, English,			Radishes, per dozen	1 6	
per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	2 0		Spinach, per strike	2 0	
Cucumbers, each	0 6	1 0	Tomatoes, per lb.	1 0	
Endive, French, doz.	2 6	3 6	Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones, 12 bun.			Narcissus double,		
Arum Lilies, 12 blms.	3 0	5 0	12 bunches		
Bouvardias, per bun.	0 6	1 0	Narcissus, 12 bunches		
Carnations, 12 blooms	0 9	2 0	Pelargoniums, 12 spys.	0 6	1 0
Carnations, 12 blms.	4 0	6 0	Pelargoniums, scarlet,		
Cornflower, 12 bun.	1 0	3 0	12 sprays	0 4	0 6
Day Lily, 12 bunches			Pinks, colored & white,		
Eucharis, per dozen	3 0	6 0	dozen bunches	2 0	4 0
Gardenias, 12 blooms	1 0	3 0	Polyanthus, 12 buns.		
Heliotropes, 12 sprays	0 6	1 0	Primula, double, bun.	0 9	1 6
Iris, various, 12 bun.	0 6	12 0	— single, 12 bun.		
Lilies, white 12 buns.	12 0	18 0	Pyrethrum, 12 bun.	2 0	6 0
— orange, 12 buns.	6 0	9 0	Roses (coloured), 12 bun.	1 0	4 0
Lilium longifolium			Roses, Tea, per dozen	0 6	1 6
12 buns.	12 0	18 0	Roses, mixed, per doz.	0 6	2 0
Lilium longiflorum,			— Saffron, per doz.	0 6	0 9
12 blooms	4 0	6 0	Spiraea, 12 bunches	4 0	6 0
Lilies of the Valley			Stephanotis,		
12 sprays			dozen sprays	2 0	4 0
Marguerites, 12 bun...	3 0	6 0	Tropæolums, 12 bun...	1 0	2 0
Mignonette, 12 bun...	2 0	4 0	Tuberose, per dozen	0 6	1 0
Myosotis, 12 bunches	2 0	4 0	White Jasmine, bun.	0 6	0 9
Pansies, 12 bunches...	2 0	3 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi, doz.	6 0	18 0	Hydrangea, per doz.	9 0	12 0
Calceolarias, per doz.	4 0	9 0	Lilium longiflorum,		
Cyperus, per dozen	4 0	12 0	per doz.	18 0	30 0
Dracena term., doz.	3 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	6 0
Erica, various, doz.	18 0	30 0	Musk, per dozen	3 0	6 0
Evergreens, in var.,			Palms in variety, each	2 6	21 0
per dozen	6 0	24 0	Pelargoniums, scarlet,	6 0	15 0
Ferns, in var., do	4 0	18 0	per dozen	3 0	6 0
Ficus elastica, each	1 6	7 6	Rhodanthus, per doz.	6 0	9 0
Foliage Plants, vari-			Scented Verbena	4 0	6 0
ous, each	2 0	10 6	Spiraea, per dozen	9 0	12 0
Fuchsia, per dozen	6 0	9 0	Tulips, per doz. pots		
Heliotrope, per doz.	4 0	8 0			

GARDENERS' ORPHAN FUND.

Donations and Subscriptions already promised or sent.

THIRD LIST.

	Donations.	Subscriptions.
	s. d.	s. d.
Dodds, F., Gardener, Herringswell House, Mildenhall, Suffolk	10 0	5 0
Duncan, W., Gardener, Bosworth Hall, Rugby	5 0	5 0
Death, J., Gardener, Archfield House, Binfield	5 0	5 0
Durman, F., Gardener, Harefield House, Bitterne, Southampton	5 0	5 0
Duncan, G., Gardener, Warnham Court, Horsham	10 0	10 0
Darno, J. C., Gardener, Edge End, Brierfield, Burnley	9 6	
Dunnage, Mrs., Allbury House, Surbiton Hill Road, Kingston-on-Thames	10 0	
Driver, W., Gardener, Longford House, Minchinhampton	15 0	5 0
Dodswell, W., Gardener, Grantham House, Putney Heath	5 0	
Duncan, G., Gardener, Warter Priory, Pocklington	5 0	5 0
Dauncey, J., Gardener, Buckfield Gardens, Basingstoke	10 0	10 0
Diamond, J. T., Gardener, Dollars House, Hurlford, Ayr	5 0	5 0
Deedeman, Mrs. W., Titchfield, Hants	5 0	5 0
Dumpey, E., Gardener, Summerville, Limerick	5 0	5 0
Down, J., Grdnr, Ashdown Park, East Grinstead	10 0	
Deverill, H., Royal Seed Stores, Basingstoke	10 0	10 0
Ellis, W., Grdnr, Drakelow Hall, Burton-on-Trent	10 0	
Ellicott, J., Gardener, Crowe Hall, Bath	10 0	5 0
Ewart, W., Gardener, Apethorpe, Wansford	5 0	5 0
East, D., Gardener, Clare Lawn, East Sheen, S.W.	10 0	10 0
Elsworth, T., Gardener, Court Hey, Broad Green, Liverpool	10 0	5 0
Everson, F., Gardener, Grove House, Roehampton Lane, S.W.	5 0	5 0
Edwards, F. W., Tower House, Woolwich	5 0	5 0
Elworthy, J. C., Gardener, Nettlecombe, Taunton	10 0	
Edwards, J., Gardener, Grittleton, Chippenham	5 0	5 0
Foreman, W., Grdnr, Carlton House, Herne Hill	5 0	5 0
Faulkner, Miss S. L., Westgate House, Long Milford	5 0	5 0
Fisher, H., Gardener, Flixton Hall, Bungay	5 0	5 0
Francis, J., Gardener, Lilleshall House, Newport, Salop	5 0	5 0
Fowles, J., Gardener, Wrightington Hall, Wigan, Lancashire	5 0	5 0
Forrester, W., Gardener, Beechwood, Rochdale	5 0	10 0
Fenn, A., Gardener, Blyth Park, East Durham	5 0	5 0
Fletcher, T., Grdnr, The Abbey, Kensington, W.	5 0	5 0
Fry, J., Gardener, Haydon Hall, Eastcote, Pinner	5 0	5 0
Francis, G., Grdnr, Cockley Cley Hall, Swaffham	5 0	5 0
Finlay, G., Grdnr, East Layton Hall, Darlington	10 0	5 0
Ford, J., The Gardens, Highfield Hall, Leck	2 6	
"Friend, A," c. o. Mr. J. Gardiner, Grdnr, Elsham Hall, Brigg	3 0	
Freeman, Miss, Ryton-on-Dunsmore, Coventry	5 0	5 0
Foreman, H., Gardener, Fornham, St. Martin, Bury St. Edmund's	2 6	
Flood, W., Grdnr, Wichnor Park, Burton-on-Trent	10 0	5 0
Folkard, J., Gardener, Elm Bank, York	5 0	5 0
Frazer, L., Gardener, Craigillands, Moffat, N.B.	10 0	5 0
Finlay, W., Gardener, Lynton House, Gravesend	10 0	5 0
Fowler, J., Gardener, Harewood House, Leeds	5 0	5 0
Foster, W. R., The Grove, Horley	5 0	5 0
Finch, F., Gardener, The Hall, Berkhamstead	10 6	
Goddard, P., Gardener, Hunton Court, Maidstone	10 0	5 0
Gardner, J., Gardener, Elsham Hall, Brigg	5 0	5 0
Gillies, J., Gardener, Biggar Park, Biggar	2 6	
Griffith, G., Gardener, Penryn, Aberystwith	5 0	5 0
Gandy, E., Gardener, Stratton Park, Micheldever	5 0	5 0
Greenfield, R., Gardener, The Priory, Warwick	10 0	10 0
Glasscock, W. B., Grdnr, Shirley Park, Croydon	2 6	5 0
Grant, J. C., Gardener, Argyle Lodge, Wimbledon Park	5 0	5 0
Gilbert, R., Gardener, Burghley House, Stamford	5 0	5 0
Glennie, R., Gardener, Babworth Hall, Retford	10 0	10 0
Grant, T., Grdnr, Ossensley Manor, Christchurch	5 0	5 0
Garner, J., Gardener, Compton Verney, Warwick	5 0	5 0
German, N., Grdnr, Malvern House, Nottingham	5 0	5 0
Gilbey, S., Gardener, Cazenoves, Upper Clapton	5 0	5 0
Green, W., Possingworth, Cross-in-Hand, Sussex	5 0	5 0
Greunway, W. R., Gardener, Trentham Court, Stonehouse	5 0	5 0
Glen, G. F., Gardener, Wentworth, Rotherham	10 0	10 0
George, J., 10, Victoria Road, Putney	10 0	5 0
Hodgkins, W., Gardener, Bolton Hey, Roby, Liverpool	5 0	5 0
Hall, J., Florist, &c., Castle Street, Cambridge	5 0	5 0
Hussey, J., Gardener, Haines Hill, Twyford	5 0	5 0
Haffinden, J., Gardener, Westerham, Edenbridge	5 0	5 0
Harvey, G., Gardener, Shrublands, Hisham, Walton-on-Thames	5 0	5 0
Hutchison, W., Gardener, Llywader Court, Abergavenny	10 0	10 0
Helman, G., 2, Blakefield Road, Bromyard Road, Worcester	5 0	5 0
Hovell, W., Gardener, Headington Hill, Oxford	10 6	5 0
Hills, H., The Gardens, Beachboro' Park, Hythe	5 0	5 0
Hills, D., Gardener, Beachboro' Park, Hythe	5 0	5 0
Hubbard, A., The Gardens, Copt Hall, Epping	10 6	10 6
Hamilton, J., Gardener, Needwood House, Burton-on-Trent	10 0	10 0
Hope, J., Gardener, Weston-under-Lizard, Shifnal	5 0	5 0
Henderson, J., Grdnr, Riddlesworth Hall, Thetford	10 0	5 0
Hope, J., Gardener, Coopers, Chislehurst	5 0	5 0
Harrison, E., Gardener, St. Michael's-ou-Wyre, Garstang, Lancashire	5 0	5 0
Holliday, G., Gardener, Castle Hill, Blotchingley	5 0	5 0
Henbest, W., Grdnr, Anglesea House, Kingston-on-Thames	5 0	5 0
Halsey, J., Gardener, Cowdray Park, Midhurst	10 0	10 0
Hodgkins, W., Gardener, Silaby Hall, Gainford, Darlington	5 0	5 0
Harris, H., Gardener, Denne Park, Horsham	5 0	5 0
Harding, A., Gardener, Orton Hall, Peterborough	5 0	5 0
Hyde, J., Gardener, Watergate, Emsworth, Hants	10 0	10 0
Huxtable, R., Gardener, Barton Grange, Taunton	5 0	5 0
Herrington, A., c. o. W. Robinson, Esq., Gravetye Manor, East Grinstead	5 0	5 0
Horuby, J., Gardener, Heslington Hall, York	5 0	5 0
Hughes, J., Gardener, Eydon Hall, Byfield, Northamptonshire	10 0	10 0
Hutchinson, S., Gardener, Haggerston Castle, Beal, Northumberland	6 0	2 6

JUBILEE GOLD MEDAL BOUQUETS, WREATHS, ETC., ETC.

PERKINS & SONS, COVENTRY,

Make Cut Flowers a Speciality, and are prepared to execute orders for Bouquets, Ladies' Sprays, Buttonholes, &c., also Wreaths and Crosses for Funeral purposes, on the shortest notice, finished in the most artistic style.

They were awarded **FORTY FIRST Prizes** during 1886 for Bouquets and other made-up Flowers at the principal Exhibitions, and up to the present time *this year* have obtained the following prizes:—

BATH.—March 23rd.
Bouquet for the Hand FIRST

SHREWSBURY.—March 31st.
Ball Bouquet FIRST
Bridal Bouquet FIRST

NEWCASTLE-ON-TYNE.—April 20th & 21st.
Ball Bouquet FIRST
Lady's Spray FIRST
Buttonhole Bouquet FIRST

CRYSTAL PALACE.—May 21st.
Ball Bouquet FIRST
Bridal Bouquet FIRST
Three Ladies' Sprays FIRST
Three Gentlemen's Buttonholes FIRST

MANCHESTER.—May 27th to June 4th.
Morning Wreath } **JUBILEE**
Bridal Bouquet } **GOLD**
Ball Bouquet } **MEDAL.**
Three Ladies' Sprays
Nine Buttonhole Bouquets

YORK GALA.—June 15th, 16th and 17th.
Two Bridal Bouquets FIRST
Two Hand Bouquets FIRST
Two Ball Bouquets FIRST

LEEDS.—June 21st to 24th.
Bridal Bouquet FIRST
Hand Bouquet FIRST
Spray for Lady's Wear FIRST

RICHMOND.—June 29th.
Hand Bouquet FIRST
Three Sprays for Ladies' Wear FIRST

BIRMINGHAM.—July 14th and 15th.
Bouquet of Roses FIRST

HEREFORD.—July 15th.
Two Bridal Bouquets FIRST
Two Ball Bouquets FIRST
Lady's Spray (Evening) FIRST
Gentleman's Buttonhole (Rose) FIRST
Lady's Spray (Morning) FIRST
Buttonhole (Mixed) FIRST

Telegraphic Address: **BOUQUET, COVENTRY.**

The Liverpool Horticultural Association.
THE EIGHTH GRAND SUMMER EXHIBITION OF PLANTS, FLOWERS, FRUIT AND VEGETABLES will be held in SEFTON PARK, on SATURDAY, JULY 30th, and BANK HOLIDAY, AUGUST 1st. Entries close July 23rd. Schedules of prizes can be had on application to the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Tarbock Road, Huyton.

Abbey Park, Leicester.
A GRAND FLOWER SHOW will be held on Tuesday, August 2nd, 1887, under the patronage of the Mayor and Corporation.
A **VEITCH MEMORIAL MEDAL** AND £5 is offered for eight dishes of fruit, distinct, Pines excluded. Second prize, £3; third prize, £2; fourth prize, £1.
SCHEDULES will be sent upon application to the Secretary and Curator, Mr. JOHN BURN.

The Nursery & Seed Trade Association, LIMITED.

RATING OF NURSERIES.

AT A MEETING of Nurserymen and Market Gardeners, held on 28th of June, 1887, at the Horticultural Club, London, it was decided to take such steps as might be necessary for the purpose of obtaining a reduction in the amounts at which Nurseries and Market Gardens are assessed, and also of obtaining a basis on which such assessments should be made. A Committee was formed for the purpose of carrying this into effect, and a guarantee fund was started to meet the necessary expenses. The Committee at present consists of Mr. Beer (Worthing), Mr. Bennett (Sheperton), Mr. Bunyard (Maidstone), Mr. Daniels (Daniels Bros., Norwich), Mr. Haynes (Penge), Mr. Horsman (Bradford), Mr. Low (Uxbridge), Mr. Pearson (Chilwell), Mr. Sharman (Carter & Co., London), Mr. H. Turner (Slough), Mr. Veitch (Veitch & Sons, Chelsea), and Mr. J. Wood Ingram (Huntington). Gentlemen who are willing to join the Committee, or to subscribe to the guarantee fund (such guarantee not to exceed £10), will please communicate with the Secretary, Mr. F. C. GOODCHILD, 25, Old Jewry, London, E.C.

Next Week's Engagements.

MONDAY, July 25th.—Flower Show at the People's Palace.
TUESDAY, July 26th.—Fruit and Floral Committees of the Royal Horticultural Society meet at 11 a.m. National Carnation and Picotee Society's Show. Special Sale of Orchids in Flower at Protheroe & Morris's Rooms.
THURSDAY, July 28th.—Sale of Imported Orchids at Stevens' Rooms.
FRIDAY, July 29th.—Extensive Sale of Imported Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 23, 1887.

PEAS ON TRIAL AT CHISWICK.—Though new, and so-called new varieties of Peas are not being sent out now in such numbers as they were a few years ago—when they were so plentiful, in fact, as to lead some of our foreign friends to believe that Peas, and not Barley, paid the interest on the National Debt—still they come in sufficient numbers to warrant the Royal Horticultural Society in, from time to time, growing a large collection for comparative purposes. In the spring a large number of both old and new sorts were sown at Chiswick, and for several weeks past much interest in the trials has been taken both by traders interested in the matter, and private growers on the look out for good novelties.

As might be expected, several of the so-called new sorts prove to be old friends under new names, or are so closely similar that it is undesirable to keep them separate, or to add to the already long list of existing names. All the sorts grown for trial were sown at the same time and under the same conditions, as far as soil and manure were concerned, so that a fair basis of trial has been secured for all alike. Great stress has been laid on late-ripening, prolific, and large well-flavoured Peas; and this was the more urgent and desirable, in view of the need for such in localities where the rainfall is light, and especially in unusually dry and otherwise unfavourable seasons, such as the present has proved. Dwarf early Peas, particularly those that do not require staking, have, at the same time, not been neglected. The value and desirability of these trials, from a utilitarian point of view, is undeniable, and the best thanks of the public in general are due to Mr. Barron, the superintendent, for the perfectly equitable footing on which all the sorts under trial have been placed, and carefully looked after by his greatly reduced staff. Four of the new varieties have recently been certificated, and will be found mentioned below, together with a list of superior sorts, not necessarily arranged in strict consecutive order of merit, as the trials are not yet completed. When all have ripened they will be arranged under several classes, such as White and Green Round Peas, White and Green Marrow-fats, and White and Green Indented Peas, so that the relative position of each can be more readily determined.

The recently certificated varieties are:—
Exonian, which, this season, has grown about 3 ft. high, and ripened early; the pods are moderately thick, straight, well filled and 2½ ins. to 3½ ins. long, containing from six to eight large, sweet peas that completely fill the pod. The size of the pods and the height attained by the stems this season are, however, but little criterion of their dimensions in wet seasons, but are merely relative to those of other kinds under trial. **Chelsea Gem**: A very early variety requiring no staking, and having deep green foliage and stems about 1 ft. long; the pods are straight or slightly curved, well filled, and contain about five and six sweet peas that are round, white and indented when mature. **Laxton's No. 21**: This is also a white, indented Pea when mature, but of large size; it is early, with stems attaining a height of 3½ ft. to 4 ft., with light green foliage: the pods are thick, well filled and nearly straight, 3½ ins. to 4 ins. long, and containing eight to ten well-flavoured peas. The crop this season is moderately heavy. **St. Duthus**: A late-ripening Marrow Pea of great merit and very prolific; the straw varies from 3 ft. to 4 ft. in height, and is well clothed with deep green foliage; the pods, which generally attain a great length, is well filled and densely packed with eight to eleven well-flavoured peas. They are also conspicuous for their comparative thinness or slender character, deep green in colour, and are curled.

Of early varieties, we note that already the greater part of the pods of **Magnificent** are ripe, and the stems, which attain a height of 5 ft. to 6 ft., have completed their growth; the foliage is light green, as in most early varieties, and a heavy crop has been produced; the pods are about 3½ ins. long, straight, or nearly so, and well filled. **Laxton's No. 6**: Requires no stakes, as it attains only a length of 12 ins. to 15 ins.; the pods are large and full, 3 ins. to 4 ins. in length, and contain seven to nine large, closely-packed peas. It is nearly ripe, and, in our opinion, is an early variety of superior merit. **Alpha** attains a height of 3 ft. to 4 ft., and is also very early, being now nearly ripe; the pods are 2 ins. to 2½ ins. long, and compara-

tively slender, yet well filled with green wrinkled peas. Boreatton is a moderately early variety, attaining a height of 4½ ft., with light green foliage; the pods are large and broad, being 3½ ins. to 4 ins. long this season, of a light green colour, and moderately well filled with four to seven large, sweet peas.

To the above list Emerald Gem might be added as possessing some merit, but it is not very favourably regarded generally, on account of the pale green colour of its pods. It is a dwarf, moderately early variety, with pale green foliage, and stems about 2½ ft. to 3 ft. high; the pods are usually small, but ripen early, and are fairly well filled with white peas, now fast reaching maturity. Many others might be added, but late Peas are more a desideratum for main and late crops, as the early varieties have generally small pods and seeds, and merely furnish a supply till the more prolific bearers come into use.

Of late varieties, Ne Plus Ultra Seedling is a tall-growing, moderately good cropper of considerable merit; the stems, this dry season, even attained a height of 5 ft. to 6 ft., and are rather thinly clothed with foliage of an intermediate shade of colour; the pod is usually well filled, except at the tip, and is 2 ins. to 2½ ins. long, thick, and contains large, somewhat flattened, very sweet peas. Sharpe's Triumph grows to the height of 2 ft. or more in wet seasons, and is a very prolific Pea, with short-jointed stems and deep green foliage; the pod is curved, 3 ins. to 3½ ins. long, of medium thickness, and well filled with large, sweet peas. Laxton's No. 35, when true, seems to grow to a height of 5 ft. to 6 ft.; but there are dwarf ones amongst them, which would seem to indicate that the variety has not yet been sufficiently well fixed by repeated selection. It is, however, a fine Pea, with straight, or nearly straight, pods, 3½ ins. to 4 ins. in length. James's Prolific is a dwarf, late, heavily cropping sort, with stems 2 ft. to 2½ ft. high this season, and well clothed with deep green foliage; the pods are thick, well filled with seven to eight peas, and are of a light green colour. Another, but rather taller-growing sort, Walker's Perpetual, is also a good late Pea, with dark green foliage; it is a prolific bearer, and has nearly straight pods that fill well and contain from six to eight well-flavoured, sweet peas. A dwarf, late, heavily-bearing variety is Sharpe's Victory; at present the stems do not exceed 2 ft. in height, and have short joints, which bespeaks a slow growth, and are furnished with deep green foliage, which is characteristic of late Peas generally; the pod is 3 ins. to 3½ ins. long, moderately thick, and closely filled with six to eight large, fairly well-flavoured peas. Sharpe's Queen grows somewhat taller, reaching even in droughty seasons a height of 2½ ft. to 3 ft., otherwise the foliage and habit is similar to the last; the pod is straight or but slightly curved, thick, but well filled as a rule, having six to nine peas of good flavour; it is, moreover, a good cropper.

One of the latest varieties grown at Chiswick this year is that named John Bull, growing to a height of 3 ft. to 3½ ft., with dark green foliage, and bearing a heavy crop of fruit, much of which is yet in a young condition compared with others grown alongside; the pod is straight, deep green and slender, but well filled with seven to eight sweet, well-flavoured peas. Carter's Anticipation retains its good character as an exhibition Pea; in stature it does not exceed 2½ ft. to 3 ft. this season, and a tolerably heavy crop has been produced; the pods are broad or somewhat flattened, moderately deep green, and tolerably well filled, except occasionally at the tips. They range from 3 ins. to 3½ ins. in length, but in other seasons, or under exceptional

treatment, would be much longer, and carry from six to eight large, very sweet peas. A sort that might be serviceable for market purposes is Laxton's No. 7, which grows to a length of 18 ins., or thereabouts, and requires no staking. It is a late Pea, with moderately green foliage, and bears a tolerably good crop of large, well-filled pods; these are from 3 ins. to 4 ins. in length, and carry from seven to nine large, moderately sweet peas. The large size of the pods, and the fact that no stakes are required, should tell considerably in its favour. A moderately late, prolific-bearing sort, named Precocity, attains a height of 2 ft. to 3 ft. in dry seasons like the present, and carries a profusion of pods about 3½ ins. long, which are well filled, seeing that each contains from six to nine sweet and well-flavoured peas. Another variety, named Heroine, and a production of the same raiser, grows from 3 ft. to 3½ ft. high, and is later in ripening than the last-named sort; the pod is long, curved and rather slender, but well filled with six to nine large, sweet, well-flavoured peas. Like one or two others above-mentioned, it has rather a distinct appearance, owing to the narrow or slender character of the pods, which attain a length of 3 ins. to 4 ins. The Echo is a heavy-cropping Pea of dwarf stature, not exceeding 2 ft. to 2½ ft. in dry seasons, and bearing pods from 3 ins. to 3½ ins. long, which are straight and well filled with six to eight large sweet peas. There are several, however, similar in character, and this may not be more meritorious than others of its kind, but it is certainly prolific. Laxton's No. 18 is also a heavy cropper, growing to a height of 3 ft., and carrying a wealth of long, curved, well-filled pods, containing from seven to nine peas. A dwarf sort, named Chancellor, seems possessed of some merit from its heavy-cropping qualities and large-sized, moderately thick pods, which are well filled with sweet well-flavoured peas. It is a late variety, attaining a height of 2 ft. to 2½ ft., and is deserving of cultivation as a main or late-crop variety.

The varieties we have enumerated by no means exhaust the list of good and desirable varieties, but represents a selection that will be found very serviceable in private establishments, and some are even excellent for market growers. We have also overlooked many of the early sorts now ripening, from the simple fact that greater value is attached to main and late crops that will bear well and stand drought best.

ON Tuesday next, July 26th, the NATIONAL CAR-NATION AND PICOTEE SOCIETY will hold their annual show in the Conservatory, South Kensington, on which day the usual Scientific, Fruit and Floral Committees will be held. The price of admission to the public will be 2s. 6d.

MESSRS. T. PIPER & SON, Maresfield, won Messrs. Wood & Sons Silver Medal at the Alexandra Palace Rose Show last week, with a superb bloom of Her Majesty.

MR. PARR, lately gardener at Givon's Grove, Leatherhead, has been engaged in that capacity at Chilton Lodge, Hungerford.

WE understand that the Right Hon. Joseph Chamberlain, M.P., has consented to take the chair at the forty-fifth Anniversary Festival of the GARDENERS' ROYAL BENEVOLENT INSTITUTION, to be held in the summer of 1888. The consent of Mr. Chamberlain was obtained through the influence of Baron Ferdinand de Rothschild and Sir Robert Peel.

IN the large tent adjoining the royal enclosure at Windsor, on the occasion of the annual meeting of THE PRINCE CONSORT'S ASSOCIATION on Tuesday last, Messrs. Sutton & Sons exhibited a capital collection of their superb strain of Gloxinia, six boxes in distinct colours of seedling Hollyhocks, with flowers remarkably double; white, red and golden Miguonette, white

Lilies, annual Chrysanthemums, Calendulas, Larkspurs, and many other varieties of cheerful blooming annuals, biennials, and perennials, which were much admired.

THE tenth annual exhibition of Chrysanthemums, Primulas, &c., to be held by the SHEFFIELD AND HALLAMSHIRE GARDENERS' MUTUAL IMPROVEMENT SOCIETY, is fixed for November 14th and 15th. In the schedule we note two open classes—viz., for twenty-four incurved and twenty-four Japanese varieties respectively, with the handsome prizes, in each case, of £10, £5, and £2 10s. Mr. Austin, gardener to J. H. Allcard, Esq., Broomville House, Glossop Road, Sheffield, is the secretary.

A CORRESPONDENT informs us that an advertisement recently appeared for a gardener for a London square, with the result that considerably over 100 letters were sent to the address given, all of which have been returned through the post marked "Not known." One fails to see what could have been the motive of the advertiser; but it was a very thoughtless act to put so many men seeking employment to such needless trouble.

THE annual fête and floral display of the BEDFORD PARK NATURAL HISTORY AND GARDENING SOCIETY was held in the Club Rooms, on Saturday last, when a number of prizes were distributed to the amateurs who exhibited plants grown in the neighbourhood. The society, mainly guided by their influential president, the Rev. W. Horsley, and Mr. J. G. Read, the secretary, is doing much towards encouraging a love for, and the cultivation of, flowers in the district. The grounds adjoining were illuminated in the evening, and vocal and instrumental music was given up to a late hour.

AT the EDINBURGH ROSE SHOW, on the 13th inst., it was stated that there were 7,000 Roscs on exhibition. Notwithstanding the dry season, there were some of great size, measuring 6 ins. across, which speaks well for the cultural skill of our friends over the border. Some Strawberries were also very conspicuous for their size—notably, the variety named James Veitch. A plant of a new sort, exhibited under the name of Victory, bore a produce of 125 berries. There was a basketful of the former variety.

AT the annual summer show of the Ipswich and East of England Horticultural Society, held at Ipswich, Mr. Crawford, gardener to Colonel Thorpe, of Coddington Hall, Newark, won the following prizes: The society's first prize for twelve distinct varieties of vegetables; first prize for six varieties offered by Messrs. Webb, of Stourbridge; second for six varieties offered by Messrs. Sutton & Sons, of Reading; first for a brace of Cucumbers, first for Melon for flavour, third for a collection of six sorts of Strawberries, and two special prizes for Pine-Apples and black Grapes.

THE DUTCH BULB TRADE.

WE learn from Haarlem that the export of cut flowers from Holland to foreign countries, and especially to England, increased last spring in such an extraordinary manner that it is expected the trade in flower roots will be much injured. The foreign markets, during the flowering period of Hyacinths, Tulips, and other bulbous plants, were so overstocked with the flowers that their value was reduced nearly to nothing, and the growers and dealers are generally of opinion that a stop must be put to such transactions. An extraordinary general meeting of the members of the Royal General Union for the cultivation of flower roots was held at Haarlem on the 11th inst., when it was resolved that efforts should be made to induce all growers of bulbs to undertake not to sell or send out any cut flowers of Hyacinths, Tulips, Narcissus, Ranunculus or Anemones, except for exhibition purposes, or as small samples under 3 kilograms.

Other measures are under consideration with a view to making, as much as can be done, the trade in cut flowers impossible in the future; and these efforts are expected to have a good influence on the ordering of bulbs for the coming season, though we beg leave to doubt it—at all events, so far as the English trade is concerned. That our Dutch friends should have suddenly discovered they cannot have the cake and eat it too, will not cause any of our growers or dealers to weep, so seriously has the bulb trade been injured by the unfair trading of the Dutchmen themselves. They have discovered that they cannot sell us the bulbs and cut flowers too, and it is to be hoped the Nemesis

which has overtaken them will have a good effect. They must trade in bulbs or flowers, we do not care which, but it is certain they can no longer do both at remunerative prices.

Another meeting of the Union was held on the 20th inst., when it was generally agreed that in consequence of the unusually cold spring all growing crops are very backward, and that in consequence flower roots, and more particularly the Hyacinths, will probably not come to maturity at the usual time, so that their exportation may have to be effected at a somewhat later period than usual.

ARALIA REGINÆ.

WHEN this new Aralia becomes distributed in gardens, it is certain to take the foremost rank amongst ornamental-foliaged subjects that are used for the decoration of stoves, warm conservatories, or for table decoration in establishments where much of this kind of work has to be done. It is a very vigorous grower,



ARALIA REGINÆ.

more so than *A. Veitchii*, and others of that class, consequently young plants soon grow to a serviceable size.

For the same reason they do not last so long in a state fit for table work; but that is not much to be regretted seeing that plants becoming injured and unsightly by the hurtful influences of gas or accidents when used in dwelling rooms, may soon be restored by propagating afresh, and growing on another set of plants. As can be seen from our illustration, the plant has a graceful habit, and is exceedingly ornamental, from the stems being thickly clothed with finely digitate leaves, the leaflets of which are long, linear, and slender, gracefully drooping from a little above their bases. By this it will be seen that the habit is much more graceful than in the popular *A. Veitchii* and its allies, where the leaves always assume a horizontal position. The leaflets are furthermore of a uniform deep green, while the petioles and the stem are beautifully spotted or marbled as occurs in other species. It may well merit the title of the Queen of

Aralias. Mr. B. S. Williams, Victoria and Paradise Nurseries, sent out the plant and has kindly furnished us with the accompanying illustration.

DELPHINIUMS AT PENDELL COURT.

DELPHINIUMS are now the pride of the garden everywhere, but nowhere do they show more luxuriance of growth than they do at Pendell Court, Bletchingley, the English residence of Sir George Macleay, whose unique and ever-interesting collection has been under the care of Mr. F. Ross for something over three years. A marked improvement is visible in every department since Mr. Ross took it in hand; but nowhere is this more evident than in the outdoor crops of all kinds, including trees, shrubs and herbaceous plants that are purely of an ornamental character.

The herbaceous collection, which is fairly extensive for a private establishment, presents a varied display all through the spring, summer and autumn months, but at no time, perhaps, does any one class of plants

To this must be added a careful and liberal use of the spade, and manuring, where practicable, in winter or spring. Mr. Ross is no believer in the starvation principle of withholding the manure and allowing the soil to lie for years in a dormant and lifeless condition, firm as a roadway. Herbaceous plants, like most other garden subjects, delight in liberal treatment, good cultivation, and well repay the labour thus bestowed on them.

The varieties of Delphiniums grown are both numerous and varied, but mostly single flowered, although there are a number of double and semi-double forms so called. The tallest are by no means the largest flowered, but their stateliness compensates for this deficiency. *Bella Donna*, a charming light blue-flowered variety, with stems 5 ft. high, and *Life Guardsman*, with brilliant blue flowers borne on stems 6 ft. high, are two useful forms for border decoration; but neither of them have the bold massive appearance of *Cantabrigensis*, whose stems rise to the height of 5 ft., terminated by massive spike-like racemes of clean and attractive light sky-blue flowers. Some contrast is afforded by the small black petals, but, as a whole, none are more effective at a distance. A form named *Keteleri* is conspicuous for its dense spikes of light blue flowers, whose white petals form a fine contrast, and typify a group in contradistinction to those having black or brown petals. *Conspicuum* is another of this group, with large, brilliant sky-blue flowers borne on stems 5 ft. to 6 ft. high. The petals of *Pierre Joigneana*, on the other hand, are variegated with white and blue, while the sepals are blue and purple—a combination of frequent occurrence.

Amongst these distinctly bicoloured forms may be mentioned *Versicolor*, the flowers of which are large, with purple and blue sepals and brown petals. The so-called semi-doubles also present this peculiarity very frequently, and their partial doubling merely arises from the petals becoming large, regular or nearly so, and purple, while the sepals retain their original blue colour. An unnamed variety, with bright blue sepals, pertains to this group, as well as *Mrs. J. Holms*, bearing dense slender spikes of flowers with light blue sepals. A new variety, named *Madame E. Geny*, as yet but of small stature, will, when it has become established, rank as one of the best and most telling varieties from the great size of its flowers, its blue sepals, and regular purple petals. Several giants as to stature are noticeable, even in this dry season; while in a warm moist summer they must have a tropical appearance from their rank vegetative vigour. One of these forms, with small blue flowers, has stems 8 ft. to 9 ft. high, and *Blue Gem*, very little smaller, is by no means to be despised, as it bears an enormous number of medium-sized deep blue flowers on a very much branched inflorescence.

The double-flowered forms are by no means numerous, and if they are more durable than the single-flowered varieties, the latter gain in their more natural and artistic beauty. One of the best doubles noticed was *Alopecuroides*, translatable as the Fox-tail Delphinium, having stems 4 ft. to 5 ft. high, three of which were occupied with full double rosette-like flowers of a blue colour, suffused with white at the base. This had truly a tailed-like appearance from its great length, but was branched at the base, as generally happens in vigorously-grown specimens. Another old-fashioned very double form is known as *Ranunculæflora*, possibly taken from its resemblance to a double Persian or Turban *Ranunculus*, although the flowers are very much smaller. It is also a vigorous grower, attaining a height of 6 ft. to 7 ft. with blue and purple flowers.

Besides *Cantabrigensis*, *Bella Donna*, and *Madame E. Geny*, already mentioned, *Grandiflora* and *Herman Stenger* must be reckoned the finest of the single-flowered kinds. *Grandiflora* has large flowers of a deep blue, except the petals, which are unusually large, and whitish, borne on leafy stems not exceeding 2 ft. to 3 ft. in height, and clothed with large beautifully cut leaves. The stems of *Herman Stenger*, on the other hand, attain a height of 7 ft., of which 3 ft. to 4 ft., are occupied by large flowers of a light sky-blue colour. The petals are brownish and bearded, but do not add particularly to the beauty of the flower. The spike-like raceme, however, has a massive appearance, and altogether *Cantabrigensis* and this variety must be looked upon as border flowers of first-class merit, and certainly the cream of those now so conspicuous and showy at Pendell Court.

display such a wealth of bloom as to monopolise the attention of visitors, as do the Delphiniums at present. Blue, of course, in endless tints and shades, is the predominant colour, but purple, white, brown or black in a lesser degree blend charmingly with the prevailing hue. In spite of the absence of rain for many weeks, there is no indication of a lack of moisture, as the stately stems rise from 3 ft. to 9 ft. or more, according to the variety.

This we are accustomed to see in rich soil in rainy seasons, or in northern climes with a cooler moister atmosphere; but notwithstanding the drought, the growth they have made is remarkable, nor have they been watered or mulched in any way. The surface-soil is of a light but rich sandy nature, and the excellent growth made, not only by the Delphiniums, but by everything else in the borders, must be accounted for by a loose open subsoil and a free upward passage of moisture from below, seeing that the garden lies in a valley at no great height above the water in the pond and the various streams that feed it.

THE VICAR'S GARDEN.

As a means of relaxation to weary brain-workers, a quiet stroll through the pleasure grounds or among the flower-borders of a well-kept garden, stands second to none; and to the professional gardener a look in at one of his neighbours, will often impart stimulus and strength, when more or less cast down by the disappointments and vexations incident to his calling. A few evenings back we enjoyed a pleasant half-hour in the vicar's garden, which looked as it always does—gay enough for the most vulgar admirer of flaming colours, and choice and refined enough to satisfy the most æsthetic devotee of Flora. We had the pleasure of seeing a quarter of the improved Field Poppies—a sight, we suppose, not to be seen elsewhere. These are the produce selected from a chance break a few years back; they have developed into one of the most striking successes in the improvement of our hardy field flowers which this, or any past generation, has witnessed, and only equalled by the transformation of the weedy-looking Violas of the cornfields into the superb varieties of our modern florists, and the improvement effected in the Hollyhock by Messrs. Laing, Chater, Benham, and others.

Considering the short time these Poppies have been in hand, the diversity of colours now seen among them is astounding; varying from the purest white, through various shades of pink, to the most vivid and intense scarlet, some with well-defined white lacing, and there are indications of a strain of carnation-striped ones being developed among them. There are a goodly number of double ones, and there seems, practically, no limit as to the size, colour, or doubleness of flowers which these will yet assume. At present there are no yellow ones among them; this we think quite conclusive against the idea that *Papaver nudicaule* has had something to do with the origin of this strain. Neither in colour of flowers or habit of growth is there anything to warrant a conclusion of that kind being drawn. They will, from their intrinsic merits, become, not only the most popular of Poppies, but the most sought after of anything in the way of hardy perennials.

They must become everybody's flowers, for they can be grown anywhere and anyhow. When scattered amongst shrubs in the hardy herbaceous borders, they are very decorative, and when they become plentiful should be sown pretty freely in such positions, where, being of light growth and occupying so little room, they will not overpower other things. They will serve to enliven the borders when there is a paucity of bloom among other things, and being cheap—as they soon must be—can, at any time when desirable, be thinned out, the better types being retained. Their value for house decoration cannot be over-estimated. Being light, bright, and graceful, they admit of being utilised in combination with Ferns and grasses or other flowers. It is very pleasing to record a success of this kind, which occurs, perhaps, but once in a generation. They must not be confounded with the ordinary garden Poppies, bearing but little likeness to them, and being infinitely removed from them in point of merit, are destined, we believe, to run those old favourites out of cultivation.

Among other good things in flower, we noticed a particularly fine and distinct variety of *Lilium auratum*, named *Virginalis*—one of the very best and most distinct forms of this popular Lily we ever saw. *L. Jenningsii*, *L. Szovitzianum*, and *L. Parryii* are samples of the rare and good gems of the Lily tribe to be seen here. We noticed *Iberis Gibraltarica*, which, to our surprise, was described in *THE GARDENING WORLD*, a few weeks back, as being pure white; this fine thing is, unfortunately, not quite hardy. Among hardy flowering shrubs, *Buddlea globosa* ought to be better known and more often seen than it is, being one of the most distinct and handsome hardy flowering shrubs we have. A good plant of it will always draw forth the most unqualified admiration from those who see it for the first time, but it must be placed where it has ample room. We notice with pleasure *Phlox suffruticosa* represented in a few varieties. As these flower in advance of the taller-growing and more varied-coloured *P. decussata*, they are well worth all the care and attention which can be bestowed upon them, both the individual flowers and spikes being very choice and beautiful, and most of them are deliciously scented. These not so many years back were first favourites in the north, but since the improvements made in *P. decussata* they seem to have got into the background.

Scarlet Giant Poppies, a splendid strain of Foxgloves, with Gaillardias, German and Spanish Iris, are freely interspersed among other less conspicuous subjects. *Spiraea aruncus* is a fine back-row plant, or to stand out in an isolated position. Among humbler-growing things *Leptospermum prostratum* claims attention, not only for its beauty, but for the length of time it continues in bloom. The drought is telling very seriously against us. Some time since I wrote a few lines, which I never forwarded, quoting the old adage, "When Ash is before Oak we shall have a soak: When Oak is before Ash then we shall have a splash." The Oak was most distinctly before the Ash this year at the time I penned those lines, and nothing seemed more unlikely than that we should have a dry time, such as we are experiencing now; so perhaps there may be some truth in the old saying. At all events, it is only too true to suit either our comfort or convenience this season.—*W. B. G.*

GARDENERS' ORPHAN FUND. THE PRESIDENT "AT HOME."

We take the following extracts from *The World*, of Wednesday, July 6th:—The arrangements of Sir Julian Goldsmid's own room speak volumes for the industry of its inmate. Ground-glass screens him from the irreverent gaze of the inhabitants of Brick Street; in one corner his secretary, Mr. Hutchense, is engaged in the dissection of a heap of "charitable appeals," and the master of the house, seated at a homely writing-table, covered with American leather, below the window, is making notes for an article which he has promised to contribute to an early number of the *Liberal Unionist*. Two massive mahogany stands are weighed down with their burden of Blue-books and Parliamentary papers; a carefully underlined copy of Mr. Chamberlain's *Speeches on the Irish Question* is next-door neighbour to a curious little enamel eighteenth-century clock; and you are surprised to discover that the sketches in plain frames on the pale yellow paper are by Salvator Rosa, Luca Giordano, Du Moustier and Delfos. Sir Julian Goldsmid has half-a-dozen replies still to dictate, and while you await his leisure your eye wanders to the plain gray chimneypiece where art, politics and good works seem to foregather in picturesque confusion amidst the bronzes. The Tunbridge Petty Sessions list rests against a case containing miniatures of Henry the Eighth and his wives; a catalogue of the Orchids at Somerhill divides the post-cards of the Liberal Union and the Geographical Society, while the Tunbridge Cricket Club separates the University of London and Brompton Hospital from the Anglo-Jewish Association and the Jews' Infant School. A pile of new books, a specimen of Japanese metal-work, and a curious painting on parchment occupy a prominent position on a round table in the centre of the room, which Sir Julian Goldsmid presently explains to you is sacred to recent purchases, the ultimate destination of which is still undetermined.

Hard work has been the great feature of Sir Julian's career ever since the time when he beat most of his competitors at college. Alpine adventure was then his favourite diversion, and he had climbed most of the celebrated peaks of Europe before he carried off the highest honours which the University of London could give him, and joined the Oxford Circuit in search of briefs and forensic fame. Just one-and-twenty years ago he succeeded his father as member for Honiton, and made his maiden speech in support of Mr. Bouverie's Fellows of Colleges Declaration Bill. Mr. Goldsmid soon acquired a reputation for courage and industry at Westminster; but in 1868 he lost his seat by the disfranchisement of Honiton. In the course of the same year he married. His wife possessed all the enthusiasm and passionate love of art and music which traditionally belongs to the Florentine race from which she came, and she brought with her all the light and brightness of the South to her English homes in London and at Somerhill. Her husband soon found another seat at Rochester, and he continued to represent that ancient borough for nearly ten years. In 1875 Mr. Cross made him a member of the Senate of the University of London.

Sir Julian Goldsmid, who succeeded to the title on the death of his uncle in 1878, played a notable part in the grave debates on foreign affairs which marked the years 1878 and 1879. He studied most of the great Continental questions on the spot, and in his travels

he always found time and opportunity to add to his collection of pictures and porcelain. For many years he was treasurer of University College, and took an active share in its management. He laboured diligently on numerous Parliamentary Committees, and displayed as much zeal in the interest of the Jewish Schools and the Anglo-Jewish Association as he did on behalf of the Brompton and University College Hospitals or the Metropolitan Working Class Dwellings Association. Sir Julian Goldsmid thoroughly mastered the various subjects to which he turned his attention. He has since embraced the political faith of a Liberal Unionist, and South St. Pancras now claims the services once given to Honiton and Rochester. He is at present one of the eight Chairmen of Railway Committees in Parliament.

THE WEATHER AND FRUIT PROSPECTS.

THE weather in this district of Yorkshire has been very unfavourable for all sorts of outdoor fruits. With the exception of a shower we had about three weeks ago, we had no rain from May 22nd up to Saturday, July 16th, when we were favoured with a nice shower of about an hour's duration. It was astonishing to see how much fresher and healthier every plant, bush and tree looked immediately after. Before the nice shower of Saturday, whatever way one chose to turn, everything had the same burnt-up and parched appearance—plants dying in the borders, Strawberries gradually disappearing in the beds, lawns turned from a glossy green to a dull brown colour.

During the past few weeks the temperature has been very changeable, the thermometer registering during the day as high as 75° to 80° in the shade, and falling sometimes as low as 44° during the night. With a favourable season the fruit-crop would have been an excellent one in almost every class. Apricots with us are an abundant crop, the trees being literally covered; considering the extremely dry weather, the fruit is swelling wonderfully well. Peaches in the open air here, are doing better than they have done for some years, but we have been greatly troubled with green-fly; the want of rain and with only a limited supply of water, has prevented us from doing them complete justice. The same is applicable to Plums (*Gages*); they are quite an average crop. Victorias are especially good. Those grown in the standard and bush form will yield an immense quantity of fruit; the branches are already bent down under the weight of it. Pears of the hardier sorts are quite an average crop. Jargonelles, and others of the better sort, are not so plentiful, the late spring frosts having hurt them very much. Never did a season open with better prospects for a crop of Apples, the trees in this district being completely covered with blossom, but the continued dry weather has told heavily on them. In some places just now, on looking through the orchards, the Apples are to be seen lying in hundreds below the trees; if we do not get sufficient rain soon, I am afraid Apples will be very small, and, on light soils, very scarce. Cherries have been very abundant, but small.

The leading varieties of Strawberries grown are Sir Joseph Paxton and President in their respective places as early and second early, with Elton Pine as late. Of the former I cannot speak too highly; it has done first-class with me this year, being of splendid size and excellent flavour. The excessive drought seems to have affected it very little. President, on the other hand, is deficient in flavour and is absolutely tough, which, no doubt, must be the effects of the weather. Elton Pine seems to be more easily affected than any of the others; on light soils it has almost disappeared.

Caterpillars have wrought fearful havoc on Gooseberries and Red Currants. They have been cleansed time after time, but all to no purpose, they always finding their way there again. Where the bushes have been kept clean good crops are to be seen hanging, and those who have taken the trouble to clean them will be rewarded for their labour. Currants, both Black and Red, are very plentiful, and, like everything else, have suffered severely for want of rain, and are very small. It has been the cry for weeks back, how much good a shower of rain would do. Day after day the clouds have looked threatening, we have heard the thunder and seen the lightning, but alas! the rain has always passed over to some more favoured part. I think the

gardeners about here will remember the summer of 1887 for a long time.—*Thomas Yule, Middleton Tyas, Yorkshire.*

GLENBERVIE, KINCARDINESHIRE.

The fruit prospects in the early part of the season promised remarkably well, and even now the trees are well laden with fruit, but the continued drought is telling severely on them, and great numbers of Apples, Pears and Plums are dropping. Unless there is a good supply of moisture before long, the fruit must of necessity be small. About the end of June heavy clouds hung about and threatened to deposit their precious burden, but they gradually passed off, leaving only disappointment to the horticultural community, which, like the agricultural, must suffer considerable loss at the end of the season.

Mr. Cruickshank, who supplies us with the details concerning the fruit, says that small fruits are also an excellent crop as to numbers, but the fruit will be exceptionally small owing to the want of moisture to swell them. This applies to Currants, Strawberries and Gooseberries, which usually crop well in any season. Gooseberries seldom fail to give an excellent return of well-flavoured fruit, and the same might be said of Strawberries, the plantations of which, however, must be frequently renewed owing to the comparatively light nature of the soil.

The surface soil is moderately rich, owing to good cultivation, but, except where annually trenched and manured for vegetables and other garden crops, it is naturally very shallow, consisting of alluvial soil, probably deposited in former ages by the river Bervie, which now flows at a considerably lower level. Underneath this there are numerous alternate layers or strata of rough and fine sand, with occasionally a layer of coarse gravel. At some little distance from the surface, layers of clay occur which are almost impervious to water, causing it to collect there, but otherwise the soil is naturally well drained, and requires a great amount of moisture to bring the crops to perfection. From this it will be gleaned that the garden is not particularly suited for Apples and Pears, nor conducive to heavy crops, except where it has been greatly improved or altogether renewed. Owing, then, to the thin and light nature of the soil naturally, an idea may be had of the urgent necessity of a speedy and copious rain.

CAPE HEATHS.

In conjunction with my remarks on *Erica Shanuoni glabra* at p. 715, I ought to mention the other four varieties that were sent out at the same time, as they all undoubtedly possess extraordinary merit, both as regards colour and the form of their flowers. Without doubt they stand in the foremost rank among Heaths as varieties suitable for exhibition, and should amateurs decide upon growing any of the varieties of Cape Heaths, they should not fail to obtain those mentioned below.

ERICA TRICOLOR PROFUSA is an excellent variety, the size of the flowers calling for special notice. Belonging to the tricolor section, it has blooms with distinctly coloured markings, being large, bright crimson at the base, shading to rosy carmine, whilst the upper half of the tube is white, incurved at the throat, which is yellowish green.

E. ORNATA is quite distinct from any *Erica* yet sent out, being of a peculiar shade of French white, shading into a soft carmine colour. This variety is not quite free from the gummy substance so peculiar to many kinds, but has very little of it.

E. OPULENTA is probably the finest high-coloured variety yet obtained, and its only drawback is the abundant amount of gum attached to it. Were it not for this great disadvantage, it would, undoubtedly, be very popular. The flower is long and tubular, inflated at the base, bright crimson in colour, and produced in immense whorls consisting of as many as twelve to fifteen flowers on each.

E. EFFUSA.—This grand *Erica* is of sterling merit, approaching somewhat in colour the well-known *E. Marnockiana*; but being stronger in habit, is easily distinguished from that form. The flowers are larger and the habit stronger, being quite tomentose in character. The blooms are bright scarlet-crimson, and are freely produced.

There are many other good Heaths, and I will give a list of some of the best summer and autumn-flowering kinds in another article.—*W. G.*

GARDENING NOTES FROM SCOTLAND.

Midsummer Frost at Clovenfords.—On the evening of Sunday last the temperature suddenly dropped considerably, and in the morning we had 2° of frost. Potatoes have been more or less injured, according to situation, and French Beans have suffered very much; other things, not quite so tender as the above-named, would, no doubt, have also suffered a little had it not been that everything was extremely dry, the day having been breezy and cool. Previous to this sudden change of temperature the wind shifted into the north-east and remained there two days, then returning to the balmy west and bringing with it a renewal of the warm weather we have had so much of this season. Such a sudden change of temperature in the middle of July, bringing the thermometer down to 30°, is not often experienced, and it is to be hoped that we shall not again be visited with frost in July in a hurry. The summer has been a very fine one here, and we have not suffered so much from drought as many; the nature of the soil and also a thunder-storm, which came on us some weeks ago, have enabled things here to flourish wonderfully.—*J. Thomson, Clovenfords, July 19, 1887.*

Orchids at Nunfield, Dumfries.—That the love of Orchids is spreading in all parts of the country is abundantly evident on all hands, and there is, no doubt, a brilliant future in store for these lovely plants. At Nunfield a nice collection has been got together during the last few years, and, what is equally pleasing, the plants are doing well under the able management of Mr. Rowe, the gardener in charge. I was much struck with the admirable order observed in all departments when on a recent visit, and was agreeably surprised to find such a nice collection of plants. Among the Orchids were several fine forms of *Odontoglossum vexillarium*—indeed, I do not recollect having seen larger flowers or finer form. The freedom with which they were blooming, and the grand growths upon the plants, showed that the treatment they receive is just that which suits them.

Cattleya aurea, *C. gigas*, *C. Sanderiana*, *C. Imperiale*, *C. labiata*, *C. superba*, *C. Eldorado*, and a white form of the latter in the way of *C. Wallisii*; *C. Mossiae*, and *C. Mendelii*, were all in flower, and fine varieties too. *Cypripedium niveum*, *C. Stonei*, *C. Dominiana*, *C. lævigatum*, *C. villosum*, *C. Hookeri*, and varieties of *C. barbatum*, were all represented by well-grown plants, nicely in flower. *Odontoglossums* are well done, and just now are represented by *O. citrosimum*, of which several well-grown plants are suspended in baskets or pans; fine forms of *O. Alexandræ*, varying from purest white to the deep spotted kinds now so plentiful; *O. Pescatorei*, *O. cordatum*, and *O. Roezlii* were there also, all being nicely flowered. *Masdevallia Veitchii*, *M. Harryana*, *M. Bella*, &c., find a place in the collection, the latter, with several of its weird-looking flowers, being suspended in a basket. The curious *Bolbophyllum Lobbii* also attracted my attention. These are only a few which caught my eye during a hurried run through the houses, for it was a sweltering morning on July 4th.

A fine lot of well-grown and beautifully flowered *Gloxinias* from Mr. B. S. Williams' strain, were simply perfection. *Achimenes* were grown in baskets and were a mass of flowers suspended from the roof, and objects of great beauty. What a pity it is that more attention is not paid to the growing of these, for nothing can possibly be more beautiful. *Nepenthes*, in like manner, are also well done, and foliage plants such as *Dracænas*, *Crotons*, *Anthuriums*, *Palms*, of all the leading and most popular sorts, are well represented, and the *Dracæna* and *Croton* are wonderfully coloured and nicely grown. Flowering plants such as *Ixora*, *Gardenia*, *Allamanda* are also thoroughly well grown.

A conservatory attached to the mansion was very gay with soft-wooded plants—*Begonias*, *Rhodanthes*, *Pelargoniums*, *Fuchsias*, *Nicotiana affinis*, &c. The last-named is a favourite, and grown in quantity for its sweet perfume. In the vineries I noted fine crops of fruit, and both kitchen-garden and flower-garden appeared in admirable order, though suffering greatly for want of rain. That Mr. Scott derives great pleasure from his garden is not to be wondered at, seeing how well everything is cultivated by his gardener, Mr. Rowe.—*A. O.*

THE AMATEURS' GARDEN.

STRAWBERRY RUNNERS.—Independent of watering, so much required in this hot weather, the plants can be greatly assisted in other ways to reduce the strain upon them for moisture required by the fruit and the general needs of a free, vigorous growth. Where forcing of Strawberries is done, now is the time to commence layering the runners in specially-prepared soil in the open ground, or, better still, in 3-in. pots, using a rich compost of good soil. Layering them in pots ensures their removal in autumn with little or no damage to the roots, which means much if the greatest amount of growth is to be secured. For the formation of new plantations, all this trouble is unnecessary and undesirable, as good plants can be secured with a small amount of care. It is a custom in many gardens, especially in the northern part of the island, to cut away all flowers the first year after making new plantations of Strawberries, in order to strengthen the plants and ensure a maximum of growth so that heavy crops may be obtained. A year may, however, be gained, especially in the southern part of the island, by encouraging vigorous growth of the young plants on the runners, and afterwards planting them out in their permanent quarters to enjoy the autumn rains and establish themselves before winter. After the soil has been moistened, and the weather otherwise tolerably favourable, an enormous amount of root-growth is made and the crowns well filled with flower-buds. In the first place, then, after a sufficient number of the best runners have been pegged down, both for forcing purposes and for new plantations, cut the superfluous runners clean away, and stop those layered beyond a good joint from which the young plant is expected. As soon as the ground for new plantations is cleared in autumn, have the ground heavily manured and deeply dug. The runners should then be in excellent condition for removal to their permanent quarters, and if the weather is tolerably favourable for growth, the young plants will establish themselves beyond all fear of being thrown out by frost, and may be expected to bear a tolerably good crop of fruit the following summer.

ROSES AND ROSE-BUDDING.—The abundance of Roses is evident on every hand this year, although frequent complaints have been made about their small size and perishable condition, owing to the protracted dry weather. Where these are grown simply for ordinary garden decoration, if an air of tidiness is to be maintained, the beds, borders, and other places in which they are grown, must frequently be gone over to collect, and remove the fallen flowers that now commence to strew the ground thickly. Those Roses that flower only once a year, producing a great display of colour for a short season will soon be robbed of their glory for another year; but many common kinds continue their growth, and produce bloom over many weeks. The hybrid perpetuals may suffer a little from the present unpropitious weather, but the moisture of autumn frequently recruits them wonderfully, and flowering if it had previously ceased, commences again, frequently producing fresher and more highly coloured blooms than at midsummer. Some wonderfully perfect blooms have even been produced up till Christmas in favourable weather. Those who have not yet mulched their Roses, can do so in the expectation of good resulting thereby.

The budding of Roses is seldom a matter of serious consequence, either to the professional or the amateur, although there are instances where it might be done to the advantage of both. Recently budded, or even established sorts might have their tops accidentally or otherwise broken, or might have altogether failed when it would be desirable to re-bud them. Bad varieties might exist in gardens limited as to space, and the exchange or transference could easily be effected at this time by the method mentioned. The best heads on standards are produced by budding on strong seedling stocks, which are much better furnished with roots than are stocks pulled up from the woods or hedges. The latter are so mutilated in the process, and are so badly furnished with roots in nearly every case that no long-lived or healthy heads can be reasonably expected from varieties budded on them. At present the dry condition of the atmosphere is anything but favourable to budding.—*F.*

ODONTADENIA SPECIOSA.

THIS very fine climbing stove plant, which is also called *Dipladenia Harrisii*, was figured in the *Botanical Magazine* in May, 1855, and is there described as an inhabitant of the banks of Caroni, and to the eastward of Mount Tamara, Trinidad, where it was discovered by Mr. Purdie, the superintendent of the Botanical Gardens of that island. It was named *D. Harrisii* in honour of Lord Harris, then Governor of Trinidad. The coloured plate in the *Bot. Mag.*, as seen now, does not fairly convey the proper tint of the flower, making it too yellow, and very much like an *Allamanda*.

Messrs. James Veitch & Sons were the first to flower this plant in Europe, in September, 1854, but it is probable that at the present time very few, if any, plants are in cultivation in England. There is now in bloom in one of the stove houses at the Botanical Gardens, Birmingham, a specimen plant raised from seed brought by a lady from South America seventeen or eighteen years since; but although the plant is always a vigorous grower, and flower-buds were formed in two or three previous years, Mr. Latham did not succeed in blooming it until last season. The plant is growing in a large pot, and is trained along the roof. Mr. Latham this year tried the plan of stopping the young growth when 2 ft. to 3 ft. in length, which led to the formation of blooming lateral shoots abundantly supplied with flowers.

The soil used is turfy loam, and the house in which it is growing contains *Crotons*, *Dracenas*, *Nepenthes*, and other ornamental plants. The foliage is unlike that of *Dipladenias* in general, and bears a closer resemblance to that of *Combretum purpureum*, but is larger and of a lighter green. The colour of the flower is a creamy pale yellow, with pale orange-buff markings and a deeper-coloured pencilled throat—a very pleasing shade altogether. The blooms are of medium size, not so large as those of *D. amabilis* and its varieties, and are produced in profusion on large drooping racemes. It is a lovely warm-house climber, and easily grown from young wood by cuttings; but to flower it well the young growth should be stopped, as Mr. Latham recommends.

As we are not overdone with plants suitable for growing as specimens for our mid-season flower shows, the question arises whether this could not be made available. Our old *Dipladenia* and *Allamanda* cultivators used to let these plants grow freely to rafters, and some days before the exhibition remove the growths from that position and train around the trellis. I have an impression that this *Odontadenia* will eventually turn out to be a good exhibition plant, and as I must confess to being somewhat surfeited with *Clerodendron Balfourianum*, *Stephanotis*, and *Allamandas*—not *A. grandiflora*, as I seldom see it now—I should like to see a few other good old plants rescued from obscurity and again brought to the front.—*W. D.*

A MISSION ROOM FLOWER SHOW.

MANOR STREET, Chelsea, is, to all appearance, one of the most unlikely places where one would look for a flower show. At 4 p.m. on a hot day recently, I went into the Mission Rooms in the above street, and saw a number of plants neatly arranged on tables, with samples of needlework, and any illustration in the way of ingenuity and skill that working men might have originated in their leisure hours. The judge had just made his awards, and the public were being admitted. I may state that in connection with the Oakley and St. Matthew's Mission districts, supported by the congregation of St. Paul's, Onslow Square, there is a Cheerful Home and Window Gardening Society, and this society promotes a flower show among the residents in the more crowded parts of this populous borough. The schedule of prizes is a very unpretentious one, and includes prizes for *Fuchsias*, *Geraniums*, and climbing plants; also for miscellaneous plants, window-boxes, and vegetables. The last class was a surprise, for no one scarcely would dream that vegetables could be grown in the heart of Chelsea; but an examination of the first prize basket showed that it contained Strawberries, Peas, Rhubarb, Radishes, Carrots, Onions, Lettuce, Mustard and Cress, and Mint; and then the outside of the basket had been utilised, for it was covered with flannel, and when moistened Cress seed was spread over it, which, clinging to the damp flannel,

speedily germinated, and gave a crop of edible salad. The gentleman who made the awards—one of Messrs. Veitch & Sons' assistants—told me that it is surprising what is grown in the way of vegetables in some of the small gardens at the backs of the houses in some of the minor streets.

The plants exhibited consisted of Creeping Jennies, some of them capitally grown and flowered; zonal *Pelargoniums*, double and single (in the schedule of prizes the old name of *Geranium* is retained); *Fuchsias*, Musk, the common and Harrison's; *Lobelias* (bedding), a few nicely grown and flowered; *Tradescantia zebrina*, plants that had apparently been well roasted in the sun, and had coloured like the leaves of a *Coleus*; *Chrysanthemum frutescens*, African Marigolds, Indian rubber plants, *Aspidistra*, *Vallota purpurea*, &c. There were some large *Fuchsias* trained to comely trellises, and as is the case with plants grown in London for some time, pretty well furnished with leaves but wanting in bloom. It is a requirement on the part of intending exhibitors, that they take their plants to be registered and sealed, so that they can be identified if necessary, on the 19th and 20th of May, which is about seven weeks before they are exhibited. In making the awards the judge went for the best plants, but I fear that in many cases they were those which had been in the possession of the exhibitors for the shortest periods. Very many of those that received prizes looked like plants that had been obtained some two or three months only before the show; and such plants would be certain to be more highly thought of than plants that had been in the possession of an exhibitor for a year or more. I think promoters of exhibitions of this character should, to their very utmost, endeavour to encourage the growth of plants all the year round, and so far as they can succeed in doing this, so far will they succeed also in securing cheerful homes.

I wish hearty success to movements of this kind. I was pleased to see well-to-do people present assisting the worthy vicar of St. Paul's and his hard-working curates in the good work they are doing in Chelsea.—*R. D.*

FREE-FLOWERING SHRUBS.

THE WHITE BROOM (*CYTISUS ALBUS*) is one of those ornamental and medium-sized shrubs that when seen in full flower nearly every visitor expresses astonishment at, and wonders why it is not more commonly grown. The ordinary yellow-flowered plant is ornamental enough, but when placed side by side with the present subject it attracts but little attention. To see this white-flowered form when in full bloom is, indeed, a sight that one does not often enjoy; but the effect is much heightened when a clump or mass of, say, a dozen good-sized plants are placed in close contiguity, for then the united wealth of pure white flowers is showy in the extreme. By placing it in front of the Austrian Pine, or some similarly dark-foliaged tree or shrub, we have produced an effect which it is difficult to match.

A light sandy soil would seem to suit best this pretty Broom; and it is all the better, for the sake of flower-production at least, to plant it in a sunny, warm situation. Unless allowed plenty of room, and frequently headed down, this Broom becomes straggling and untidy in appearance; but as it bears pruning well, the overgrown head and branches may be cut back without fear of harm.

PIPTANTHUS NEPALENSIS (THE EVERGREEN LABURNUM) has given great satisfaction wherever it has been planted; and certainly, so far as a neat-habited, free-flowering shrub is concerned, it holds a high place in our list of hardy evergreens. Full-sized specimens with us have only attained to a height of 8 ft., so it may be considered as a medium-sized shrub that, from its somewhat strict habit of growth, is well suited for planting in small gardens or where space is limited. The flowers are large, of a bright yellow colour, and produced in bracteate racemes. Ordinary loam may be considered as about the best soil in which to grow the evergreen Laburnum; but it prefers a sunny, warm situation.

CYTISUS NIGRICANS.—Why Loudon called this plant the Black Cytisus is a problem that I cannot unravel, for certainly no part of the plant, unless, indeed, it be the ripe seed pods, approach that colour. It is a far more elegant plant than our common Broom, with almost every shoot terminating, in May or June, in a

raceme of golden yellow flowers. Although introduced for upwards of a century and a half, this Broom is far from common, and why it is so would certainly be difficult to say, as it has every requirement that need be wished for in a shrub. Grafted on the common Laburnum, it soon forms a neat and compact-headed standard, and which when in flower is about as bright an ornament as one need care to wish for. It is quite hardy, and readily propagated from seeds, which are produced in abundance, and ripen well in most parts of Britain. We would advise everyone who is interested in hardy ornamental shrubs, to try a plant of this Broom, and I feel confident they will not be disappointed with the results, so far, at least, as blooming is concerned.

CEANOTHUS DENTATUS, although not perfectly hardy, is yet sufficiently so to warrant its being planted throughout England generally, more particularly the western maritime parts. It is a shrub usually about 3 ft. in height, of rather compact growth, thickly covered with small deeply toothed evergreen leaves. The flowers are of a deep blue colour, produced in great abundance, and for several months together. It makes an excellent wall plant, and is even more floriferous than when used as a standard. *C. rigidus* is a nearly allied species, with stiff wiry branches and purplish flowers. Another distinct and showy species will be found in *C. Americana*, which has slightly pubescent leaves, and produces a rich succession from June to August, of its pretty and distinct flowers.

All the species of *Ceanothus* are readily raised from cuttings, if these be placed in a frame and kept close until rooted. Rather dry warm soils will suit these plants best, and they are not particular about situation, although in northern exposures they are more apt to get killed by severe frost.—*A. D. Webster.*

TERRESTRIAL ORCHIDS AND CAPE BULBS.

REFERRING to the remarks on this subject of a correspondent in THE GARDENING WORLD recently, I can form some idea of the difficulty found at home in getting Cape Terrestrial Orchids and Bulbs to flower, as certainly our climate is so different to yours; in short, I may say, that our climate in comparison with that of England is a perpetual spring. We find very little difference between winter and summer, and very few, indeed, of the indigenous trees and shrub bushes lose their leaves in winter. The greater part are evergreens, with thick, leathery leaves, and numbers are exactly like the Indian Azalea. The wild Fig is an exception, as it casts its leaves at the end of July, but breaks out into new growth in a fortnight afterwards.

Deciduous imported trees from Europe, Australia and America, such as the Apple, Pear, Plum, Peach, Fig, Vines, &c., are shedding their leaves now (June), as also are the Oak, and such-like; but imported evergreens, such as the Gum and Willow, are growing the whole season round.

As to the secret of flowering bulbs, I may say that, although we get very cold nights with very heavy dews, and have slight hoar-frosts during June and July, the earth is never cold, for six out of every seven days the whole season round we have bright sunshine. Were I to return home, I would undertake to flower the whole tribe. But, perhaps, as a precautionary measure, I should require a glass frame with about 1 ft. of rough rubble, and the same depth of soil. The frame I would place where some hot-water pipes are led across a pathway into a stove or other forcing house; just such a place as was once given to me to strike Roses in, when engaged as foreman at West Hill House, Epsom. There would, of course, have to be a slight difference in the management. You must pardon my pride for mentioning it, but the head gardener, on seeing my success, promised to get me a patent for the plan. That head gardener was a good hand, and the lessons he taught me I have not yet forgotten; slow in giving praise, it was all the more valued when it did come. It was a test for me at the time, as he said he had heard of people striking Roses in autumn, but they never put the roots on. This was thirty years ago.

The fact is, many of our large bulbs (like *Amaryllis Belladonna*) are perfectly hardy in England if planted

deep under a greenhouse wall, where they will not get disturbed; and the smaller bulbs and terrestrial Orchids would probably succeed well outdoors in summer, in thin pots plunged in cocoa-nut fibre or sphagnum in a shady situation, from whence they should be removed to the kind of frame I have mentioned, on the approach of bad weather. Properly managed, the frame would accommodate them all the year.—*James Hall, Port Elizabeth, South Africa.*

ELÆODENDRON ORIENTALE

(ARALIA CHABRIERI OF GARDENS).

SOME of our readers who are not classical scholars may object to the long unpronounceable name here given; but no one can be opposed to the plant itself, for it is one of the handsomest of decorative subjects, and responds readily to stove treatment and the horticulturist's skill; or, in other words, it is easily grown,

oval, oblong, or obovate, sometimes alternate, and altogether different from what we see in gardens, being by no means ornamental. For our illustration, which gives a true idea of the habit and graceful appearance of the plant, we are indebted to Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway.

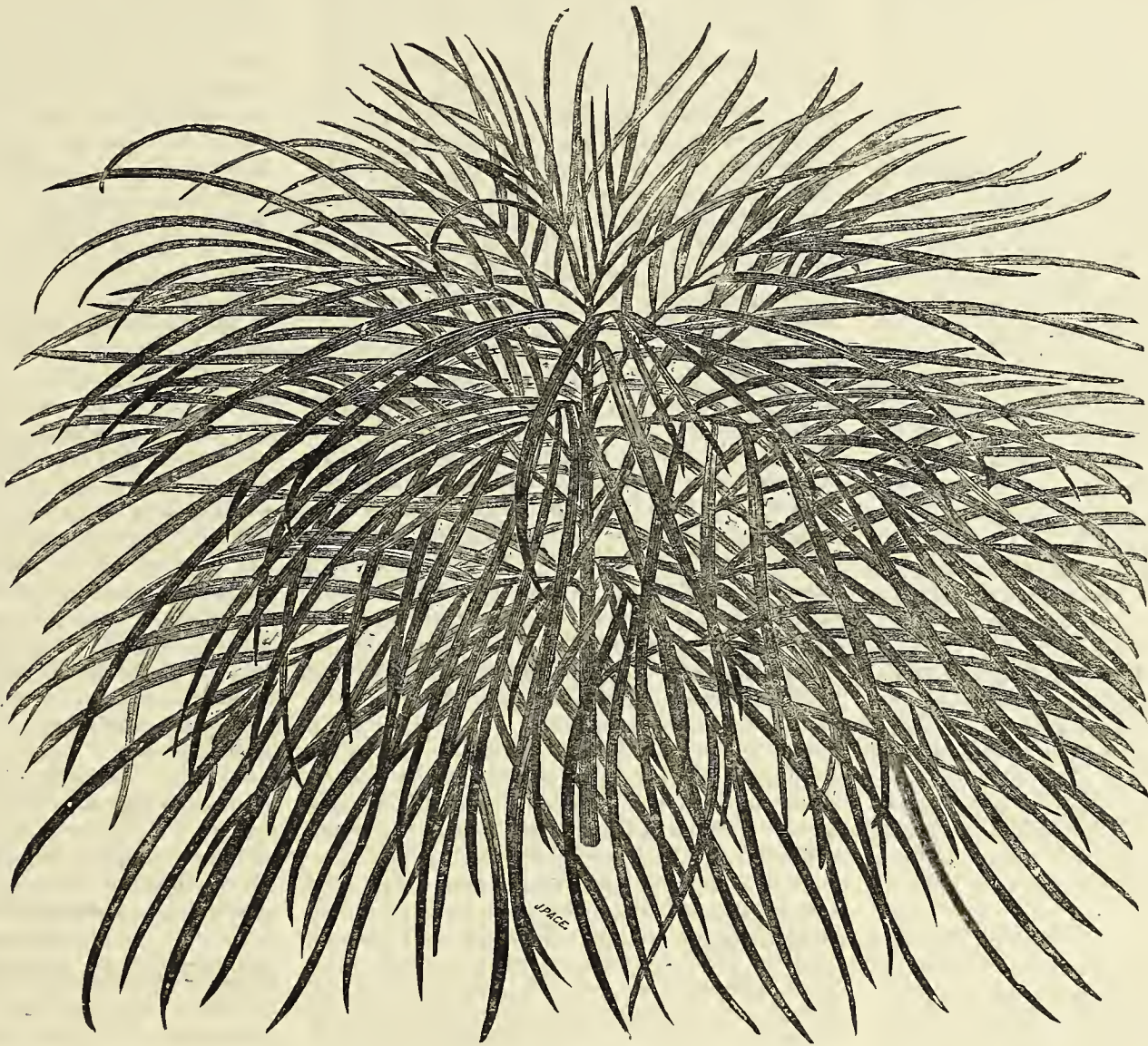
WORMS AND THEIR WORK.—IV.

The beneficial effects of worms would be more apparent on an undisturbed piece of ground, such as a lawn or a flower-garden, than in the kitchen-garden, which is periodically dug or otherwise disturbed. Even here, however, owing to the necessity of keeping the lawn tidy, the good work of worms is ignored, and their work made to appear as of no account. Suppose, however, for the time being you allow them full scope and a free run of the lawn; if the latter is moderately rich and moist the soil will be permeated with their

brought to the surface, where they germinate and puzzle the learned as to the longevity of seeds, and their supposed age since buried. Worms, also, sometimes line the bottom of their burrows with seeds or little stones.

HARM DONE BY WORMS.

Considering their universal distribution, and that no garden exists without a good share of worms, the harm done by them is comparatively of a trifling nature. In dealing with the whole subject of worms, we fail to find that they do any direct harm to plants, either in the excavation of their burrows, or in their habits, or the collecting of their food. It is true they live partly on leaves and other parts of plants, including stems, petioles, seeds and spores: but this happens after these things have been brought to the ground by natural means and causes. The nature of their mouths and their subterranean habits preclude the idea of their doing much harm by attacking living vegetation.



ELÆODENDRON ORIENTALE (SYN. ARALIA CHABRIERI).

and can be kept clean and fresh without any trouble, owing to the leathery texture of its leaves. Although not an Aralia, it may be grown successfully with the same treatment, and in a compost of the same nature—that is, sandy loam and peat of a fibrous texture, which may, if necessary, be enriched with a little leaf-soil that is not too decayed or finely powdered. Stove-heat is necessary, as the plant is a native of Madagascar, Mauritius, and Rodriguez, where, in some cases, it constitutes a great part of the forest vegetation. That grown in gardens is a juvenile state of the plant, which ultimately becomes a tree, having a very different appearance than when in the seedling state. As grown in gardens, from an erect stem it sends out short side branches, having very much the appearance of leaves. The true leaves are opposite, long, linear, slender, deep green, and rendered exceedingly attractive by a crimson midrib. They also assume a graceful drooping habit, which renders the plant a great favourite in gardens as a table decorative subject. When it reaches the tree state, the leaves become shorter, broader, and coarser,

burrows, constituting a natural drainage for surface-water and offering a free passage for air, which is necessary at all times for the respiration of roots, for aerating the soil and raising its temperature. Roots find an easy passage downwards, and the more tender ones find a suitable medium in which to ramify in the linings of the burrows themselves and the moisture retained by them.

The deposit of castings enriches the surface-soil immensely, and forms a natural top-dressing to the grass. All heights and inequalities of the ground would be gradually levelled down; stones and everything solid, of too great a size to pass through the intestines of worms, would be buried in no great length of time, and the surface-soil would consist of a layer similar to what the gardener prepares by sifting for fine seeds. The latter are, undoubtedly, buried by castings, and brought under the best possible conditions for germinating. Seeds are also sometimes washed down the burrows of worms to a considerable depth, and fail to germinate till accidentally or otherwise

Worm castings are only an eyesore to the desire for tidiness where lawns have to be clean shaven and swept. The scythe and mowing machine, perhaps, suffer from these castings, and the garden boy who sweeps them up, denounces the vile castings, and their humble though diligent and silent makers. A more advisable plan would be to roll down the castings rather than sweep them up.

More real damage is done to plants grown in pots in hothouses than in the open air. This is effected indirectly by the worms depositing their castings in the drainage, and preventing the escape of water. Another evil arises where worms by some means or other get into pots containing finely sifted soil, in which small seeds or spores are sown. This latter case is, perhaps, the most annoying of all, and the worms may be induced to leave the pot by tapping it, or by applying lime-water. Where the pot is filled with roots, the whole ball of soil may be turned out of the pot and examined. Worms generally lie in the drainage or against the sides of the pot, and may be easily caught by the expert.

In preparing lime-water, put some lumps of unslaked lime in a watering pot or other vessel, according to the quantity required, and after leaving it for some time, part of it will become dissolved, when the clear water may be poured off into another vessel, diluted with more water, and used in watering pot plants where worms are suspected or known to exist. If the worms are lying near the mouths of their burrows, they will rush out instantly as if pursued by fire or an enemy. They are frequently killed, however, or die a lingering death near the bottom of the pot. When it is desired to destroy worms on a lawn, sweep up the castings so as to leave the burrows open, and then apply lime-water as to plants in pots. Acetic acid or vinegar is very deadly to worms, and it would be well worth trying in special cases. It is very powerful in killing them, even in a diluted state, so that caution may be exercised in the case of tender plants lest they should be injured, while still keeping the destruction of worms in view.

THE BIRMINGHAM ROSE SHOW.

A two days' exhibition of Roses in the Botanical Gardens was held on the 14th and 15th inst., and although the number of exhibitors were of a restricted character, owing to some extent to the great Rose shows at the Crystal Palace, Edinburgh, and Bradford, a goodly display of blooms were brought together. Then the long spell of hot dry weather has had its influence, and the Midlands have felt it severely. In the open classes for nurserymen Messrs. Harkness & Sons, Bedale, again scored successes here, and it seems that this firm will stand at the top of the tree this year as the champion trade exhibitors. The question was put to Mr. Harkness here as to the reason of their brilliant success this year, and he attributes it greatly to the fact of their having 8,000 cut-back plants to cut from, although their best blooms for their London, Trophy, and Edinburgh prizes were obtained from maiden plants.

This firm scored first places for forty-eight singles, twenty-four doubles, twelve Teas or Noisettes, and second for twenty-four singles, first for twelve whites (Merveille de Lyon), and third for twelve crimsons of one sort. In their exhibits Antoine Ducher, Merveille de Lyon, Etienne Levet, Harrison Weir, a grand bloom of Reynolds Hole, Ulrich Brunner, and others, were very fine.

Mr. Mereweather, Southwell Nurseries, Notts, was first for twenty-four singles, second for twenty-four trebles, second for twelve Teas, showing generally good blooms, including very fine trebles of Her Majesty, Captain Christy, Maréchal Niel, Comtesse de Nadaillac. Messrs. Perkins & Sons, Coventry, were second for forty-eight singles, third for twenty-four trebles, third for twenty-four singles, and first for a handsome bouquet of Roses; also two prizes for twelve white and twelve crimson Roses.

In the amateur classes Mr. W. J. Grant, Hope End Farm, Ledbury, was the champion, winning the Veitch Memorial Medal and Prize of £5 as first prize for thirty-six Roses, single blooms; also first, each for twenty-four singles, twelve trebles, twelve singles, and twelve Teas or Noisettes. In all these classes many fine blooms were to be seen.

Mr. A. W. Griffiths, Edgbaston; Mr. J. Rickards, Edgbaston; Mr. W. C. B. Cane, Harborne; Mr. W. Boyes, Milford, Derby; The Rev. Dr. Watson, Birkswell; J. E. Wilson, Esq., Edgbaston; and Mr. W. Whittle, Belgravia, Leicester, were the other successful exhibitors. In the class for Rose bouquets Messrs. Perkins & Sons, Coventry, were first with a handsome well-made bouquet, and Mr. Charles, Showells Gardens, second.

Messrs. John Laing & Co., The Nurseries, Forest Hill, contributed, not for competition, a fine lot of cut blooms of double and single tuberous Begonias, to which a First Class Certificate was awarded. Mr. Cooper, gardener to the Right Hon. Joseph Chamberlain, M.P., sent cut blooms of tuberous Begonia W. Spiuks, a very large, well-formed, light pink variety, as well as some fine seedlings.

Mr. R. H. Vertegans, Chad Valley Nurseries, set up a large collection of cut flowers of herbaceous plants, including two interesting and pretty seedling varieties of *Campanula trachelium*—viz., Chad Valley Gem, of a deeper hue than *C. trachelium pallida*, and Distinction, deep blue-lilac, to which a First Class Certificate was awarded. Mr. Vertegans also staged

a nice collection of Alpine plants. Mr. Hans Neimand contributed a fine group of ornamental and flowering plants, arranged in his usual artistic style.

Messrs. Williams Brothers & Co., Pushon Street, Birmingham, obtained a Certificate for their Flower and Plant Support—an excellent contrivance, with a spring clasp, for supporting Carnations, Picotees, Pinks, Hyacinths, and other plants; also for their "Meteor" Garden Syringe, in combination with flexible tubing and a water tank. The syringe is perfect in its action, and does not render the person using it liable to a drenching of back-water.

The houses of plants reflect the greatest credit upon Mr. Latham, the curator, cultural excellence being a striking characteristic here.

SOME GOOD ROSES ON THE BRIER STOCK.

READERS of Mr. Wilkie Collins' *Moonstone* will remember that while Sergeant Cuff contended that the Damask Rose was a good stock for most of the tenderer sorts of Roses, the gardener, Begbie, as resolutely asserted that "the de'il a bit ye'll get the white Moss Rose to grow, unless ye bud him on the Dog-Rose first." The Damask Rose being of moderate growth, has not been much employed as a stock, but the brier has come to play a most important part as a stock, and especially so as one for the white Moss. I saw it a few days ago at Mr. House's nursery at Peterborough, large vigorous bushes, budded on the brier, growing in a heavy clayey loam, and bearing an immense number of lovely blossoms. Undoubtedly the brier is the stock for heavy soils; but for light soils, the Manetti stock is the best.

In all discussions as to the best stock, the fitness for certain soils must be considered. Mr. John House told me that a few years ago he planted on his stiff soil a large number of Roses, about one half on the Manetti, and the other half on the seedling brier, with the result that while all on the seedling brier have done well, the large majority of those on the Manetti have perished, owing to the unsuitability of the stock for a heavy soil. Therefore, it is necessary that amateur cultivators of Roses, in ordering plants, should state the nature of their soil, so that there may be as little disappointment as possible after. On the Manetti stock wonderful Roses can be had the first year on heavy soil, but after that, there is a diminution of vigour, and gradual decline. On a light soil the brier will fail; the Manetti flourish. In planting Roses on the Manetti stock our rosarians recommend that they be so planted, as that the point of junction between the stock and scion be 1 in. below the surface of the soil; but in the case of brier just above it.

Anyone having a heavy soil—a clayey loam that runs together and cracks during a time of drought—should plant Roses on the seedling brier. The following, noted in Mr. House's nursery, make excellent garden Roses on the brier planted in such a soil:—Cheshunt Hybrid, very fine indeed, both in the bud and fully expanded, and that in spite of the drought, for no rain has fallen here for some time; but little had been done in the way of mulching, and no water had been given. Gloire de Dijon, very fine; in a few cases the pale amber in the centre of the flowers had given place to a fleshy pink, making it look quite like a distinct variety. Duke of Edinburgh, very fine in colour. Madame Berard, which Mr. House regards as an excellent nurseryman's Rose because so free; in fact, he informed me that he depended more upon this Rose for cut blooms in the open than upon any other. Joseph Benaci, a creamy primrose Tea-scented variety, lovely in the bud state, and an excellent variety to cut from. Reine Marie Henriette, very fine and free, a perfect gem in the open, beautiful in the bud state. Magna Charta, one of Mr. William Paul's introductions; a very fine garden and exhibition Rose. Dupuy Jamain, another excellent garden and exhibition variety, that can be depended upon. Jules Finger, very fine, really a splendid Rose, and most desirable for garden culture. Captain Christy, very fine and free. Marie Van Houtte, a delightful lady's Rose, because so charming in colour and so well adapted for the decoration of a drawing-room. Rêve d'Or, charming also, and a good exhibition variety. Lady Mary Fitzwilliam, very fine and free on the Manetti in the case of plants one year from the bud; if this is grown on the Manetti, it especially should be

planted on light soil. Merveille de Lyon and Violette Bruyere, both very fine; and last, but not least, the white Moss.

This is but a select list, because Roses are many; but it is large enough for a small garden wherein it is desired to plant a select few only. There are Roses of varied colour in it, and all of a most useful and charming character. Growers of Roses should endeavour to obtain such sorts as they may purchase of a nurseryman from a soil similar to their own. If this suggestion received more consideration, there would be fewer failures charged to the nurseryman who supplied the Roses in perfect good faith.—R. D.

GAILLARDIAS.

It is curious to notice how the Gaillardia has come to the fore of late. Messrs. Kelway & Son, of Langport, and others have made a speciality of it, and raised many varieties from seeds—some of a very bold and showy character, and others more curious than beautiful, having singular quilled florets. I presume we owe most of the improved varieties to *G. picta*, which came from America about 1832. Years ago it was predicted of the Gaillardia that it might one day produce double flowers. It has certainly done this in the case of that remarkable variety of *G. picta*, known as *Lorenziana*, in which a perfect ball of quilled florets is formed; but it lacks the striking character of the former. Recently there has appeared varieties of *G. picta*, with broad green florets, that show a tendency to produce more than the usual number of the same; and a double form of this character may be seen in the course of time. I am not at all sure it will be an improvement, and, I think, that in a fine single form of *G. picta grandiflora* we get an approximately perfect Gaillardia.

Some of the finest varieties I have seen this year are Vivian Grey, yellow; Satellite, deep orange-red centre, and broad margin of deep gold; Diana, dark centre, with edge of gold; Merry Hampton, in the same way, but the golden margin is not so well defined; Victory, red disc with slight band of orange-red, and broad margin of yellow; Buffalo Bill, a curious form having two lines of quilled petals opening out into four segments 1 in. in length, and of a rich golden colour; very distinct; Adonis, bright orange-red, margined with deep gold; Bella Donna, orange-red with margin of gold; Lælia, red and yellow disc, broad pale golden margin; Astrea, red centre, deep gold margin, broad petals; and Maxima, a very fine form of the *Picta grandiflora* type.

Gaillardias are easily raised from seed, and choice varieties are increased by means of cuttings struck in spring. They make capital summer-bedding plants, and are very showy; they can also be utilised as pot plants. But they need a greenhouse or warm frame to preserve them during the winter.—R. D.

GARDEN PLANTS ILLUSTRATED.

PHŒNIX RUPICOLA FOLIIS ARGENTEO-VARIEGATIS.

Those who have to furnish a great amount of table decorative material, will recognise the value of a variegated form of this already popular species. The ordinary form or type of the species is an exceedingly ornamental feather-leaved Palm, whose value and superiority to *P. reclinata* is admitted by all who have made its acquaintance. The variegated form here mentioned has broad longitudinal white bands or stripes on the juvenile undivided leaves, with one or two wholly white pinnae scattered at intervals along the pinnate leaves of older plants.—*L'Illustration Horticole*, 5 ser. I., t. 3.

ONCIDIUM SUPERBIENS.

An idea of the general appearance and habit of this plant may be obtained by comparing it with *O. macranthum*, which also belongs to the *Microchila* section. The leaves are evergreen, about 1 ft. in length, while the panicle, developing from the base of the young pseudo-bulbs, bearing from thirteen to fifteen flowers, attains a length of 2 ft. or 3 ft., and requires support. The lateral sepals are large, rounded and clawed, of a deep chocolate-brown colour, while the upper one is wavy and yellow at the margin; the petals are somewhat triangular, wavy and deep yellow, with transverse brown bands on the lower half; the labellum is small and brown; and it is an old but still rare plant.—*Orchid Album*, t. 276.

MASDEVALLIA IGNEA MASSANGEANA.

The flowers of this fine variety are upwards of 2 ins. across, and differ from the typical form in point of size, as well as colour. They are borne singly on scapes well elevated above the leathery evergreen foliage, and take rank amongst the best of the genus. The colouration is very intense, consisting of orange-vermilion striated with darker veins. The outer three segments, generally designated the sepals, are deeply bilabiate. The upper sepal is subulate and inflexed, or folded over the flower, while the lateral ones are broad, oblong-ovate and very conspicuous. It is named in compliment to M. Massange de Louvrex, Belgium, with whom it flowered several years ago.—*Orchid Album*, t. 273.

SCHIZOCASIA REGNIERI.

A beautiful Aroid under this name has been introduced from Siam by Regnier, whose name it commemorates, and acquired by the Compagnie Continentale d'Horticulture, and shows considerable affinity with *S. Portei*, already cultivated in this country. The petioles of the leaves are yellowish, beautifully marked with hieroglyphic blotches. The blade is large, peltate, and deeply cut into cordate, lanceolate segments, and is deep green above, with prominent whitish nerves, and glaucous beneath, while the margins are undulated, adding somewhat to the appearance of the leaves.—*L'Illustration Horticole*, 5 ser., I., t. 6.

GARDENING MISCELLANY.

Lilium polyphyllum.—This Lily is not often seen blooming in English gardens. I believe that it is usually considered to require damp treatment. We have a plant now in flower at Oakwood, Wisley, which appears to show this to be a mistake. We planted it in 1881 in a rather dry loam mound; the stem is now 5 ft. 5 ins. high, and has thirteen flowers and buds. It carried itself well, but fearing the effect of thunder and rain I thought a stake desirable; the earth was so hard and dry that it was necessary to make a hole with a digger before we could force the stake down. This Lily is very graceful and pretty, though not showy. If any of your readers have seen it flowering in India, any hints as to its growth at home would be very useful.—*George F. Wilson, Heatherbank, Weybridge, July 19th.*

The Huntingdonian Pea.—I consider this one of the best of the many sorts I have tried for the general crop. The pods are not so large or as showy as many other sorts, averaging only about six peas in each, and, consequently, will not make as good an exhibition variety as some leviathans; but its good qualities are appreciated when gathered young, cooked, and placed on the table, as it always gives satisfaction. It possesses a good colour, has a fine appearance, and is, I think, the best-flavoured Pea I have ever tasted. It is a heavy cropper, and has stood this season's drought as well as most other sorts. The birds are very fond of this Pea, and when sown by the side of other varieties they always seem to attack this in preference to them, both when the young plants first appear above ground and also the pods, showing them to be great connoisseurs in taste, and thereby adding their testimony to its general excellence. As the Pea is such an all-round favourite at table, perhaps others of your subscribers would give us the benefit of their experience.—*Alfred Gaut, The Gardens, Copped Hall, Totteridge.*

The Scarlet Austrian Briar.—Neither of the fine forms of *Rosa lutea* are cultivated to that extent which their elegant habit, fine foliage and charming flowers would warrant; nor would it seem that anyone has been doing much towards their improvement or the raising of new forms recently. That under notice is a charming and brilliantly-coloured form that has been in cultivation for many years, having been figured in the *Botanical Magazine*, t. 1077, under the name of *Rosa lutea tricolor*. This latter name was given from the fact that the upperside of the petals is scarlet, while the underside is yellow. It flowered grandly a short time ago at Pendell Court, Betchingley; but from its being planted in a dry situation against the wall of the mansion, the duration of the flowers this year was not so good as on previous occasions. No one can deny their appropriateness and beauty in such positions; but Mr. Ross is gradually getting

collections of this and other kinds of choice ornamental Roses planted in beds, forming masses on the grass in conspicuous places. The double golden yellow variety has been so planted; but from the plants being cut down to form a close mass all over the bed, they have not flowered so freely as when left unpruned—conditions that must be regarded in the cultivation of Austrian Briars.

A Fasciated Delphinium.—A very striking and curious instance of fasciation in a variety of *Delphinium exaltatum* has just been brought to our office by Mr. S. D. Archer, 27, Furze Road, Thornton Heath. The stem was 4½ ft. high, and is flattened from the base to the apex. It was thickest at the base where the flattening is less decided, but from thence upwards it becomes gradually dilated, and thinner till it reaches a breadth of 3½ ins., and from ½ in. to 1¾ in. in thickness, and measures 6½ ins. across the top where it is covered with flowers. At the extreme apex it breaks up into two leading points with a great many small points, the exact number of which would be difficult to determine on account of the flowers being densely packed on all sides of the stem and apex, much more thickly than would be admissible in a well arranged bouquet of flowers. At the base of the huge flattened or fasciated raceme the flowers are somewhat more loosely arranged, and numerous short lateral branches are given off as in the ordinary course of growth in the species. The whole stem is thickly clothed with leaves on all sides, almost to the base, and the lower half where the flattening is not complete has a number of depressed cavities appearing as if resulting from a vacuum. Fasciation of *Delphinium elatum* has been previously recorded by Dr. Masters in his valuable work on "Vegetable Teratology," but he gives no particulars respecting it.

New Miniature Sunflower.—This is a very pretty and useful thing. It is of dwarf, compact, bushy habit, and bears an abundance of single, small, bright golden flowers, between 3 ins. and 4 ins. in diameter. It is a most valuable plant for grouping in beds or borders, and also for cut-flower work, as the blooms last a long time in water. It will, I am sure, become a general favourite when better known.—*Alfred Gaut, The Gardens, Copped Hall, Totteridge.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

THE GREENHOUSE.—As remarked in last week's Calendar, a thorough re-arranging and staging should at once take place, which need not be repeated until the autumn. Of course, many of the soft-wooded plants must be removed from the stage as they go out of flower, but can readily be replaced by those kept in reserve for the purpose. It will be advisable to dispense with as many as possible of the Zonal Pelargoniums which have been kept flowering on for cutting purposes in the greenhouse; if they are kept in a favourable position on a good firm bottom, and all flower stalks removed as they appear, they will be found most valuable next autumn; it is surprising how bright and cheerful a truss of scarlet Pelargonium looks indoors after the first visitation of frost. Should the plants be much pot-bound, give a small shift, but if any of the soil of the ball is unused rather return to the same pot, and now and again give a dose of liquid manure composed of soot and cow-dung, which will keep the plants in robust health; in very hot weather they may be sprinkled overhead after watering in the evening.

FERNS.—As is usual in most mixed plant stoves, a plentiful crop of Ferns appear, and to-day we are potting off a good stock of *Blechnums*, *Pteris longifolia* and several of the hardier varieties, which are so extremely useful in a small pot for room decoration during autumn and winter, together with a good batch of seedling *Adiantums* and crested *Pteris serrulata*. While writing of Ferns, let me say that *Davallia canariense* will be found much more useful for all purposes if grown in quite a cool temperature. The fronds are very useful late in the season, and are good for cutting, lasting quite fresh for a long time in water when subjected to cool treatment.

ACHIMENS have all been staked and put in prominent positions in the intermediate house, where, staged with Begonias, Ferns, and many other subjects,

they have a pretty effect. Gesnerias having now made a good growth, are staged by themselves, Maidenhair Ferns being dotted amongst them to hide the nakedness of their pots. The syringe not being applied to them, the Fern-fronds are rendered more serviceable for cutting purposes.

POINSETTIAS.—Our Poinsettias, which are a good sturdy lot and well rooted, we have shifted into 8-in. pots. They will be returned to the cold pit, but, for a time, will not be so freely ventilated; and in case of very bright sunshine, a slight shading will be given until they take to the fresh compost. When it is ascertained that the pots are full of roots, the most liberal treatment should be adopted in the way of feeding them with liquid manure. It is astonishing to see the quantity of this they will take with impunity, to the ultimate production of bracts of enormous size. Artificial manures do not, as a rule, appear to suit these plants; but cow, sheep, deer, or horse-droppings, in conjunction with soot, used alternately, and with occasional applications of clear rain-water, produce the most favourable results.

BOUVARDIAS have been potted on and placed in a frame where a genial heat is maintained. Ventilate freely during the day to keep them sturdy.

THE FRUIT HOUSES.

VINES.—A slight appearance of spider in the Lady Downes and Muscat vineries has rendered the application of sulphur necessary; the first dose appearing to quite clear the pest. This is more necessary in the case of white Grapes which are permanently disfigured, and rendered almost useless for dessert, if once a footing is established by this insect. Should we find any trace in a few days, a second dose will be given, which even in the most stubborn cases is generally sufficient to exterminate. Undoubtedly the season has, by the intense heat which has prevailed, greatly contributed and assisted in the establishing of red-spider, where, under ordinary circumstances, it would not have been noticed, at the same time the most vigorous measures must be adopted out of doors; a free use of the garden engine must be made, as well as attention being paid indoors; in fact this is a most trying season.

STRAWBERRIES.—Lose no time in completing the potting on of Strawberries for forcing; late potting simply means unripened and consequently unfruitful crowns, from which, under even the most favourable care, only a most moderate return can be expected. We have planted out the succession house and frame of Melons, and shall at once sow for our latest batch, if a favourable autumn follows, these sometimes come in extremely useful. We once had a very good lot, some of the fruits weighing 13 lbs. each; this is much too large for all purposes, but it was grown from seed supplied by a friend. The late lot we always grow in pots, and find them much more reliable than if planted out.

THE KITCHEN GARDEN.

GENERAL WORK.—We have certainly experienced a little relief from the few showers we have had, but they have been of such short duration as to make no impression whatever on the soil, consequently, watering continues a stern necessity. We have put out nearly all our winter stuff, and shall give one good soaking as the work proceeds, after which they will take care of themselves. We have lifted all the early Ashleaf Potatos, and the ground is again cropped; it is quite useless leaving early varieties in the ground any longer, but they will keep much better fit for table if stored in a cellar, than if kept too dry.

TURNIPS, &c.—We are anxious to put in a good breadth of Turnips for late use, and also for storing, but the soil is so hard and fiery that it is impossible to break it down; if sown much later they never keep sound long. The seeds mentioned last week were all sown; and in addition we have to-day (18th) made a sowing of Ellam's Cabbage under cover rather than trust to outdoor for such a critical crop. As soon as the seed germinates, the boxes will be placed out of doors, when they will be well attended to, and when large enough to handle, the plants will be pricked out on a prepared bed ready for planting out in the early autumn; the square for these is already prepared, with the exception of giving to the surface a good dressing of gas-lime.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Cattleya gigas Shuttleworthii.—This superb *Cattleya* is now flowering for the third time in Messrs. Shuttleworth, Carder & Co.'s collection, at 191, Park Road, Clapham, and will take its place amongst the notable and valuable things that find their way into collections where good things are prized. The pseudo-bulbs have gradually gained in size from the earliest of the series yet retained by the plant, and at present seven healthy leaves on as many pseudo-bulbs are borne by this variety; these are oblong, rigid, and of a healthy deep green colour, the longest being somewhat over a foot in length. From the huge spathe three flowers emerged, and owing to the great heat which then prevailed, rapidly developed and expanded. This rapidity of growth was somewhat unfavourable to their best development, causing them to be smaller than usual, but, notwithstanding, the flowers are large and extremely handsome. The sepals and petals are of a soft rose, the latter being large and undulated, bearing occasionally a few large rich crimson blotches. The labellum is of the usual large size, with, however, a shorter deep purple tube, and a large expanded rich purple lamina, which is beautifully undulated and crisped at the margin. The throat is closely striped with purple and yellow, but the whole flower derives character and is greatly enlivened by a golden yellow and white blotch on each side of the orifice of the tube, and this is the more conspicuous on account of the dark colour of the rest of the lip.

Erratic Cypripediums.—Instances of normally-coherent organs becoming disunited, and imitating others already existing, frequently occur in one or other genus of the great Orchid family. Occasionally we have instances of this kind in *Cypripediums*; but the union of normally-free parts would seem to be rare, or by no means of common occurrence. Excepting in *C. arietinum*, there are only five free parts or segments of the perianth; while in most other genera of the Orchid family there are six. A case has occurred in *C. Lawrencianum*, at Clapham, in the collection of Messrs. Shuttleworth, Carder & Co., where the originally six parts have become reduced to three—that is, the anterior and dorsal sepals and the lip. The dorsal sepal, generally known as the standard, is the centre of interest in this case, and has three short points, which represent the standard and the two petals. The whole three, taken together, are only about half the usual width of the standard alone, and the outer margins have the characteristic spots of the petals of *C. Lawrencianum*, with their colour. The central stripe represents the standard, and has the same tint. Instances of another kind were seen in specimens of *C. Veitchii*, shown at the Chiswick Horticultural Society's show, on the 14th inst., by Henry Little, Esq., The Barons, Twickenham. Two specimens had each two lips, arising from some abnormal cause. In one case the normal lip was present; but inside of this, and apparently quite perfect, was another and somewhat smaller one, situated a little to the right of the median line of the column. In another case, the normal lip was evidently suppressed, and the position occupied by two distinct lips—somewhat smaller than usual, but quite perfect—inserted right and left of the median line of the corolla. The significance of this would be that through some accidental or other cause the normal lip had been suppressed, which caused two other organs usually adhering to, or forming part of, the column to become separated, and to simulate the true lip.

Masdevallia demissa.—Amongst a large collection of *Masdevallias* flowering with Messrs. Shuttleworth, Carder & Co., at Park Road, Clapham, may be seen this new species recently named by Reichenbach, belonging to the *Coriacea* section. The flowers are borne singly on peduncles that fall a little short of the leaves; they are of medium size, with a deep metallic shining brown tube, and deflexed yellow tails about 1 in. long. The interior of the flower is also of a fine metallic brown, and altogether the flower is both distinct and pretty, and many times larger than others of recent introduction, concerning which so much has been said. The leaves are sub-erect, spatulate obovate, of a deep shining green, and 3 ins. or 4 ins. long, from which an idea of the general habit and appearance of the plant may be gleaned.

Cypripedium javanico-superbiens.—As may be gathered from the name, this distinct *Cypripedium* is a hybrid between *C. javanicum* and *C. superbiens*, otherwise known as *C. Veitchianum*. The large standard is greenish with white veins, and the oblong petals also show some of the same green tint derived from *C. javanicum*, but they are closely spotted with blackish purple all over, and also have the rose tint, all of which is common to *C. superbiens*. The foliage is beautifully marked with two distinct shades of green, or green and greyish white.

FLORICULTURE.

A SELECTION OF FINE AURICULAS.—Can plants of the best Auriculas be had? is a question put by those desirous of adding to their collections. I can answer this question satisfactorily by saying, Yes. I am of opinion that a novice in the art of Auricula culture should start with a selection of the improved cheap varieties by way of seeing what he can do, and then if the liking for Auriculas, and his capacity to grow them progresses alike, he should then add some "cracks," and discard the weakest in his collection. I know this is a doctrine that finds little favour with some growers, but I know it is backed by others of experience, and I stand by it. A young beginner can start with a select few, that he can purchase at from 2s. 6d. to 5s. each, and he can get "cracks" at from 7s. 6d. to 21s. each. It does seem a pity to buy expensive varieties, and ruin them from inefficiency of culture before the 'prentice hand has tried to show what it is capable of doing.

Now as to the "Cracks." What can be had? Take the green edges, and such fine varieties as Colonel Taylor, Booth's Freedom, Prince of Greens, the Rev. F. D. Horner, and Talisman can be had without difficulty. Of grey edges: Alexander Meiklejohn, C. E. Brown, Campbell's Confidence, Dr. Horner (Read), George Lightbody, John Waterston, Lancashire Hero, and Douglas's Mrs. Moore and Silvia. Of white edges: Acme, Beauty (Traill), Conservative, Frank Simonite, Glory, John Simonite, always very scarce and dear, Smiling Beauty and True Briton. Of selfs: Woodhead's Black Bess, C. J. Perry, Duke of Albany (Douglas), Lord of Lorne, Mr. Douglas, Pizarro and Sapphire (Horner). I have no doubt that I lay myself open to the charge that I have included in the foregoing list a few varieties that can hardly be properly designated "cracks," but I can say of them that they are all good enough to be placed in a pan of twelve varieties, and I may add that Mr. Horner's grand dark self, Heroine, is in course of being distributed by Mr. B. Simonite, at a big price of course, but it is worthy of it; and our old friend Ben is also distributing a new white edge of his own raising, which he has named Heatherbell, and which he describes as being extra fine.—R. D.

HORTICULTURAL SOCIETIES.

Wirral Rose Show.—July 20th.—The annual exhibition of this society was held in Hamilton Square Gardens, Birkenhead, on Wednesday last, but the exhibits were considerably below the average of this usually most successful gathering, both as regards the quality and number of blooms staged. In the section open to nurserymen, Messrs. Harkness & Sons, Bedale, Yorks, took the first prize for seventy-two trusses, distinct, and for thirty-six trebles, being the only exhibitors in these classes. For thirty-six single trusses, Messrs. James Dickson & Sons, Chester, were first; Messrs. F. & A. Dickson & Sons, Chester, second; and Messrs. G. & W. H. Burch, Peterborough, third. Messrs. J. Dickson & Sons, G. & W. H. Burch, and F. & A. Dickson & Sons were placed in the order named for eighteen triplets. Teas, which are generally staged so well, were not represented in the nurserymen's section.

In the amateurs' class for thirty-six varieties, single blooms, the Rev. J. H. Pemberton, Romford, had the premier collection; and T. B. Hall, Esq., Rock Ferry, followed with a well-formed lot of flowers; W. J. Grant, Esq., Ledbury, being third. W. Boyes, Esq., Derby, had the best twenty-four varieties, staging fresh bright specimens, and J. E. Backhouse, Esq., Darlington, and E. J. Day, Esq., Rowton, were second and third in the order named. For twelve triplets the prizes were awarded in the same order as for the thirty-six singles.

For the best twelve Teas or Noisettes, single trusses, Mr. Pemberton again came to the front, followed by T. B. Hall, Esq., and W. J. Grant, Esq. For the best twelve of any one light variety, T. B. Hall, Esq., was the only competitor, W. Boyes, Esq., being in a similar position for six new Roses. For twenty-four varieties, single trusses, open to all amateurs in Cheshire and Lancashire, the first prize and Gold Medal was gained by Alfred Tate, Esq., Woolton, with a well-balanced lot of blooms; T. B. Hall, Esq., being a very close second; and the Rev. L. Garnet, Christleton, third. The remaining classes were local, D. Walford, Esq., Spital, taking the Cup for twelve varieties, single trusses; Miss Squarey, Bebington, the first prize for six varieties; and E. Claxton, Esq., Allerton, first for twelve varieties, single blooms, Tea or Noisette. For six varieties, the Rev. Canon Fielden, Bebington, and C. K. Hall, Esq., were first and second. For the best box of six Tea and six hybrid perpetuals, with their own foliage or Fern, T. B. Hall, Esq., was first with small rich-coloured blooms arranged on a groundwork of *Adiantum cuneatum*; The Rev. Canon Fielden second. The latter exhibitor also secured the Bronze Medal for the best Tea or Noisette, and T. B. Hall, Esq., that for the best hybrid perpetual in the local divisions.

Mr. S. Johnson, South Grove Nurseries, was awarded an extra first prize for a well-arranged table of plants, consisting of stove and greenhouse-flowering and foliage, with good Gloxinias, Carnations, Palms, &c.; also a similar award for cut Roses. Mr. William Henderson, nurseryman, staged a useful and interesting group, including stove and greenhouse-flowering and foliage plants, with Ferns and a selection of coniferæ and evergreens in pots.

St. Ann's Amateur Floral and Horticultural, Nottingham.—The twenty-sixth annual exhibition of this society was held on Monday and Tuesday last, and was, in every way, a decided success. The liberal prizes offered in the various classes brought out good and keen competitions, as may well be imagined from the fact that nowhere in the United Kingdom is there more enthusiasm among amateurs than in the town of Nottingham. At Hunger Hill, near the town, over 2,000 amateurs have gardens, and wonderfully well they are managed. Rose culture is carried on with great spirit, and some really splendid blooms were staged by the various exhibitors.

For a group of plants arranged for effect, there was a fine competition. The whole were arranged so as, when completed, to form one large group, which had a splendid effect. This was formed by Mr. Thacker, the president, who contributed many well-grown novelties of sterling merit. The other classes for plants and cut flowers contained some well-grown specimens. The fruit was fair and the vegetables good, considering the dryness of the season. The prizes were distributed by A. Morley, Esq., M.P., who, in a few well-chosen words, addressed the various competitors in a very encouraging manner, promising them his support in the future. The show was well attended, and the public of Nottingham have Mr. S. Thacker, the energetic president, to thank for once more giving them such a floral treat. This gentleman was ably assisted by Mr. O'Hara, who carried out the arduous duties of secretary in a very satisfactory manner.—A. O.

Chiswick Horticultural.—July 14th.—The annual show of this comparatively young society was held in the gardens of the Royal Horticultural Society, Chiswick, and the exhibits were arranged in the big vinery and in three large marquees erected on the grass. The summer show is annually increasing in importance and the competition becomes keener. The weather was most auspicious, which drew out a large attendance of visitors in the afternoon.

Groups, both for and not for competition, were the chief feature of the largest marquee, and many of them were of superior merit. Mr. W. Brown, St. Mary's Grove, Richmond, carried off the first prize, including the Jubilee Challenge Cup for the year, with a tastefully and gracefully arranged group; Messrs. Hooper & Co., Covent Garden, were a very close second; and Messrs. Fromow & Sons, Sutton Court Nursery, Chiswick, came in third. Mr. J. Prewett, Swiss Nursery, Hammersmith, was awarded the Silver Cup, as first prize, for a group of twenty-five plants in flower; E. H. Watts, Esq., Devonhurst, Chiswick (gardener, Mr. A. Wright), came in second, receiving the Silver Medal of the Royal Horticultural Society; while E. M.

Nelson, Esq., Hanger Hill House, Ealing (gardener, Mr. E. Chadwick), was third. E. H. Watts, Esq., had it all his own way for a group of plants not to exceed 60 sq. ft. The stove and greenhouse plants always produce a lively contest, and on this occasion Mrs. Meek, Poulett Lodge, Twickenham (gardener, Mr. Bates), carried off the first prize; E. M. Nelson, Esq., the second; and E. H. Watts, Esq., the third. E. M. Nelson, Esq., secured the first award both for fine-foliaged plants, exotic Ferns and Caladiums; while E. H. Watts, Esq., was a good second for Ferns.

Coleus, Fuchsias, Pelargoniums in their several classes, Achimenes, table decorative plants, Gloxinias, Cockscombs, and tuberous-rooted Begonias, were all tolerably well represented, H. Little, Esq., The Barons, Twickenham (gardener, Mr. F. G. Hill), securing the first prize in both cases for six and nine Begonias, and E. H. Watts, Esq., the Wood Jubilee Memorial Silver Medal for the three best grown specimens. Mrs. Meek had the best Cockscombs, which were grand specimens of cultivation. E. H. Watts, Esq., had by far the best and largest specimens of Selaginellas. Col. the Hon. W. P. Talbot, Glenhurst, Esher (gardener, Mr. C. J. Waite), had the best twelve Gloxinias, and H. G. Lake, Esq., Fairlawn House, Chiswick (gardener, Mr. H. Davis), had the best six. The cut blooms, including Roses and hardy herbaceous plants, were not equal to former years so far as outdoor stuff was concerned. F. G. Tautz, Esq., Studley House, Hammersmith (gardener, Mr. Cowley), had a very good exhibit of cut flowers, chiefly Orchids, and was awarded the first prize. Mr. J. R. Chard, Brunswick Nurseries, Stoke Newington, was awarded the first prize for three bouquets. The first prize for one bouquet was secured by F. G. Tautz, Esq.; and the first for six button-hole bouquets by H. J. Atkinson, Esq., M.P. (gr., Mr. Hudson), Gunnersbury House, Acton. Orchids were well shown by H. Little, Esq., who secured the first prize for six; while F. G. Tautz, Esq., came in second. The former also secured the Silver Banksian Medal for the best specimen plant in flower, with *Cattleya Gaskelliana*. A fine group of Orchids not for competition was also staged by the same exhibitor.

The best black and white Grapes were exhibited by L. J. Baker, Esq., Ottershaw Park, Chertsey. The best two dishes of Strawberries, the best collection of vegetables, the best Potatos, and the best Peas were exhibited by Col. the Hon. W. P. Talbot, who likewise gained the first prizes offered both by Messrs. Sutton & Sons and Messrs. J. Carter & Co. for the best collections of vegetables. H. J. Atkinson, Esq., exhibited the premier dish of Cherries, and E. H. Watts, Esq., the premier dish of Raspberries out of seven entries. E. M. Nelson, Esq., had the best dish of Gooseberries out of ten entries; the best Currants came from J. T. Lancaster, Esq., Heatherfield Cottage, Chiswick; and W. F. Hume Dick, Esq., Thames Ditton, sent the best Melon. There were twelve entries for the prizes offered by G. H. Jupp, Esq., for vegetables, and Mr. J. J. Stickler, High Road, Chiswick, secured the first prize.

Beautifully arranged groups of useful decorative plants, not for competition, were sent by The Messrs. Rothschild, Gunnersbury Park, Acton (gardener Mr. J. Roberts), and the Marquis of Bute, Chiswick House (gardener Mr. M. T. May), and which were highly commended by the judges. Messrs. Chas. Lee & Son, Hammersmith and Isleworth, sent a fine group of hardy ornamental shrubs, trees, and seven boxes of cut Roses. Messrs. J. Veitch & Sons, Chelsea, staged eight boxes of cut Roses, and Messrs. Carter & Co., High Holborn, sent a showy collection of annuals and grasses; both the exhibits were highly commended by the judges. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, staged a collection of hardy plants, one of which, namely, *Lilium Brownii* odorum, was certificated.

Boston Floral and Horticultural.—This society held its annual exhibition on July 5th and 6th. It is one of those societies that, existing in a purely agricultural district, combines a good deal so as to secure as large an attendance as possible. In addition to the flower show, there was an exhibition of horses, dogs, and poultry, together with a brass band contest. The show took place, as usual, in the grounds of Mr. Charles Smith, almost in the heart of the town, and they are spacious enough to admit of everything being arranged so as to be seen to the best advantage. The horticultural show was scarcely up to the usual mark—an experience that, with rare exception, is

general this season. The leading exhibitors were Mr. Butler, gardener to T. C. Garfitt, Esq., Louth; Mr. Jacques, gardener to Mrs. Oldred, Boston; Mr. T. B. Dolby, nurseryman, Boston; Mr. A. Jarnall, Mansridge, Boston; Dr. Clegg, West Street Road, Boston; and a few others. The entire show is well managed by Mr. J. G. Killingworth, the energetic hon. secretary.

One leading feature in the schedule of prizes is the groups arranged for effect. Here wire-work, &c., is allowed, and a good deal of festooning is done at the back, and that being, in most cases, at a considerable elevation, the plants in the foreground have to be packed close to bring them up to the level of the back arrangement. Mr. Butler was first with a group showing much more tasteful arrangement than the others, being freer and more artistic, but spoiled, to some extent, by the inharmonious festooning at the back. Had there been a nice background of Palms, &c., instead of this, a little less crowding in the foreground, and the specimens allowed to display their individuality of character a little more, the grouping would have come much nearer to what is seen at Manchester, for instance.

The best collection of six Ferns came from Mr. Butler, who had *Adiantum Farleyense*, *A. cuneatum* and *A. gracillimum*, with *Pteris cretica albo-lineata* in good character. Mr. Dolby had the best six Fuchsias, Mr. Butler being second. Tuberous-rooted Begonias were a good feature; Mr. W. Greenfield, Boston, had the best six, Mr. Butler coming second. Mr. Dolby was the only exhibitor of six large-flowered Pelargoniums, taking the first prize with creditable plants. Mr. Butler had the best six Gloxinias, Mr. Dolby taking second honours; while the latter had also the best six Petunias, Mr. Jacques coming second. Coleus were a good feature shown in sixes, Mr. Jacques being first, and Mr. Dolby a good second. The latter had the best three Lilies, staging a good *L. auratum* and two of *L. longiflorum*. Mr. Butler had the best specimen plant, showing a good piece of *Acalypha Wilkesiana*; Mr. Jacques coming second, with a good example of *Hydrangea Thomas Hogg*.

Fruit was sparingly shown. The best black Grapes came from Mr. A. Jarnall, Mr. Jacques being second. Gooseberries, shown for the heaviest fruit, were unripe, and Currants only imperfectly so. Strawberries were well shown. Vegetables were pretty numerous, but exhibited signs of having suffered from the drought. Mr. J. W. Leighton, Boston, had the best collection of nine vegetables, having good Asparagus, Tomatos, Peas, Potatos, French Beans, Onions, Carrots, Cabbage, and Turnips; Mr. T. B. Dolby being second. Special prizes offered by Messrs. W. Johnson & Sons, seed merchants, Boston, for Peas, and in some classes for Potatos, were fully well competed for, having regard to the season.

The best design for table decoration came from Mr. Dolby, Mr. A. Clegg being second, both of which were done in good taste. Mr. T. B. Dolby had the best stand of twenty-four cut Roses. Mr. Clegg was first with twelve varieties, and Mr. Dolby second. Mr. Clegg had the best six, Mr. Z. Inglis being second.

Nottingham Horticultural.—July 13th.—A successful gathering of the members and friends of this society was held on the above date at the Mechanics' Hall, when the lecture hall was very prettily decorated with plants. Owing to the Jubilee demonstrations, the committee decided not to hold their annual July show this year, but to make the usual monthly meetings as attractive as possible, hence a special effort was made this month, and a very creditable lot of both plants, Roses, fruits, and vegetables, were brought together. Mr. Alderman Lambert, of Mapperly Hall (gardener, Mr. Massy), had a well-finished group in the centre of the hall, consisting of Crotons, *Dracænas*, Palms, &c., brightened up with *Liliums* and other flowering plants. A. Page, Esq., Forrest House, Bulwell (gardener, Mr. Davis), sent a beautiful lot of decorative stuff, mostly in pots of not more than 5 ins. in diameter, covering a stage 10 yds. long, and among which we noticed some nice healthy bits of Orchids, pitcher plants, &c. On the opposite side of the hall three semi-circular groups were set up by different gentlemen. First next to the entrance was a prettily arranged group sent by J. Booth, Esq. (gardener, Mr. Ralph). In the centre was a beautiful *Araucaria excelsa*, 4 ft. high—just the right size to be effective. Next came a well-arranged lot sent by Mr. Mee from Wollaston Hall Gardens, who

also filled up the stage next to Mr. Page's with a first-rate collection of eight dishes of fruit, consisting of Grapes and Peaches. His three bunches of Madresfield Court were first-rate, evenly matched, 11 ins. long, and finished off beautifully, showing what a really grand Grape it is when its cracking propensity can be overcome. The next group following Mr. Mee's came from C. J. Cox, Esq., Rock House, Old Basford (gardener, Mr. J. Meadows), and prominent here were some well-coloured Crotons and *Dracænas*, and very fine Cockscombs. W. H. Farmer, Esq., Alexandra Park (gardener, Mr. Atterboro), sent some larger stuff, among which were some very good tree Ferns, a pair of hanging baskets, in which was the very beautiful *Hoya bella* in flower. From the Borough Asylum came a splendid table of vegetables, and also some exceptionally fine Strawberries; and a very fine lot of Roses from Messrs. Frettingham, Beeston, Messrs. Lowe, Beeston, Mr. J. Howe, and several local amateurs.—J. R. M.

LAW NOTES.

IMPORTANT TO SEEDSMEN:—*Richardson v. A. H. Clarke & Co.* In the Selby County Court, on June 22nd, Mr. J. Richardson, of Staynor Hall, Selby, brought an action against Messrs. A. H. Clarke & Co., King Street, Covent Garden, to recover the loss which he had sustained in consequence of defendants supplying him with a quantity of seed which turned out to be defective. In May, 1886, the plaintiff ordered of the defendants a quantity of Turnip seed called "Hartley's Short Top." After the seed had sprung up and partly developed itself, it was noticed that it was growing into a very peculiarly-shaped plant, which, when full grown, resembled something like a small berry tree. The plaintiff, who is also a seed merchant, had sold some of the seed to his customers, and had thereby lost their custom. The damages charged were £50. Mr. Danckwerts, for the defendants, contended that Turnip seed often-times turned into what were called "runners," and when they were in that state they resembled the specimens produced in court. Messrs. Clarke & Co. had also had printed on their invoices and catalogues a protective clause, which stated that they would not hold themselves responsible either as to the quality or production of their seed. It was a customary thing with all seed merchants to print a clause of this kind on all their invoices and catalogues. Part of the plaintiff's land only produced these plants, and the other part on which the same seed had been sown had produced good Turnips. It was impossible to tell Swede Turnip seed from Rape seed; no person could tell the difference between the two, therefore it was an impossible condition to guarantee. The evidence of the plaintiff, and several farmers having been given, Mr. F. Smith, seed merchant, Selby, stated that the specimens produced in court would not grow from Turnip seed at all, neither would any neglect in the cultivation make it turn out in that way. As to the protective clause, seed merchants, he said, always printed something similar on their catalogues and invoices. He admitted that it was impossible to distinguish Swede Turnip seed from Rape, unless by the size; where the size was the same there was no other distinction.

His Honour, Judge Bedwell, in giving judgment, said that he could not but take notice of the fact that Mr. Smith had admitted that it was the general practice amongst seedsmen to print such a clause as the one referred to on all their invoices and circulars. In the face of the evidence which had been submitted, he could not think it was an unreasonable qualification, and should, therefore, non-suit the plaintiff, with costs for the defendants.

QUESTIONS & ANSWERS.

IRIS KÄMPFERI FAILING.—A. C. B.: From what you say, the deterioration of your plants and the small size of their bloom is due to the drought. In the neighbourhood of London they seldom succeed in the open border, except when the summer is an unusually wet one. In Japan, its native country, it is grown as an aquatic; but in this country it should be grown where it can get an abundant supply of water in summer, and be kept rather dry in winter. If grown on the banks of a lake or stream, where the roots can dip into the water and obtain a supply of moisture, they cannot fail to succeed and produce large blooms.

AMERICAN HORTICULTURAL SOCIETIES.—J. C., Liverpool: New York Horticultural Society; Western New York Horticultural

Society: Massachusetts Horticultural Society, Boston; Pennsylvania Horticultural Society, and Pennsylvania Horticultural Association, Philadelphia.

THOMAS MOORE MEMORIAL.—Subscriber: We will inquire what is being done.

CHERRY TO NAME.—T. F. & Son: It may be Hogg's Red Gean, but is probably only a wilding.

STRAWBERRY TO NAME.—J. M. P.: The fruits were so badly packed that they were all smashed and unrecognisable before they reached us. They had lost not only their shape but their colour, by rolling about in the box.

SEEDLING DOUBLE BEGONIAS.—R. C.: For size, variety of colour and fullness, your double flowers were certainly very fine. All of them were very large, and one, of a semi-globular form, was pure white, with the exception of the outer pink segments, which, however, were hidden underneath the flower. A very massive scarlet form, consisting of an immense number of little rosettes, was also a striking flower; but we should rather prefer another even larger form, of a paler scarlet, with longer, looser petals, as being much more artistic and graceful. In striking contrast to this was a crimson flower, with the central mass of petals very much shorter than the primary outer ones, and almost as hard as a cricket ball. A very pleasing pink and rosy pink, semi-globular flower, with numerous white centres, presented a very pleasing combination. Another novelty was a small, double yellow, and resembling the tufts seen in many Tea Roses. Several other shades were represented, and nearly all the result of proliferation of female flowers having their ovaries free, with numerous ovules on the margin or all over the lower half of the upper surface of the petals or open carpels. The male type of doubles was represented by a large rosy red or scarlet flower, with a greatly elongated axis.

NAMES OF PLANTS.—J. Flanagan: 1, *Agapanthus umbellatus*; 2, *Salvia argentea*. J. R. M.: *Trachelium coeruleum*. Miss F.: 1, *Buddleia globosa*; 2, *Thalictrum flavum*. J. M.: 1, *Veronica spicata*; 2, *Gaultheria nummularioides*; 3, send larger specimen, with flowers or roots if possible; 4, *Hornimium pyrenaicum*; 5, *Erigeron* (?); 6, *Malva moschata alba*; 7, *Ourisia coccinea*. Mrs. D. C.: *Periploca graeca*, not a Nightshade, but a member of the family of Asclepiads. *Omicron*: 1, *Oegopodium podagraria*; 2, *Circea lutetiana*; 3, the yellow-flowered plant is *Galium verum*; the grass is *Agrostis vulgaris*.

COMMUNICATIONS RECEIVED.—A. F. B.—J. C.—F. C. G.—R. G. W.—Caledonian.—A. O.—T. B.—J. C.

LONDON SEED TRADE.

July 20th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a very small attendance at to-day's market. Sellers of Trifolium are asking ridiculously high prices for English Seed, and meet with no buyers at present. Mustard and Rape keep steady. Some sales have been made in New Imported Italian Rye Grass at cheap figures. Canary and Linseed keep steady. There is an improvement in Blue Peas, fine samples making more money.

COVENT GARDEN MARKET.

July 21st.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve			Peaches, per dozen	4 0	12 0
Grapes, per lb. 1 0 2 6			Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3 0	8 0
per lb. 0 9 1 6			Pine-apples, Eng., lb.	1 0	1 6
Kent Cobbs. 100 lbs.			Strawberries, per lb.	0 3	1 0
Melons each 1 6 3 0					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch....	0 2	0 4
Asparagus, per bundle			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6	2 0	Lettuces, per dozen	1 6	2 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel ..	4 0	5 0
New Carrots, per bun.	1 0		Parsley, per bunch ..	0 6	
Cauliflowers, English,			Radishes, per dozen ..	1 6	
per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle ..	2 0		Spinach, per strike ..	2 0	
Cucumbers, each	0 6	1 0	Tomatos, per lb.	1 0	
Endive, French, doz.	2 6	3 6	Turnips, per bun.	0 6	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.					

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones, 12 bun.			Narcissus double,		
Arum Lilies, 12 blms.	3 0	5 0	12 bunches		
Bouvardias, per bun.	0 6	1 0	Narcissus, 12 bunches		
Carnations, 12 blooms	0 6	1 0	Pelargoniums, 12 spys.	0 6	1 0
Carnations, 12 buns.	3 0	6 0	Pelargoniums, scarlet,		
Cornflower, 12 bun.	1 0	3 0	12 sprays....	0 4	0 6
Day Lily, 12 bunches			Pinks, colored & white,		
Eucharis, per dozen..	3 0	6 0	dozen bunches ..	2 0	4 0
Gardenias, 12 blooms.	2 0	4 0	Polyanthus, 12 buns.		
Heliotropes, 12 sprays	0 6	1 0	Primula, double, bun.	0 9	1 6
Iris, various, 12 bun.			— single ..12 bun.		
Lilies, white 12 buns.	18 0	24 0	Pyrethrum .. 12 bun.	2 0	6 0
— orange .. " 6 0 9 0			Roses (coloured)	1 0	4 0
Lilium longiflorum,			Roses, Tea, per dozen	0 6	1 6
12 blooms 3 0 6 0			Roses, mixed, per doz.	0 6	2 0
Lilium speciosum,			— Safrano ..per doz.	0 6	0 9
12 blooms 1 0 2 0			Spiraea....12 bunches	4 0	6 0
Lilies of the Valley			Stephanotis,		
12 sprays			dozen sprays 2 0 4 0		
Marguerites, 12 bun...	3 0	6 0	Tropaeolums	1 0	2 0
Mignonette, 12 bun...	2 0	4 0	Tuberose, per dozen.	0 6	1 0
Myosotis, 12 bunches	2 0	3 0	White Jasmine, bun.	0 6	0 9
Pansies, 12 bunches..					

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi, doz.	6 0	18 0	Lilium longiflorum,		
Balsam	4 0	8 0	per doz. 18 0 30 0		
Calceolarias, per doz.	4 0	9 0	Lilium speciosum doz.	9 0	18 0
Cyperus, per dozen ..	4 0	12 0	Lobelia.....per doz.	3 0	4 0
Dracena term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignonette...per doz.	4 0	6 0
Evergreens, in var.,			Musk.....per doz.	2 0	4 20
per dozen	6 0	24 0	Palms in variety, each	2 6	21 0
Ferns, in var., do ..	4 0	18 0	Pelargoniums, doz.	6 0	15 0
Ficus elastica, each..	1 6	7 6	Pelargoniums, scarlet,		
Foliage plants, vari-			per dozen	3 0	6 0
ous, each.....	2 0	10 6	Rhodanthe ..per doz.	6 0	9 0
Fuchsia.....per dozen	3 0	9 0	Scented Verbena	4 0	6 0
Heliotrope	4 0	8 0	Spiraea per dozen	9 0	12 0
Hydrangea ..per doz.	9 0	12 0	Tulips...per doz. pots		

GARDENERS' ORPHAN FUND.

Donations and Subscriptions already promised or sent.

FOURTH LIST.

	Donations.	Subscriptions.
s. d.	s. d.	s. d.
McLeau, D., Gardener, Government House, Isle of Man	5 0	5 0
Milne, J., Gardener, Haselbeck, Northampton ..	10 0	5 0
Matheson, D., Gardener, Meiklour House, Perth ..	10 0	10 0
Middleton, R., Gardener, Exbury House, Exbury, Southampton ..	5 0	5 0
Methven, A., Gardener, Pilaw House, Chester-le-Street ..	5 0	5 0
Meadow, L. M., The Chateau, Horley, Surrey ..	10 0	10 0
Mann, W., The Close, Charlbury, Oxfordshire ..	5 0	5 0
Mouland, F., The Tower Lodge, Belvedere Park, Kent ..	5 0	5 0
Mortimer, Mrs., Wigmore, Dorking.....	10 0	10 0
Macpherson, D., Lisnavagh, Tullow, Co. Carlow..	5 0	5 0
McIndoe, J., Hutton Hall, Guisboro' ..	5 0	5 0
Martin, W., 26, Merthyr Terrace, Castleman, Barnes, Surrey ..	5 0	10 0
Maber, R., Gardener, Yattenden Court, Newbury ..	10 0	5 0
McCullum, J., Gardener, Knotley Hall, Leigh, Tumbidge ..	5 0	5 0
Newcomb, J., Gardener, Hatch Park, Taunton ..	10 0	10 0
Newton, J., Gardener, Inner Temple, E.C.	10 0	10 0
Nixon, G., Gardener, Easton Hall, Grantham ..	10 0	10 0
Never, E., Grdnr., Binley Priory, Great Stanmore ..	10 0	5 0
Nicol, J., Gardener, Hornby Castle, Bedale ..	10 0	10 0
Nelham, Thomas G., 1, Willow Cottages, Chiswick ..	5 0	5 0
Osborne, T., Grdnr., Wilton House, Southampton ..	10 0	10 0
Odell, J. W., Gardener, Barrow Point, Pinner ..	5 0	5 0
Orehard, C., Gardener, Coombe Ridge, Kingston..	5 0	5 0
Palmer, R., Gardener, Hagley Hall, Stourbridge..	10 0	10 0
Prince, R., Grdnr., Bladon Ho., Burton-on-Trent ..	5 0	5 0
Penfold, T. N., Gardener, Beddington House, Beddington ..	10 0	10 0
Pepper, W., Gardener, Tewen Water, Welwyn ..	5 0	5 0
Pratt, S., Gardener, Waverley Abbey, Farnham, Surrey ..	5 0	5 0
Parrott, H. J., Gardener, Swift House, Bicester..	5 0	5 0
Penton, J., Gardener, Gratley, Andover ..	5 0	5 0
Powell, D. C., Grdnr., Powderham Castle, Exeter ..	5 0	5 0
Phillips, B., Ladgrove, New Barnet.....	5 0	5 0
Pettigrew, A., Gardener, Cardiff Castle, Cardiff ..	5 0	5 0
Pinder, A., The Abbey Gardens, Kensington, W.	2 6	2 6
Porter, A., Gardener, Woodlawn, Co. Galway ..	5 0	5 0
Penson, J., Grdnr., Willey Pk., Brooby, Shropshire ..	5 0	5 0
Picker, G., Gardener, Branstons Hall, Lincoln ..	10 0	5 0
Penfold, C., Gardener, Leigh Park, Havant ..	5 0	5 0
Palmer, W., The Gardens, Sandringham Hall, King's Lynn ..	2 6	2 6
Parks, W., Gardener, Fernside, Bickley ..	5 0	5 0
Phipps, W., Gardener, Bowood, Calne ..	10 0	10 0
Prince, F., Gardener, Dartrey, Co. Monaghan ..	5 0	5 0
Powell, J., Grdnr., Islington House, Dorchester..	5 0	5 0
Pilcher, H. W., Grdnr., Allbury House, Surbiton ..	2 6	2 6
Hill Road, Kingston-on-Thames ..	5 0	5 0
Porter, F., The Gardens, Tranby Croft, Hull ..	5 0	5 0
Portnell, T., Gardener, Beaufort Park, Hastings..	5 0	5 0
Perry, F., Gardener, Pen Pole, Shirehampton ..	10 0	10 0
Pinnington, R., Gardener, Blacklow House, Roby, Liverpool ..	5 0	5 0
Parish, H., Gardener, Thorne's House, Wakefield ..	2 6	2 6
Roberts, C., Gardener, Highfield Hall, Leek ..	10 6	5 0
Rand, W. H., Grdnr., Coombe Cliffe Ho., Croydon ..	5 0	5 0
Rennie, J., Gardener, Cahir Park, Co. Tipperary..	10 0	5 0
Rampton, S., Grdnr., Redenham Gardens, Andover ..	7 6	5 0
Roehe, A., Gardener, Cossy Hall, Norwich ..	5 0	5 0
Roberts, W., Gardener, Lewyngvern Hall, Pant-pethog ..	5 0	5 0
Rogers, T., Gardener, Frimley Park, Farborough Station, Hants.....	5 0	5 0
Richards, G. H., Grdnr., Sowerby Park, Ringwood ..	5 0	5 0
Rowland, H., Selsfield, East Grinstead ..	5 0	5 0
Roberts, J., Gardener, Tan-y-Bwlch, Merioneth..	5 0	5 0
Rushton, W., Grdnr., Clerwood, Corstorphine, N.B.	5 0	5 0
Robinson, W., Gardener, Rampsbeck, Ullswater, Penrith ..	5 0	5 0
Russell, J., Gardener, Kirby Hall, Hinckley, Leicester ..	3 0	5 0
Rose, H., Grdnr., Grangemuir, Pittenween, Fife..	5 0	5 0
Reid, W., Gardener, Cortachy Castle, Kerriemuir, Forfar ..	5 0	5 0
Russell, F., Gardener, Woodlands, Fairwile, Cobham, Surrey ..	5 0	5 0
Reynolds, J., Gardener, Netley Castle, Netley Abbey, Southampton ..	5 0	5 0
Riches, M., Gardener, Boyland Hall, Long Swatton, Norfolk ..	5 0	5 0
Rowls, G., Gardener, Mickleham Downs, Dorking ..	5 0	5 0
Rafferty, Gardener, Castleforbes, Newtonforbes, Co. Longford ..	5 0	5 0
Read, A., Grdnr., Grittleton House, Chippenham ..	5 0	5 0
Raffiel, C., Gardener, Low Hill, Bushbury, Wolverhampton ..	5 0	5 0
Russell, J., Gardener, Portalloch, Lochgilphead, Argyll ..	5 0	5 0
Ross, H., Grdnr., Dalchouzie, Comrie, Crieff, Perth ..	5 0	5 0
Real, O., Gardener, Shottisham Park, Norwich ..	2 6	5 0
Southgate, H., The Gardens, Thorpe Perrow, Bedale ..	5 0	5 0
Sedgwick, S., The Gardens, Thorpe Perrow, Bedale ..	5 0	5 0
Scott, R., Gardener, Moorfield, Manningham, Bradford ..	5 0	10 6
Smythe, W., Gardener, Basing Park, Alton ..	5 0	5 0
Stagg, C., Gardener, Woodhurst, Crawley.....	5 0	5 0
Swift, H., Grdnr., Balrath Bury, Kells, Co. Meath ..	5 0	5 0
Shingles, T., Grdnr., Tortworth House, Gloucester ..	5 0	5 0
Smith, D., Gardener, Salon Hall, Pencaitland, Lothian.....	5 0	5 0
Spottiswood, J., Grdnr., Queen's Park, Brighton ..	5 0	5 0
Staple, G., Gardener, Glapwell, Chesterfield ..	5 0	5 0
Smith, C., Gardener, Upton House, Tetbury ..	17 0	5 0
Stanton, W., Gardener to Henry Smith, Esq., Chiswick ..	2 6	5 0
Swannick, J., Gardener, Sherwood Lodge, Notts..	5 0	5 0
Smith, B., The Gardens, Highfield Hall, Leek ..	2 6	5 0
Sail, A., The Gardens, Highfield Hall, Leek ..	2 6	5 0
Speed, W., Gardener, Penrhyn Castle, Bangor ..	5 0	5 0
Spriggs, T. O., Grdnr., Dunbar House, Teddington ..	5 0	5 0
Swallow, G., War Office, Baulford, Rochdale ..	10 0	2 6
Smith, T., Gardener, Papworth Hall, St. Ives ..	10 0	5 0
Seward, J. R., Gardener, Hawksfold, Haslemere..	10 0	5 0
Summers, S., R.H.S. Gardens, Chiswick ..	5 0	5 0

FOURTH LIST—Continued.

FOURTH LIST—Continued.	Donations.	Subscriptions.
s. d.	s. d.	s. d.
Sendall, J. G., Grdnr., Binndall, Blofield, Norfolk	...	5 0
Sully, C., Gardener, Fairfield, Bridgewater	...	10 0
Stewart, J., Grdnr., Langford Park, Maldon, Essex	...	5 0
Skiach, N. C., Mollance, Castle Douglas, N.B.	...	5 0
Stroms, W., Grdnr., Walton Grange, Stone, Staffs.	...	5 0
Sheppard, W., Birkfield, Ipswich	...	5 0
Selge, T., Russell Mill, Market Lavington...	...	5 0
Saunderson, J., Gardener, Bodnant Hall, Eglwysbach, Denbigh...	10 0	5 0
Sage, G., Gardener, Belton, Grantham	...	5 0
Swanborough, W. H., Grdnr., Doneraile, Co. Cork	5 0	5 0
Sandford, E., Gardener, Dale Park, Arundel	10 0	10 0
Salter, C. J., Gardener, Selborne, Streatham	5 0	5 0
Sawford, R. F., Gardener, Dauesbury, Welwyn	...	5 0
Seers, F. W., Grdnr., Offchurch, Bury, Leamington	...	5 0
Sutton, W., Gardener, Ashley Park, Walton-on-Thames	...	10 0
Sutton, W., Gardener, Pain's Hill, Cobham	10 6	...
Stephens, H., Gardener, Lyne Rusper, Horsham	10 6	5 0
Spillaker, J., Gardener, Launde Abbey, Leicester	...	5 0
Simmons, J., Carelew, Perranarworthal, Cornwall	5 0	5 0
Seaton, T., Gardener, Antrim Castle, Antrim	5 0	5 0
Shoosmith, H., Gardener, Saltwood, Hythe	...	5 0
Strand, R., Gardener, Dune Hill, Canterbury	...	5 0
Shaw, S. S., Grdnr., The Rookery, Royston, Cambs.	5 0	5 0
Smale, H., Gardener, Ringwood, Cheshirefield	...	5 0
Smith, E., Grdnr., Roekville, Waterloo, Cosham, Hants	...	5 0
Stevens, R., Grdnr., Cecil Lodge, Abbots Langley, Herts	5 0	5 0
Squires, W., The Gardens, Warren Wood, Hatfield	2 6	...
Shute, J., The Gardens, Palmerstown, Straffan	2 6	...
Sheddie, J. C., The Gardens, Tranby Croft, Hull	5 0	5 0
Tegg, J., Gardener, Bearwood, Wokingham	10 0	10 0
Thoms, J., Gardener, West Grinstead Park, Horsham	5 0	5 0
Tait, J., Gardener, Dovenby Hall, Cockerham	5 0	5 0
Thornhill, W., Gardener, Bignell, Bicester	5 0	5 0
Tapping, C., Gardnr., Gunnersbury Lodge, Acton	5 0	...
Taylor, E. G., Grdnr., Cranbury Park, Winchester	...	5 0
Taylor, A., Broom Hill, West Hartlepool	...	5 0
Turton, T., Grdnr., The Gardens, Maiden Erlegh, Reading	10 6	...
Thorne, F., Ashgrove, Sevenoaks	...	5 0
Taverner, J., Gardener, Woolmer, Liphook	...	5 0
Tolley, C., Gardener, Cowley Manor, Cheltenham	5 0	...
Turner, T. P., Rivercourt Nursery, Hammersmith	...	5 0
Taylor, S., Gardener, Loughcrew, Oldcastle, Co. Meath	10 0	5 0
Thompson, R., Grdnr., Garvald, Dolphinton, N.B.	10 0	10 0
Trevor, J. S., Grdnr., Bryngwyn, Bwlch-y-ciban, Montgomeryshire	...	5 0
Thorne, F. J., Gardener, Sunningdale Park, Sunningdale	10 0	5 0
Turner, J., Gardener, Courtown, Gorey, Ireland	...	5 0
Terry, J., Gardeuer, Sandhills, Bletchingley	...	5 0
Timms, J., Gardener, King's End, Bicester	5 0	5 0
Thomson, W. P., 3, Belgrave Terrace, Chiswick	...	5 0
Thomas, R., The Gardens, Sandringham, King's Lynn	...	2 6
Tidy, W., Grdnr., Stanmore Hill, Great Stanmore	...	5 0
Throssell, J., Gardeuer, Old Chilwell, Notts	5 0	5 0
Taylor, W., Edenside, Kelso	...	2 6
Timson, J., New Sowerby, Grantham, Lincoln	5 0	5 0
Umpleby, J., Grdnr., Bolnere, Hayward's Heath	5 0	5 0
Underwood, G. W., Grdnr., High Firs, Harpenden	...	5 0
Upton, C., The Gardens, Castle Upton, Temple Patrick, Ireland	...	5 0
Vine, J. W., Gardener, Oak Park, Tralee, Kerry	10 0	5 0
Valentine, G. W., Gardnr., Bell Hall, Stourbridge	...	10 0
Vickery, H., Gardener, Huntsmoor Park, Iwer, Bucks	5 0	5 0
Vallance, J. H., Gardener, Redland Lodge, Bristol	...	10 0
Vallance, G. D., Gardener, Tresco Abbey, Isles of Scilly	...	10 0
Watford, J., Gardener, Mountford House Gardens, Sudbury	5 0	5 0
Woodton, J., Gardener, Redgrave Hall, Botesdale, Diss	...	2 6
Wise, W., Gardener, Arlington Court, Barnstaple	...	2 6
Wagstaffe, T., Gardener, Amberley Court, Nailsworth, Gloucestershire	...	5 0
Waterworth, A., Gardener, Irwell Bank, Eccles	...	5 0
Woodgate, G., Gardener, Warren House, Coombe Wood, Kingston	...	10 0
Whalley, W., Gardener, Addington Park, Croydon	10 0	...
Wiles, E. S., Gardener, Edgecote, Banbury	10 0	5 0
Williams, W., Gardeuer, Strathearn House, Leamington	5 0	5 0
Ward, H. W., Grdnr., Longford Castle, Salisbury	...	5 0
Wright, A., Gardener, Devonhurst, Chiswick	...	10 0
Webber, E. R., Gardener, Henwick Grange, Worcester	10 0	5 0
Ward, E., Gardener, Hewell, Bromsgrove	...	10 0
West, R., Gardener, Northlands, Salisbury	...	5 0
Webster, W., Gardener, Kenyon Hall, Mauchester	...	5 0
West, A. M., Gardener, Hoathly Hill, West Hoathly, East Grinstead	5 0	5 0
Wilkinson, W., Gardener, Elloughton Lodge, Brough, East Yorkshire	5 0	5 0
Weller, W., Gardener, Forest Mere, Liphook	...	5 0
Wadds, B., Gardener, Birdsall, York	...	5 0
Williams, J., Gardener, Penwartham Priory, Preston, Lancashire	5 0	5 0
Wilson, A., Grdnr., Bourton House, Shrivenham	10 6	5 0
Webster, J., Gardener, Gordon Castle, Fochabers, N.B.	...	7 6
Wooderson, A. G., May Place Road, Bexley Heath	...	5 0
Woodfield, W., Grdnr., St. Bride's, Little Haven, South Wales	5 0	5 0
Williams, D., Grdnr., Canford Manor, Wimborne	10 0	10 0
Webster, W., Grdnr., Carpenders, Watford, Herts	...	5 0
Waters, A., Gardener, Farington House, Preston	10 0	5 0
Williams, C., Gardener, Lower Eaton, Hereford	10 0	5 0
Wilkes, J., Gardeuer, Creswell Hall, Stafford	10 0	5 0
Williams, T., Gardener, Gaywood Hall, Lynn	...	5 0
Wood, H., Gardener, Bosworth Park, Hinckley	10 0	10 0
Wild, J., Gardener, Saudringham, Kiug's Lynn	...	2 6
Worsfold, J. W., Grdnr., Hatfield Hall, Wakefield	...	10 0
Winman, W., Gardener, Hickletou, Doncaster	7 6	5 0
Whitaker, W., Gardener, Crewe Hall, Crewe	5 0	5 0
White, G., Gardeuer, Longstow Hall, Cambs.	5 0	5 0

UNDER ROYAL PATRONAGE.



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KELWAYS' GAILLARDIAS
KELWAYS' DELPHINIUMS.
KELWAYS' IRIS.

LANGPORT, SOMERSET.

The Liverpool Horticultural Association.

THE EIGHTH GRAND SUMMER EXHIBITION OF PLANTS, FLOWERS, FRUIT AND VEGETABLES will be held in SEFTON PARK, on SATURDAY, JULY 30th, and BANK HOLIDAY, AUGUST 1st. Entries close July 23rd. Schedules of prizes can be had on application to the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Tarbock Road, Huyton.

Abbey Park, Leicester.

A GRAND FLOWER SHOW will be held on Tuesday, August 2nd, 1887, under the patronage of the Mayor and Corporation. A VEITCH MEMORIAL MEDAL AND £5 is offered for eight dishes of fruit, distinct, Pines excluded. Second prize, £3; third prize, £2; fourth prize, £1. SCHEDULES will be sent upon application to the Secretary and Curator, Mr. JOHN BURN.

Clay Cross.

THE THIRTIETH ANNUAL EXHIBITION will be held on Tuesday, August 16th. Prizes £237. Entries close August 8th. Secretary, J. STOLLARD, Clay Cross, Chesterfield.

Next Week's Engagements.

MONDAY, August 1st.—Continuation of Flower Shows at Southampton and Liverpool.
TUESDAY, August 2nd.—Annual exhibition of the Carnation and Picotee Union at Stanley Road, Oxford. Flower Show in Abbey Park, Leicester.
THURSDAY, August 4th.—Sale of Imported Orchids at Stevens' Rooms.
FRIDAY, August 5th.—Carnation and Picotee Show in the Exhibition Palace, Manchester. Sale of Imported and Established Orchids at Protheroe & Morris's Rooms.

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"Gardeuing is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JULY 30, 1887.

THE POTATO CROP.—Very grave doubts and fears are distressing the minds of Potato growers generally as to the ultimate outcome of the Potato growth this year, for at present it has a most unpromising aspect. Even deeper is the sentiment of alarm found, for all who live by the Potato are troubled also. A shop-keeper, who has feelings as well as the usual amount of business appreciation, remarked the other day, "If there are no Potatos, what will the poor do?" and the remark is not an inapt one, for Potatos, even with the increase in the consumption of all other articles of food, have become more and more a staple article with the poorer classes; whilst a regard for the esculent seems to have deepened universally. We may, indeed, all ask, with some thought of perturbation, what should we do without Potatos? That there should be, incidental to heat and dryness, such reason for alarm, is all the more emphasised, because for several years we have had such abundant Potato crops. It is doubtful whether the disease at any time gave more reason to fear for the Potato crop than the drought of this year so far has given.

We have had, in years some time preceding, ample reason to be frightened lest the Peronospera should sweep all of our favourite esculent away; but these alarms, though reasonable, have,

in the end, always proved groundless; and even from the worst of disease years the Potato has come again and again abundant and healthful. But the disease generally has given us a start in the matter of tuber production, whilst the dry weather began with the Potato planting, and has been with us almost persistently ever since. Then we started the season later also. It mattered not whether we planted at the usual time, or whether the soil was in excellent working condition, or whether the seed was sound and full of promise; the weather remained so unfavourable for growth that we were some two or three weeks later than usual, the Potato crop coming through slowly and irregularly, and finding cold nights and harsh winds to greet their appearance. Thus the drought, of which we have of late heard so much, and from which so much has been endured, found the Potato breadths very ill prepared, and from that time till now growth has been moderate, and tuber developments, perhaps, the worst known for many years. All round the summer shows, the same complaint as to the smallness and generally indifferent quality of the Potatos has been made. Not merely are the tubers of all the early sorts small, but they are few in number.

Estimates as to the average yield of the early breadths vary from one-half to one-third, showing an alarming falling off. As a result, and with, of course, an enhanced price for decent samples, and real ground rain so long deferred that the heart is becoming sick, no wonder breadths are being lifted with rapidity, that a little return may be obtained whilst the market is fairly good; but if the early kinds give such poor return, what is the prospect of the late sorts? With these hope still lingers, in the belief that rain must come in time to give the needful stimulus; but every week, nay, every day, that rain is deferred renders the prospect of a crop of later Potatos more and more remote. Really, at present the general report is that no tubers, or if any, but very, very few, are formed, whilst with most kinds at the end of July there should be an abundance of half-grown tubers. There is, at present, no such appearance; indeed, it might almost be said that there is nothing. We have no wish to write in a pessimist strain, but the case is of such an unusual kind that it is not possible to regard it without a strong fear of coming evil. We have had dry seasons before, and short crops of Potatos, but still we have had Potatos, though small ones. Now our case is that even the small ones are not there, and if not there it is obvious that anticipations of larger ones later cannot be well entertained. The soil, certainly, has become wonderfully dry for a foot or so in depth, and we doubt if it has ever been found drier than now. Of course, we have had even longer spells of summer drought than that from which we are now suffering, but we have hardly at any time had to endure such persistent and unusual heat; and heat and drought combined have proved too much for our Potato crops.

The season will, no doubt, in relation to the Potato, bring forth abundant suggestions as to methods of cultivation to counteract drought, and all that sort of thing; it is so easy to be wise after the event. Still, no matter what system, the drought has been existent, and the sterility of the crops remain. The localities where, ordinarily perhaps, the soil is too moist for the production of good Potatos, the present season may prove admirably suited, and growers there will be fortunate. Soils of that class, however, are rare, whilst the average soil in the kingdom is soon exhausted of its moisture. There is one gleam of hope found in the gloom. We have found the once-destructive Peronospera, shorn of its evil

properties very considerably during the last two or three years. If any thing could give it a final death-blow surely it should be the heat and drought that will long render the summer of 1887 memorable.

THE annual exhibition of the NATIONAL CARNATION AND PICOTEE SOCIETY (NORTHERN SECTION) will take place in the Exhibition Palace, Manchester, on Friday, August 5th, following that of the Oxford Carnation and Picotee Union by three days. Notwithstanding the hot weather and absence of rain, it is generally believed there will be a good exhibition of flowers. The rain that fell on Monday morning, if it happened in the north also, will greatly help the plants. Close shading will be necessary in bright weather.

THE balance-sheet of the GRAND YORKSHIRE GALA, in June last, is now before us, and we notice that the income of the society for the current year, from various sources, is £1,671 10s., and the expenditure within £12 of that sum. The receipts of the first day exceeded those of the corresponding day last year; whilst on the second and third days they fell short by £179 against the same days last year. Although the committee hoped for a good sum as profits to hand over to the charities of York, the Jubilee year will be celebrated by no donations to the charities from the York Gala. Since the Gala in June, two old and respected members of the committee—Mr. Anderson and Mr. Sampson—have died, and the Lord Mayor, who is chairman of the committee, has received the honour of knighthood.

MESSRS. JOHN LAING & CO.'S EMPLOYÉES, numbering over seventy, had their annual outing on the 22nd inst.—a day trip to Ramsgate. A capital dinner was served at Grant's Hotel, under the presidency of Mr. Laing, who was supported by his two sons and the heads of the various departments. A most enjoyable day was spent by all.

A MEMORIAL-STONE of white marble, with an appropriate device of Ferns and Stangeria, designed by Mr. J. Page and Mr. W. G. Smith, has been erected in Brompton Cemetery to the memory of the late MR. THOMAS MOORE. The inscription runs as follows:—"To the memory of THOMAS MOORE, F.L.S., for thirty-eight years Curator of the Botanic Gardens of the Society of Apothecaries at Chelsea, who died January 1, 1887, aged sixty-five years. In testimony of their appreciation of a career unselfishly devoted to the promotion of botany and horticulture, especially to the investigation and classification of Ferns, as well as in grateful remembrance of his sterling qualities as a friend and a colleague, this memorial has been erected by a few of his fellow-workers." Those friends who have not yet sent their contributions to the memorial fund are requested to do so, as soon as possible, to either Mr. Harry J. Veitch or Dr. Masters.

A WELL-ATTENDED MEETING of the Executive Committee of the GARDENERS' ORPHAN FUND was held, on Monday evening, in a room kindly placed at the service of the committee by Messrs. John Weeks & Co., King's Road, Chelsea, when a heavy agenda was satisfactorily disposed of. Mr. George Deal was unanimously elected chairman of the committee, and a small sub-committee was appointed to consider and report on the best means of carrying out the scheme for forming local committees. It may interest the friends and supporters of the Fund to know that an appeal has already been made to the committee for aid, in the case of the fatherless children of a man who was second gardener in a private establishment. It is a case in which a little help would be of the greatest possible assistance to the widow; but the committee can only plead regret for the present that they are not in a position to entertain the appeal. Strenuous efforts, however, will be made to get the machinery in order for dealing with such cases at an early date. In the meantime, it is desirable that promised donations and subscriptions should be remitted to Mr. Barron as soon as possible.

THE GRAND NATIONAL DAHLIA SHOW will take place at the Crystal Palace on September 2nd and 3rd. The hon. secretary and treasurer, Mr. H. Glasscock, of Bishop's Stortford, has just issued a circular soliciting subscriptions from those interested in the exhibition, and he states with much truth that "owing to losses occasioned through death and other changes, the fund has always a tendency to diminish in amount," and therefore there is urgent necessity for an increase of

subscribers. In addition to the prize money, there are such matters as printing, postage, &c., that have to be charged upon the fund, though the machinery of the show is worked at as low an expenditure as possible. The prize schedule is made additionally attractive to amateurs, by prizes offered by the trustees of the Veitch Memorial Fund, and the Turner Memorial Cup is also competed for by amateurs. The show deserves to be supported, and it is to be hoped many of the readers of THE GARDENING WORLD will respond to the appeal put forth by Mr. Glasscock.

THE annual meeting of the SCOTTISH ARBORICULTURAL SOCIETY was held in Edinburgh on Tuesday, when the following prizes were awarded for competitive essays:—Silver Medal to Mr. George Cadel for an essay on Forest Administration in the Canton Vaud, Switzerland; on the National Reproduction by Self-sowing of Forest Trees, Mr. John Smith, surveyor, Romsey, Hampshire, Bronze Medal; Forestry in Hungary, Major Bailey, Simla, Gold Medal; Plantations on Estate, Mr. A. D. Webster, Penrhyn, No. 2 Silver Medal; Town Planting, Mr. A. D. Webster, Penrhyn, Bronze Medal; Trees and Shrubs suitable for Seaside Planting, Mr. A. D. Webster, No. 2 Silver Medal; Forester's Cottage, with plan, Mr. John Smith, No. 2 Silver Medal; The Effects of the Great Gales of the last twenty-five Years on Woods and Forests of Britain, Mr. John Smith, Bronze Medal; Report on Woods and Plantations upon the Estate of — Mr. George Dodds, Wentworth, No. 2 Silver Medal; Watkin's patent girthing tape, Bronze Medal to Messrs. Rider & Son, London; best kind of dead fences for plantations, Mr. D. A. Glen, Gartshore, Bronze Medal. No awards were made for an essay on the abnormal growths of forest trees—the Beech knot—or on the hygienic effect of trees and plants, these being under the average. It was reported, however, that on the whole the essays were of more than usual ability.

NEW HYBRID STREPTOCARPUS.

No one interested in plants could fail to be pleased with the recent grand acquisition to the number of the cultivated species of *Streptocarpus* in that remarkable form of vegetable growth, *S. Dunnii*, discovered in the Transvaal, seeds of which were sent to Kew, and flowered there for the first time in Europe in the spring of last year. Its enormous leaf and the immense number of flowers it produced, as compared with other species, is probably unique in the genus. Scarcely less remarkable is the fact that it hybridises readily with *S. Rexi* and *S. parviflora*. Experiment has hitherto failed to cross it with *S. polyantha*, but further trials in this direction may yet succeed, and no one need despond at the failure of the first attempt.

S. Dunnii seems normally to produce but a single leaf, while in the case of the two species with which it has been hybridised, a number of leaves are produced. The process of hybridisation up till now has resulted in the development of one large leaf by the seedlings, with two or more much smaller ones; there can thus be no doubt with regard to the efficacy of the foreign pollen and the hybrid nature of the seedlings. The leaves, moreover, are less rugose than those of *S. Dunnii*, and lack the rusty red colour peculiar to the leaf of the latter species. This is more conspicuous on the underside of the leaf, where the rusty-coloured hairs of *S. Dunnii* give place to grey or white ones.

The difference of the inflorescence is even more notable. In the case of *Kewensis*, a hybrid between *S. Dunnii* and *S. Rexi*, about ten separate scapes are produced in close contiguity along the basal part of the mid-rib of the large leaf, with one or two on each of the smaller leaves, and each of these scapes produce from six to ten flowers in a cymose manner, whereas the bulk of the flowers in *S. Dunnii* are produced on one large scape, with, however, a similar arrangement. They are intermediate in size between the parents, and are violet-blue, with heavy violet-blue lines on the lower side of the throat and limb.

The hybrid between *S. Dunnii* and *S. parviflora*, namely, *Watsoni*, is similar in many particulars to the other, but the individual scapes, equally numerous produced, bear from eight to thirteen flowers each, and these are rather smaller, but far more attractively coloured. The tube externally is pale purple, and white internally, while the lamina is a deep reddish or rose-purple, marked with darker lines in the throat, and all become paler and soften sometimes after expansion. If earnestly taken into hand, improvements would, no doubt, furnish us with some excellent and very ornamental varieties. So far as experiments already go, we are indebted to the skill of Mr. W. Watson, Assistant Curator at Kew,

THE PEOPLE'S PALACE.

THE first flower show in connection with this place of entertainment was held on Monday and Tuesday, in a large marquee and tent adjoining the Palace itself. As a show, it was quite unique in its way, having been got up all in a hurry, and mooted only a month previously by way of entertaining the Crown Princess of Germany, who was warmly cheered as she passed through the exhibition in the afternoon.

There was no regular list of prizes, but the Beaumont Trustees offered awards for exhibits from East London, cut flowers and window plants being chiefly shown. The bulk of the exhibition was made up of miscellaneous groups staged by Messrs. B. S. Williams, J. Laing & Co., Barr & Son, T. S. Ware, Carter & Co., Hooper & Co., H. B. May, William Rumsey, and others. The show was a great success as far as the number of visitors were concerned, hundreds of whom had doubtless never before seen the like in their life. *Nepenthes* were taken for odd-looking flowers, Dahlias for Roses, and comments were ripe on every hand. One poor woman exhibited a seedling Apple tree raised last Christmas; which was worthy of every recognition.

The following were some of the exhibits brought forward for the prizes offered:—Mr. E. Rivers, gardener to B. Bryan, Esq., Waterworks, Old Ford, got the first prize for six bunches of cut flowers. Misses Amy and Lily Saunders, 400a, Mile End Road, secured the first prize for a bouquet, Mr. E. Rivers taking second. The first prize for a pot of Musk was awarded to Mr. J. W. Ransom, 85, Old Church Road, Stepney. The two latter exhibitors staged groups of plants which were commended. The Rev. A. W. Cribb, St. Thomas' Vicarage, Stepney, exhibited a group of plants, and Mr. G. Matthew Smith, Board School, Single Street, Bow, a group of window plants. Mrs. Eliza England, 66, Shandy Street, Harford Street, was the prize-winner for window plants, receiving awards for a Musk, Fuchsia and window-box.

Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, exhibited a very extensive group of stove and greenhouse plants, that entirely filled the central stage of the large marquee. A few Orchids, such as *Cypripedium ciliolare*, *C. superbians* and *Epidendrum nemorale* were noticeable; but Palms, *Dracenas*, *Crotons*, *Allamandas*, *Aralia Kerchoviana*, *Ficus eburnea*, *Anthurium Scherzerianum* Wardii, the beautifully tessellated *Tillandsia tessellata*, and the curious *Attacia cristata*, besides a host of other things too numerous to mention, went to the formation of this monster group. Messrs. J. Laing & Co., Forest Hill, London, exhibited a very attractive group of tuberous-rooted Begonias, both single and double. A great range of colour exists among double kinds, but this is put in the shade by the endless variety of tints and striking combinations seen in the singles, for the description of which new terms would be necessary. Messrs. Barr & Son, King Street, Covent Garden, occupied a considerable length of the side staging with a miscellaneous group of hardy plants, including *Hemerocallis Kwauso* fl. pl., *Campanula macrostyla*, *Lilium longiflorum eximium*, *L. Thunbergianum*, *Van Houttei*, Dahlias, *Monarda didyma*, and many other fine things. The group was a showy one, as was that of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. *Gaillardias* were fine, as well as *Lilium longiflorum Wilsoni*, *Helianthus japonicus*, Alpine Poppies, *Lithrum virgatum*, *Malva moschata alba*, and *Echinops Ritro*. Messrs. Carter & Co's annuals were there in strong force, including such pretty species as *Clintonia pulchella*, *Nycteria selaginoides* and *Phlox Drummondii*, *Coleus*, *Petunias*, *Begonias*, and others, which formed a showy group. Mr. H. B. May, Dyson's Lane, Upper Edmonton, exhibited a fresh-looking group of popular and useful decorative Ferns, including *Pteris Mayi*, *P. aspericaulis*, *Adiantum gracillimum*, *A. Pacotti*, and a finely tasselled form of *Pteris serrulata*, besides a host of other fine species and varieties. A miscellaneous group of hardy flowers was also shown by Messrs. Hooper & Co., Covent Garden. Prominent among others were Hollyhocks, *Godetias*, *Zinnias*, *Hyacinthus candicans*, *Gypsophila pauciflora*, &c. A quantity of cut flowers were made up in baskets and bouquets. A large collection of Roses in baskets and boxes was staged by Mr. William Rumsey, Joynings Nurseries, Waltham Cross. They were immensely popular with the East-End people.

ALSTRÆMERIA AURANTIACA.

THERE can be little doubt but that this *Alstrœmeria* is the best all-round species that has been introduced to British gardens. This applies equally to its hardiness, free-flowering habit, and the beauty and variability in the colour of the flowers and their stripes or markings. It was introduced from Chili in 1831, and since then has given rise to varieties that exhibit orange, red, pink, and yellow tints in numerous shades. The true value of a plant for outdoor decoration must, to a great extent, be determined by its adaptability to the variable conditions of our climate, and of this *A. aurantiaca* has given abundant proof in various parts of the country, even including some of the far northern counties. The fleshy tuberous roots, as might be expected, are most susceptible of injury from outward conditions; but provided they are planted in light sandy or otherwise well-drained soil, no fear need be entertained of their suffering during winter. If they are attended to in this respect when planted, no extra protection will be needed beyond that afforded by the soil. It can be propagated by seed, or by offsets that are readily given off by the

ODONTOGLOSSUM HARRYANUM.

The sepals and petals of this new Orchid incurve so as to make the flower hollow or somewhat cup-shaped, and then recurve at the tip; they are also of a deep shining chocolate-brown with a few yellow streaks and a yellow tip. The peculiarly shaped lip is the most striking part of the flower, and the large upper lobe is boat-shaped, beautifully marked or reticulated with violet-purple (some say blue), and furnished with a number of golden yellow fringed lamellæ near the base, while the upper part is pure white. It is a grand thing, undoubtedly. Exhibited by Messrs. F. Sander & Co., St. Albans.

STREPTOCARPUS KEWENSIS

Hybrids often afford matter for surprise, and that *S. Dunnii* should have crossed so readily with pollen of *S. Rexii* is indeed a surprise. The habit is intermediate, but one large leaf is produced as in *S. Dunnii*, with two or more small ones. The flowers are produced from six to ten together, on the scapes proceeding from the basal part of the mid-rib of the leaf. These scapes vary in number, according to the strength of the plant. The flowers are violet-blue,

petals are toothed at the margin. Exhibited by Messrs. J. Dickson & Son, Newton Nurseries, Chester.

BEGONIAS—TUBEROUS-ROOTED.

EDELWEISS.—The double flowers of this variety are those of the male blooms—the females being single and unaffected. The flower is large, pure white, and has several centres, the axis being somewhat elongated, as frequently occurs in double male blooms. The habit is dwarf and the leaves half cordate.

SHIRLEY HIBBERD.—This variety is also the result of the doubling of the male blooms, and is a very large flower, with several centres like a bouquet of separate and smaller flowers. The colour is a very delicate shade of blush and very pleasing, with a faint tint of yellow in the centre when young.

MAJOR LENDY.—The leaves of this variety are very broad, unequally cordate, and the habit is dwarf. The blooms are of great size, with several axes, and of a soft rosy pink colour. The male blooms only are thus developed. All the above were exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

By the National Carnation and Picotee Society,
July 26th.

PICOTEE, PRIDE OF LEYTON.

This is a seedling with large pure white flowers, belonging to the light-edged class. The petals are flat, except a few of the central ones, with a slender purple edge. Exhibited by Mr. H. Headland, The Firs, High Street, Leyton.

CARNATIONS.

PURPLE EMPEROR.—A number of blooms of this seedling were shown. They are large, rich in colour, and of a shade of purple by no means common, but very fine. It is a very attractive self-coloured variety.

WILL THRELFALL.—Here we have another self-coloured Carnation of a uniform soft yellow colour. The flowers are large, with somewhat incurved petals, toothed at the margin, and certainly very fine. Exhibited by Mr. Charles Turner, Slough.

FLOWERING TREES AND SHRUBS.

SPIRÆA ARIÆFOLIA.—Notwithstanding the many fine species of Meadow-sweet to be found more or less extensively in every garden at the present time, none of the shrubby kinds produce such a profusion of showy panicles of bloom as does this, the White-beam leaved *Spiræa*. One of its great recommendations is its hardiness in winter, although it must be said that the protracted drought has done it great harm in dry places this season. It is a native of North-west America, and grows to the height of from 5 ft. to 10 ft., forming an excellent shrubby plant. There are numerous specimens at Devonhurst, Chiswick.

HYDRANGEA PANICULATA GRANDIFLORA.—The popularity of this hardy Japanese shrub may be judged from its frequency in Covent Garden Market, grown in pots for house decoration. Under this sort of treatment, the flowers, no doubt, retain their freshness and purity for a much longer period; but it must not be overlooked that this shrub is equally amenable for the decoration of beds or borders in the flower garden or pleasure grounds. When associated with other shrubs, it should occupy the front line, as it is of dwarf stature, and produces flowers in great abundance in panicles often 1 ft. in length. Small fertile flowers are scattered irregularly through the showy, white, barren ones.

VERONICA SALICIFOLIA.—Most of the shrubby New Zealand Veronics require the protection of a greenhouse in all the less-favoured parts of this country, but the present species, which is, perhaps, better known in gardens as *V. Lindleyana*, not only thrives and flowers remarkably well, but even scatters its seeds about freely in the neighbourhood of London and most or all of the southern counties. The seeds germinate readily, and the old plant survives all but the severest winters. At present a fine bush, loaded with its long white racemes of bloom, may be seen at Pendell Court, Bletchingley, where it lived in the open border without any protection whatever, last winter.

CASSINIA FULVIDA.—There is an exceeding grace about this shrubby composite, whether in flower or not, from the golden yellow under-side of the linear leaves and the branched twiggy shoots. The flower-heads,



ALSTRÆMERIA AURANTIACA.

main tubers when the plant is in a healthy free-growing condition. For this reason a single plant will soon become a large clump, requiring trimming to keep it within bounds, except in special cases where plenty of room can be afforded. It used to be very popular in stands of cut flowers at local shows.

NEW PLANTS CERTIFICATED

By the Floral Committee of the R.H.S.

July 26th, 1887.

PHALENOPSIS HARIETTÆ.

In this we have a very distinct hybrid between *P. grandiflora* as the seed parent, and *P. violacea* as the pollen parent. The sepals and petals are primrose-yellow, the basal part of all being more or less suffused with rosy purple. The latter are elliptic, obtuse and much broader than the sepals. The deepest colouring is confined to the lower side of the lateral sepals as in the pollen parent. The terminal lobe of the lip has the colouring of *P. violacea*, but is much more triangular, less ridged along the centre, and shows a trace of the tendrils of the seed-bearing parent. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

with deeper coloured lines in the throat. Sent from the Royal Botanic Gardens, Kew.

STREPTOCARPUS WATSONI.

This is another remarkable hybrid between *S. Dunnii* and *S. parviflora*. From a decorative point of view it is, perhaps, the prettiest of the two. The habit is similar, but the flowers are smaller and more numerous produced, on scapes arising in close contiguity to one another, as in *S. Kewensis*; consequently, a finer effect is produced, and the colours are more lively. The tube is pale purple, varying with age, while the throat is white. Sent from the Royal Botanic Gardens, Kew.

CARNATIONS.

ALICE AYRES.—As a border Carnation this is certainly a fine thing, and very floriferous. The flowers are large, belonging to the flaked class, sweet scented and white, marked longitudinally with a few red lines on the petals. No protection or shading had been afforded them. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

GRAVETYE GEM.—A box of this variety was shown, and was most conspicuous for its novel orange-buff or buff-salmon colour. The flowers are medium or large sized, and concolorous throughout, or nearly so; the

which are abundantly produced about this time, have also the same general colour, which is only varied by the shining green of the upper side of the leaves and the white exerted tips of the bracts, subtending the florets themselves. A fine bush of it at Pendell Court, Bletchingley, is now in beautiful condition, although it withstood the severity of the recent winter without any protection. It, moreover, proves wonderfully hardy in all the more temperate and favoured parts of Britain, but in the midland and northern counties requires the protection of a greenhouse.

ROYAL HORTICULTURAL SOCIETY.

Professor M. Foster, a member of the Council, has addressed the following letter to the president of the Royal Horticultural Society, Sir Trevor Lawrence, Bart., M.P., on the subject of the reorganisation of the society:—

"Dear Sir Trevor,—The resolution adopted by the meeting of the Fellows on Tuesday last was, in reality, a decision not only as to the home, but also as to the policy of the society. By the resolution the Fellows indirectly expressed their intention that the society should devote itself to the advancement of horticulture, and should undertake nothing that was not distinctly calculated to advance horticulture. I may now, therefore, venture to do, what previous to that decision would have been useless, to put down on paper some suggestions as to the organisation of the society best calculated to secure its object, the advance of horticulture. I will divide my remarks into heads.

"I. THE FELLOWS OR MEMBERS OF THE SOCIETY.—These naturally fall into two categories: (1) those who pursue horticulture as a profession—'the trade,' as it is sometimes called, and gardeners receiving salaries; and (2) those, like yourself and myself, who garden as an amusement and relaxation—the 'amateurs,' as we are called. Both these, as far as the society is concerned, have identical interests; they will both be benefited by its prosperity, and by its being managed so as to advance horticulture. It seems to me useless and mischievous to raise the question which class is the most important to the society. I myself think the first body is the more important, but I refuse to raise the question. It is enough that they are both, though in different ways, essential to the society. It follows that they should both take part in the management of it.

"In the few brief remarks which I made at the meeting, I insisted, following Mr. Shirley Hibberd, on the necessity that the society should be national, not local—not even metropolitan. It is necessary that the organisation should be such as to allow provincial members to have due influence.

"II. THE FUNCTIONS OF THE SOCIETY.—These may be subdivided.

"A. *Judicial*.—The forming and making known of authoritative judgments on the names proper to be applied to, and on the horticultural value of new plants (I throughout use the word 'plant' as short for flowers, fruit, shrubs, &c.), and on the value of cultural specimens, of horticultural appliances, and the like. Much valuable work in this direction has been and is being done by our several committees; but there is, I venture to think, still room for improvement, especially in two directions. In the first place the bestowal of medals is ridiculously superabundant; being showered down as they are, they have lost all distinctive value. In the second place some means are needed for the verification of names. No plant ought to receive the society's medal, prize or certificate without the name under which the plant has been shown having been verified by competent authorities; this will cause some additional trouble in the way of making arrangements that the plant shall be submitted to competent authorities, but the award of the society ought to be of sufficient importance to justify the trouble being taken. In the case of a new plant exhibited for the first time, and receiving an award as a new plant, still more trouble ought to be taken. I do not myself see how such awards can be safely made without some careful system of reference. A plant submitted for a certificate of being a new plant ought to be referred to competent referees, who should send in a written report, and no certificate should be given except upon such a report. These reports, with descriptions of the plants, and, if possible, drawings, and dried or otherwise prepared specimens, if preserved by the society, would be of immense value. This, of

course, means a more complete organisation of the committees than we have at present; but to this I will return.

B. *Expository or Propagandist*.—(a.) *Shows*.—"It is unnecessary to urge that shows of the nature of our fortnightly ones must continue to be a prominent feature of the society. These are shows to *show plants*, to instruct the public as to what is being done in horticulture, not to furnish a gala entertainment. Hence, though arrangement of plants may be made at these shows to illustrate their æsthetic value, the great object must always be to call attention to individual plants. I share with many the view that, at all events, during certain parts of the year, it is desirable that there should be intermediate shows in the intervening weeks; or, rather, I would go further, and say that when we possess adequate accommodation we might, I believe, without very much trouble, by proper arrangement, provide a continuous show, open always, so that any horticulturist visiting London would always find some objects of interest to see. Everyone must be aware how much we lose by plants not happening to be in bloom on the days of the fortnightly shows. It seems, moreover, not impossible to adopt a plan, by which notice should be given of the plants likely to be on view at such and such a time. From what I hear, I am also inclined to think that the day of the week and the time of day fixed for the fortnightly shows may fitly be reconsidered. In spite of the disaster at Liverpool, I am still of opinion that provincial shows and meetings ought to be held, if not annually, then every two, three or four years. This seems only just to the provinces, if the provincial horticulturists are to belong to the society. But it ought to be understood that such a provincial show or meeting is really a *visit of the society* to the town or city where the show is held, for the purpose of promoting horticulture there, and should be carried out accordingly.

(b.) *Meetings*.—"In the old times the meetings of the society, when plants were commented on and discussions took place before the Fellows generally, were of great interest, and might with benefit be revived, under precautions that they do not become too formal. At present the Scientific Committee within the society, and the Horticultural Club outside the society, supply this want, but to neither of these are the Fellows, as such, admitted. The evening meetings, which the late Mr. Mangles and myself got up some years ago, were undoubtedly successful, though carried out on too ambitious a scale; and I cannot but think that some such meetings, held either in the afternoon and sometimes in the evening, would be attractive to the Fellows, and most useful. But still more useful than such meetings, which must be more or less formal, would be the informal meetings of horticulturalists which would take place did the society occupy adequate premises in a central position. The rooms of the society ought to be the "house of call" for all interested in horticulture, or to speak more plainly, the society ought to contain within itself a horticultural club. If the Lindley Library were properly housed, with suitable reading, writing and conversation rooms, with the possibility of obtaining refreshments, and especially with the added attraction of the small continuous show spoken of above, we should, I venture to think, secure a very large support from provincial horticulturalists.

"C. *Publications*.—Although it is perfectly true that the gardening papers furnish on their own account excellent reports of what is going on in the society, and the necessity for an independent publication by the society is not so urgent as it was in the early days of the society, still there seems to me to be ample reasons why the society should issue a journal, an *authoritative* account of the work of the society. Such a journal, issued to all the Fellows, fortnightly or monthly, would not clash with the gardening papers, and every Fellow would then be able to learn what the society was doing. There seems to be also a distinct want of some channel for the publication of horticultural communications which are too long for the gardening papers; for such papers as these, and for such matters as the *Frost Report*, the old Transactions might be revived as a second means of publication, keeping the journal for the more simple record of the business of the society.

"D. *Investigations*.—In the old time the society sent out explorers to investigate the flora of distant countries, to the great profit of science and of horticulture, and to the great credit of the society. Perhaps it is vain to

hope that anything of the kind can ever be done again, but at all events the society might and ought to institute or support horticultural investigations at home, at Chiswick or elsewhere, in a more systematic manner, and with a greater scope than at present, valuable as is the work of the kind still carried on at Chiswick.

"E. *Education*.—In the bye-laws of the society, as they at present stand, are regulations for a Committee of Education; and, indeed, in old times the furtherance of horticultural education was laid down as one of the important duties of the society. There is at the present time every reason why the society should at once seriously take up this important though most difficult task. Such it seems to me are in brief the chief functions of the society. To attempt to carry them out is to a large extent to go back to the old lines on which the society was founded, and on which it was once so successful.

"III. THE ORGANISATION OF THE SOCIETY. A. *The Council*.—There can be no doubt that the Council is not in touch, as it should be, with the horticulturists of the kingdom, in spite of its being a most active and industrious body; it is, indeed, the most hard-working Council with which I am acquainted. But I do not share the views of those who look for improvement in a more popular mode of election; I imagine that everyone with experience in such matters will admit that to leave the selection of new members of the Council to the accidents of a general meeting of Fellows is the way least likely to result in a good Council. The real fault is that the Council is too small a body, and undertakes too much work; it attempts to do everything itself, instead of relegating some of its duties to other bodies of Fellows. An increase in the Council cannot be made without a change in the charter, and I am myself inclined to believe that a new charter is almost essential to any real prosperity of the society. If the Council consisted of twenty-five members, that is, of twenty-one members in addition to the president, treasurer, hon. secretary, and chairman of General Committee (see below), of which twenty-one, one-third (seven) were ineligible for election each year, the Council would be a very different body from what it is now, and would be much more truly representative of horticulturists, even though the new members of Council were elected on the present system. But, without having recourse to a new charter, with the number of Council remaining as at present, much might be done by the Council remitting some of its functions to other bodies of Fellows. This would necessitate a change in the organisation of

"B. *The Committees*.—My experience of the British Association for the Advancement of Science leads me to believe that much might be effected by the institution of a GENERAL COMMITTEE, who might do much that is now done by the Council—a sort of "Lower House" in fact, to be organised somewhat as follows:—

"(1) The nucleus of the General Committee to be nominated in the first instance by the Council. Subsequent elections to the committee to be made by the committee itself, the Council, perhaps, reserving the right of veto, but not more. (2) Every candidate for election into committee shall be a Fellow of the society. We may, as heretofore, utilise the help of botanists and others who are not Fellows, and may give them in return certain privileges, but not that of belonging to the General Committee, which, as will be seen, will be in reality a governing body. (3) The qualification for admission to the committee shall be evidence, not only of the desire, but also of the ability to promote horticulture; that is to say, the candidate must be a person of horticultural reputation, and likely to be a useful member of the committee. (4) Every candidate shall be duly proposed at one meeting of the committee, with a written certificate stating his claims, and shall be voted for at some subsequent meeting. That is to say, the election shall be of a definite, formal character. (5) Anyone elected a member of the General Committee shall remain on the committee during his life, or as long as he pleases, subject to removal for special reasons, in a manner to be specially provided. (6) The numbers of the committee shall not be limited. (7) Such members of the committee as may from time to time be elected to serve on the Council shall, while serving on the Council, continue to exercise their functions as members of the committee. (8) The committee so constituted shall, each year, form, out of their own numbers—(a) A Fruit Committee, (b) A Floral Committee, (c) A "Nomenclature" or "Name" Committee, (d) A Scientific Committee, (e) A

Chiswick Committee, (f) A Publication Committee; and any other special committees which they may see fit; provided always that a certain proportion of each committee—one in ten for instance—be members of Council for the time being; and that the Council have the power of veto over any name selected as member of any committee, but not of substituting any other name, the General Committee in the case of such a veto proposing a new name until the Council and committee are agreed. (9) The General Committee and the Special Committees shall have executive powers, including that of spending such sums of money as have been granted by Council, annually or otherwise; but any expenditure beyond such grants must be previously sanctioned by Council, and, in general, the conduct of the General and Special Committees shall be governed by regulations approved of by Council. (10) The chairman of the General Committee shall be re-eligible for election, and shall be a permanent member of Council. In other words the Council will retain its hold upon the finances, and upon the general policy and conduct of the Society, but many of the administrative details will devolve on the Committees.

"Many details, of course, require to be filled in, as to the meetings of the General Committee, the relations of the Fruit and Floral Committees to the Nomenclature Committee, instituted to ensure correct nomenclature, the duties of the Chiswick Committee, and the like; but these may be left for the present. Thus a system of regulations would have to be drawn up for the conduct of the General and Special Committees, and had better, perhaps, be incorporated in the by-laws of the society. At the beginning of the year the committees would be appointed, and the Council would apportion grants of the funds of the society to the several committees, to enable them to carry on their annual work. The General Committee would probably meet, say, quarterly, and report quarterly to the Council, who would issue the reports to the Fellows. Within the lines of their regulations, and at an expenditure not exceeding the sum allotted to them, the committees would have power to act independently of the Council, and there would be no necessity for the Council to revise the acts of the committees, such as the granting of medals, &c.; but all action leading to extra expenditure, and all matters beyond the regulations, would have to be referred to the Council.

"C. *The Secretary*.—Though I do not share the views of those who desire to have a paid secretary to manage the society, and so eventually to become the master of the society, but think that the Fellows ought to manage their affairs themselves, I have always been of opinion that a paid secretary is necessary—that the secretarial labours ought to be so great as to require the whole time of some one man. If the foregoing plan were adopted, and the society flourished, it might become a question whether we did not need two paid officers—one a horticultural or internal secretary, and the other a business or external secretary; but this may be left for the present.

"IV. *SUBSCRIPTIONS*.—There is no doubt whatever in my own mind that we ought to have £1 ls. subscribers as well as £2 2s. and £4 4s. subscribers. I see no difficulty in making most of the privileges (votes, admission, &c.) of the £2 2s. subscribers double, and those of the £4 4s. subscribers four-fold those of the £1 ls. subscribers. We might, with advantage, also revive the *Associates*—that is to say, grant to suitable persons the privilege of Fellowship (except the right of voting) upon the payment of a very small subscription, or without any payment at all. On the whole, it does not seem to me desirable to make any distinction, as regards subscriptions, between provincial and metropolitan Fellows. We ought to make it worth the while of horticulturists in the provinces to join the society, but leave it to each one to determine for himself, or herself, what subscriptions he or she shall pay.

"If we obtained a new charter, it might be worth while to discuss the question whether it would be desirable to make a distinction between *Fellows* and *Members*, reserving the former title for those who served on the General Committee.

"V. *ACCOMMODATION*.—According to the above scheme, we should want (1) offices, with secretary's room, &c., &c.; (2) a room large enough for the fortnightly shows, with power, if possible, to use the room between the fortnightly shows; (3), committee-rooms, at least three, one large enough to be used for meetings of Fellows; (4) library and reading-room, with arrangements for the housing of the records of the society, drawings, herbarium, &c.; (5) conversation and refreshment-rooms.

"This accommodation, in my opinion, had *much better, in the first instance, be of a temporary nature*; we should then have time to find out what we really wanted.

"Such, dear Sir Trevor, is a brief sketch of my notions of what we want, and what we ought to aim at.—Yours truly, M. FOSTER."

Shelford, Cambs., July 6th. 1887.

GARDENING NOTES FROM SCOTLAND.

Strawberries on Trenched Land.—Never have we seen the advantages of trenching so well exemplified as this season. Peas, Potatoes, Onions, and other crops tell a forcible tale on behalf of trenching; but we are more supported in our long-conceived notions in favour of this by the behaviour of Strawberry crops on various plots—two trenched and one only dug over. The Strawberries planted early last September, chiefly with the object of securing runners for forcing, have produced extra fine fruit. The plants being small, and placed in threes—a favourite system of our grandfathers—had not the best of chances; but they have served well the purpose of providing early runners, while neither fruit nor plants suffered from drought, the land being well manured and deeply turned up after a previous crop. Another plot close by, which was not mulched, but the plants firmly rooted into the well-manured deeply-trenched ground, have stood the drought—such as has not been equalled for many years—and produced Strawberries of the finest quality we have ever seen. A third plot, part of which was dug over and well manured, has suffered from drought, and though the crop was large, the fruit was small and very hard. The roots rested on the hard unbroken bottom, and, therefore, suffered. To have good crops for another year, the plants cannot be too soon placed out, as they then get established before winter, and those which have fruited should be trimmed and manured as early as possible, in order to get a strong growth completed in good time. Cow-manure with some soot answers well.—*Caledonian*.

Vegetable Sowing.—This has been performed under much difficulty by many cultivators, and though we have had some refreshing showers after a long and severe drought, the ground underneath is dry and hard. To sow small seeds on such land is almost a waste of seed and time, but success may be depended on by breaking the ground over with a spade or fork, giving the whole space a good watering the night before the seed is to be sown. The day following it may be trodden (if not of a clayey texture) and raked preparatory for the seed. Onions, Spinach, Turnips, Carrots, Lettuce, Cabbage, Chervil, Endive, Parsley, Radishes, and American and Golden Cress may be sown before the month is out, as they will likely have to contend with frost, and generally severe weather; those which have been recommended as hardy and suitable for the purpose should be sown. All planting previously recommended for autumn and winter supplies should be done with care; draw drills, puddle the roots in soil mixed with a little cow-manure, and a pinch of soot, and the plants will be prepared to resist drought and vermin. Spinach, Lettuce, and Carrots may be sown on the ground which is to be planted with early Cabbage, leaving the rows for the Cabbage untouched. The economy of ground being of much moment in many places, especially with suburban amateurs, the most should be made of it.—*Caledonian*.

Madresfield Court Grape.—We have seen this excellent Grape in as good form this season as we ever remember noticing it, and up to the present time cracking is comparatively unknown. The extra dry season may have had something to do with this; but where the roots are entirely inside, and heavy soakings given to the other vines in the same structure, a deal of the theory of dryness at the roots is removed. On a heavily cropped vine under our charge we have only noticed one berry split. Last season, too, when extra thinning was practised, split berries were very few; the previous season they were very numerous, nicking or boring having no effect whatever in arresting the progress of the evil. Certainly we have observed that the most mischief has been done by "cracking" where the berries in the bunches have become jammed tightly together. We have had a few berries destroyed by "spotting" this year, but extra airing with increased fire-heat stopped the mischief very promptly. We notice that the proclivities of Madresfield Court and Lady Downes Grapes are much alike as to spotting; a low damp temperature is very conducive to the evil. Air on during the night, and increased early in the morning, generally acts as a preventive, but this alone will not save "spotting" if a low temperature accompanied with damp is allowed.—*Caledonian*.

THE AMATEURS' GARDEN.

CARNATIONS.—To keep up a supply of strong healthy flowering stuff, such things as Carnations, Picotees and Pinks should be propagated annually. They may all be propagated from seed, but recourse is had to that process chiefly for the sake of obtaining new varieties, or as a method of obtaining a large quantity of cut bloom for ordinary decorative purposes, as they usually flower very profusely from seed the second year. But to obtain named varieties true they must be propagated either by layers or cuttings.

The most satisfactory results are given by layering Carnations and Picotees, which may be accounted for by their longer and thicker stems being more easily manipulated than those of Pinks. As soon as possible after the flowering is over, or even in some cases before that time, the young and flowerless shoots, generally found in abundance around the base of the flowering stems, should be layered. Previous to this prepare a quantity of light rich soil in which to embed them, as this greatly facilitates the process of rooting, especially if the soil in which they are growing is naturally heavy, or in droughty seasons such as the present. A small quantity of loam mixed with sifted leaf-soil and a quantity of sharp river sand will answer all the requirements admirably. Having thus made preparation, draw a small quantity of the loose soil from around the base of the plant to be operated upon and substitute a quantity of the compost. Next strip off the leaves from the base of the shoot to be layered, and on the underside of it make a cut with a sharp knife, passing the blade inwards and upwards from a joint for a distance of about half-an-inch. Peg down the shoot in such a manner that the cut will be open. This will induce the emission of roots, owing to the arrest of the downward flow of the sap by the cut. Cover the layers, when the whole plant has been thus treated, with a good surfacing of the prepared soil; then give a heavy watering through the rose of a watering-pot to settle the soil about the cut stems, and the operation is complete. Continue the watering at nights if the weather is dry, till the roots are formed. Strong young plants will be the result in a much shorter time than if cuttings had been taken. It may be necessary in some instances to take cuttings, if the available shoots are produced too far up the stems than is convenient to bring in contact with the soil; this is more likely to happen in the case of Tree Carnations.

PINKS may be propagated in the same way, but cuttings are generally more satisfactory or practicable, from the barren shoots being shorter and slender. Cut them off immediately below a joint with a sharp knife, and after removing a few of the lower leaves carefully, insert them in light sandy soil under a handlight or cold frame. Water to settle the soil, and shut them up close, shading them when the sun is strong till rooted or about to do so, which may generally be known by their commencing to form fresh growth.

PANSIES AND BEDDING VIOLAS.—It is customary with some growers to put off the propagation of these things till autumn; but a better practice is to do it about this time, provided a sufficient quantity of cuttings are available. Others, and amateurs especially, trust to their supply of plants by simply dividing the old ones, but such will never find out the secret of the large-flowered plants seen in the nurseries and markets in early spring till they commence propagating for their annual requirements. As the plants get old the quality of the bloom deteriorates, and such inevitably fail to give satisfaction, leading to their abandonment. Do not attempt propagation in greenhouses, vineries, or similar places, which are too hot in summer for members of this genus; but insert the cuttings in frames or handlights, either temporary or otherwise, which may be removed altogether in autumn if the cuttings are inserted in sheltered places at the foot of a wall or otherwise. The choice kinds may receive protection till spring.

PHLOXES AND PENTSTEMONS.—As in the case of Pansies, so here again the best panicles of bloom, whether for decorative or exhibition purposes, are obtained from young plants that have been struck from cuttings the previous year. Short, moderately firm lateral or radical shoots, after being prepared in the usual way, may be inserted in boxes of sandy soil, and put in a pit, frame or similar structure, where they may be kept close till rooted, and afterwards given all the air possible on every favourable occasion throughout the winter.—*F.*

GARDENERS AND THE TWELFTH.

THERE are a great many gardeners who keep their minds fixed upon the 12th of August quite as closely as any keeper of a grouse-moor, and, perhaps, more so on this date than any other in the calendar; for to them it means the commencement, in real earnest, of the denudation of their gardens of the crops which, during the summer, they have been arduously cultivating for the eventful season. Where the gardens are of large dimensions, there is less difficulty in meeting the heavy demands made upon them; but in the case of those of moderate size, the gardener has an anxious time of it, for sometimes, do what he may, he cannot help running short. In all cases where shooting or other parties are expected, the gardener should have timely notice from his employer as to what fruit, vegetables, and flowers will be expected, so that he can time his produce accordingly. Seed-time and harvest will come and go, and happy is the man who, having toiled through the season, can complacently look round and satisfy himself that all will be well when the 12th comes.

It is true, that nature greatly aids in this matter, as in July, August, and September fruits and vegetables are plentiful; but if the sorts most wanted have not been sown at the right time there is great risk of failure. Failure or no, on the 9th, 10th, or 11th the order is given; sieves, hampers and pads are got ready, and gathering and packing proceeds in proportion with the distance from home to the moors. The nearer the moors the less packing will be required, and the fresher will be the vegetables, and *vice versa*, for all depends upon the distance and the means of transit. Where the moors are within driving distance, all must be ready on the morning of the 11th, and the choice fruits should in all cases, if possible, accompany the host or party in coach or carriage, where the roads are not of the best character—and many of them are rough over the moorland ranges, severely taxing the skill of the packer. In the stronger vehicle, which is to take the wines, vegetables, and other good things for man and beast, the cases of wines, &c., should be placed in the body of the trap, then the hampers, and then the Peas in bags on the top, where they will travel best.

If some of your readers were to see the loads that have to be sent to the moors, I am afraid they would imagine the party did not intend to return for a month, but I should state that a party ranges from six to twelve, and in some cases twenty guns. The sportsmen are accompanied by the keepers and beaters, whose duty it is to drive the game in certain directions, and within range of the guns; these drivers, with other servants, may bring up the total to thirty or forty. One and all are up at early dawn, and the shooting becomes fast and furious, as each one is striving to bag the largest head of game. The excitement, the invigorating exercise, and the exhilarating air whets the appetites of all, consequently, great is the consumption which follows, and woe to the gardener whose hampers are not found equal to the occasion.—*B. L.*

BALSAMS OUTDOORS.

AMONGST the difficulties engendered by an untoward season, I can but comment upon the remarkable way in which a large number of Balsams planted out at the beginning of June have thriven. The difficulties found at planting time were greater than usual, for the soil was very rough and lumpy, and could not be got into a friable state. It is no easy matter to get Balsam plants lifted from the seed-bed and dibbled out into soil very much like a bed of half bricks, to root and thrive; but it had to be accomplished. Shallow drills some 14 ins. apart were drawn with a hoe, and then the bottoms of the drills chopped with the corner of the hoe to break the soil, after which water was run along the drills to soften it, and the plants at once dibbled out, being watered in.

The exceedingly dry nature of the soil was the saviour of the plants from slugs, for their stems are soft and succulent. Still, no one would wisely put out plants that had other than stout well-seasoned stems. However, with one or two other waterings and an occasional hoeing, but without a drop of rain since, and under often burning heat, the plants have thriven wonderfully, and just now are coming into

bloom profusely and beautifully. I think Balsams which do well out of doors are really very charming plants. Last year my lot quite surprised those not accustomed to see them out of pots, whilst the quality was first rate. The trial really settles two things—first, that yearling seed reproduces the finest double quality in Balsams, the old story about needing aged seed to give double flowers being all moonshine; and, second, that quality equally as fine can be found on outdoor plants as on those grown under glass.

Now I find from long experience that Balsams maintain colours and characters remarkably well, even though grown close together. The same may be said of Asters, Stocks, &c., but we have, of late, been so horribly frightened with that florist's nightmare—the busy bee—and of its wondrous doings amongst flowers, that it is well to cite cases when we can to show that this same bee is but a scarecrow at the best, and that its evil influences in the direction of cross-fertilisation are, if not romantic, at least very problematical. Whilst the dibbling out of such soft-stemmed plants as Balsams may seem rather risky, the plan invariably has better results than come from turning out of pots. Then the plants make so much growth that they become literally a bunch or cluster of shoots, and the flowers are hidden. When dibbled out the plants throw a few side shoots until late in the season, and the clusters of fine double flowers which adorn the main stem of the plant are fully seen.

Very many persons who like Balsams as pot plants find it difficult to raise them without inducing lankiness, which puts the plants out of all fair proportion. They may, however, get over their difficulty by planting out into the open ground, and then lifting and potting the plants just as they come into bloom. Balsams lift well, having clumps of roots which soon attach themselves to fresh soil, especially when the plants are shaded for a couple of days and well watered. Whether in pots or in the open ground, Balsam culture greatly needs reviving.—*A. D.*

A BRITISH RAIN-TREE, APHIDES AND LADYBIRDS.

WHEN any peculiar phenomenon of natural history is observed in a foreign country, and recorded, we look upon it with all the interest, and listen to it with that keenness, which a traveller's tale is calculated to inspire; but when the same or a similar thing occurs in our midst, it produces little sensation or we ignore it altogether. *Pithecolobium Saman*, a native of Brazil and Venezuela, is popularly known as the Rain-tree, from the circumstance that when infested with certain insects it exudes a liquid material sufficient to wet the ground beneath it.

This happens in our native Lime tree, *Tilia vulgaris*, when infested with aphides, as it is to a great extent this year, doubtless due in a great measure to the lengthened drouthy weather we are and have been experiencing, and which is very favourable to the increase of these insects. The trees glitter with the exuded liquid, as if there had been a shower, or they had recently been heavily syringed. When the leaves are curled, or in anyway formed into cavities, the liquid collects there, and is constantly falling on the ground in considerable quantity. Where the trees are grown on grass, or where there is a quantity of dust or other loose material, the moisture quickly dries up so as to be unobservable; but should the trees overhang pavement, great wet patches may be seen forming broken or interrupted rings round the circumference of the tree as far as the branches extend, and are more conspicuous where the drip is greatest, when the tree is agitated by the wind. For the trees to exhibit such a quantity of exuded moisture in the hottest and driest weather we experience in this country is remarkable, but that the pavement underneath them should remain wet till a late hour of the day is even more so.

Contemporaneously with this, another interesting phenomenon in the economy of nature is observable. Great numbers of coccinellæ, or different species of ladybirds, locate themselves upon the trees, attendant on the aphides, which afford them an almost inexhaustible supply of food. The ladybirds may be noted in all stages of development from the dull-coloured, ugly-looking larvæ up to the perfect, winged, brightly-coloured insect, which may be red with black spots, or black with red spots, according to the kind. At a

certain stage of the larvæ, white sucker-like disks or tubercles are protruded at the hinder end of the body, and by means of these they fix themselves to the leaves of the trees preparatory to making their exit from the larva-skin or encasement. At an early stage of this they are readily removable from the leaf; but after a time the disks become black and hard, so that the insects can only be removed by force. They do not seem to possess the power of changing their position, even if desirable when disturbed, till they have completed their metamorphosis, and emerge from their narrow house of confinement as perfect insects. The object in being thus fixed is to enable them to quit the "old clo'."—*Taxus*.

LILIUM PHILIPPINENSE.

THIS rare *Lilium* belongs to a type of the genus well represented in gardens by *L. longiflorum*, of which there are many forms, some having longer and more slender tubes than the type. The limit of this elongation of the tube is reached in the shape of *L. philippinense*, which is remarkable not only for its length, but also its slender character. The whole flower is narrowly funnel-shaped, and from 7 ins. to 8 ins. long, its six segments spreading near the tip only. The inner ones are much the broader, while the whole perianth is pure white, with the exception of a greenish tint towards the base of the tube, and deliciously fragrant, as are the flowers of *L. longiflorum*, which is never too powerful, as we experience in the odour of *L. auratum* and *L. pyrenaicum*. The stems range about 2 ft. in height, and are elegantly clothed with slender linear acute leaves from the base to within a short distance of the flower, only one of which terminates the stem as a rule, although cultivation may in time cause the development of a greater number.

This fine *Lilium* is a native of the Philippine Islands, and at present is the only representative of the genus from that quarter of the world; but as the interior has not yet been thoroughly explored, more may probably be discovered. Coming as it does from that part of the globe, it will be the safest plan to afford it greenhouse treatment till it becomes more plentiful. From its dwarf accommodating size, and the elegance of its foliage, it is very suitable for this purpose, and will form an acquisition as a greenhouse or conservatory subject, where its presence will be acceptable, both for its odour and chaste beauty.

THE GARDENERS' ORPHAN FUND.

WHILE we are pondering over the leading events which have taken place during the present season—and they are numerous—it is with much regret that we find so few, comparatively, of the horticulturists in the northern part of the kingdom identifying themselves with that laudable movement known as the Gardeners' Orphan Fund. Many of the gentlemen who are appointed to the management of this institution are known to us personally, and all the names recorded in the horticultural magazines as having taken an interest in the movement are as familiar as household words. It must be gratifying to most gardeners throughout the kingdom to learn that so many gentlemen of high standing have disinterestedly given their services to the advancement of this noble cause, and with no expected reward beyond the satisfaction of knowing that they are doing something for the benefit of their race.

Although northern horticulturists have not hitherto associated themselves in proportionately large numbers with this benefit fund, it cannot be from apathy or want of due sensibility of the advantages to the helpless "bairnies" which must accrue from such a philanthropic institution. When we so frequently witness the spontaneous liberality and warmth of feeling manifested by Scotchmen towards suffering humanity, it gives cause for disappointment when we notice the national characteristic exemplified less by gardeners in the instance indicated than we had reason to expect. We hope, however, to see the list of contributors largely augmented by our northern friends who have not yet offered their tangible support. Whether one may have a family or not, it should be looked upon as a privilege, as well as a duty, to aid the establishment of a national Gardeners' Orphan Fund.—*Caledonian*.

LILIUM PHILIPPINENSE.



GARDENING MISCELLANY.

The Medals of the Royal Horticultural Society.—In Professor Foster's able paper, circulated among the Fellows of the Royal Horticultural Society, it is said, at p. 2, "In the first place, the bestowal of medals is ridiculously superabundant; being showered down as they are, they have lost all distinctive value." For the information of those not thoroughly conversant with the working of the society, it may be well to state why medals are now given more frequently than was formerly the case. In the impecunious state of the society, it cannot afford to offer prizes, and as the visitors at the fortnightly meetings would be hardly satisfied with seeing only the plants sent up for adjudication, leading nurserymen, both of town and country, from time to time make most interesting and instructive large displays. Visitors will remember fine banks of *Gladiolus*, *Rhododendrons*, *Roses*, *Narcissus*, spring flowers, &c. Some acknowledgment has to be made to these exhibitors, and the new medal of grade according to merit is awarded after very careful inspection. The use of medals has thus been diverted from being very rare awards to single highly remarkable plants, to rewards for making useful attractive displays in the Conservatory. When no great exhibitions are going on next door, the visitors to the fortnightly shows are not sufficient in number to reward the exhibitors of groups for the expense and trouble of bringing up a large number of plants. According to my experience, which is not small, exhibitors still greatly prize the award of medals.—*G. F. Wilson, Heatherbank, Weybridge, July 25th.*

Everlasting Peas.—Among these *Lathyrus grandiflorus* takes a high place. It simply needs to be planted in some spot where it can increase at will, and not interfere with anything else. The flowers are very large and showy, and, as far as my experience goes, they do not burn so readily as those of *L. latifolius*. The last-named is the common Everlasting Pea, and it is curious to notice how much stronger it comes in some soils than in others. I have seen it in Kent growing in a good strong Hop-soil, and producing brilliantly-coloured flowers of large size. If I bring a plant of this near London it goes back to the old type; therefore, I infer that soils materially affect Everlasting Peas. Then there is the white variety, and that beautiful form known as *L. delicata*, in which the white flowers are beautifully pencilled with pink. *L. Drummondii* is one of the earliest and freest of Everlasting Peas, the flowers being of a bright salmon-carmine hue, but they burn in the sun; yet it is wondrously free, and the plant soon grows to a great size. *L. Sibthorpii* is a rare species with crimson-magenta flowers, and very early; it is also one of the most distinct forms in the genus. To succeed in the open, an Everlasting Pea should be planted in a good deep loam.—*R. D.*

***Sibthorpia europæa variegata*.**—No one can imagine the real beauty of this British, though rare, wilding when the leaves are variegated or margined with pure white, as they are in this case. In a wild state it affects moist shady places, and those who wish to succeed with it must adopt a similar situation and accord it the same moist treatment as it enjoys in a state of nature. Many cultivators fail with it from not adopting this simple method, but Mr. Shuttleworth, at Park Road, Clapham, seems to have hit the key of success happily, judging from a number of plants of various sizes in his houses, where the slender creeping stems hang over the sides of the pots in a very fascinating manner. The leaves are small, reniform or suborbicular, thickly clothing the prostrate stems, and are exceedingly pretty when not grown in a house with a dry atmosphere and full exposure to the sun.

***Utricularia montana*.**—This Bladder-wort is grown nowhere to greater perfection than in Baron Schroder's collection, and I have never seen it so robust and floriferous. If Mr. Ballantine succeeds as well with *U. Humboldtii*, it will assuredly cause a great sensation. July is a comparatively barren month for Orchid blossoms, but at no time of the year can one visit The Dell without seeing something to rivet attention or excite admiration, and to the ardent lover and cultivator, the magnificent healthy condition of the plants affords ample compensation however long the journey may have been.—*Leo. Gordon.*

New Peas.—Right glad was I to read your leader last week upon the Peas on trial at Chiswick, and also to note that the old friends under new names had not escaped detection. I hope you will give us an extended list of the trial when completed, and that the Fruit Committee will give their awards without fear or bias. I do wish we had less of the evil practice of sending out poor sorts under high-sounding names, or old sorts under new appellations. Chelsea Gem, I notice, has got a Certificate, and it deserves it, for it is a fine dwarf, with twelve to fifteen peas—rather dwarfer, in fact, than that good Pea, William Hurst, which it very much resembles. It may prove to be a slight improvement upon that variety. Among other varieties with me, Magnificent, Royal Jubilee, Abbott's Duchess, and Prodigy are promising well, and, so far, are the best. The last-named is somewhat similar to Magnificent, but rather longer in the pod, and, I am afraid, will not fill up so well. But more of these and others anon.—*B. L.*

A Sportive Gloxinia.—A curious instance of two differently coloured flowers proceeding from the same tuber has occurred at Style Hall, Gunnersbury. They are borne on separate shoots produced from buds arising in very close proximity to the tuber, and aroused the suspicion of there being two different tubers, the result of two seedlings, until turned out of the pot and the soil removed, which set the matter at rest. The flowers are of that shape intermediate between the original drooping tubular form and the erect, wide-mouthed, nearly regular, improved varieties; the flowers on one shoot are white, with the tube violet-blue all over internally; while in the other case the violet-blue colour is confined to a broad band along the lower side of the tube only.

Bignonia Chirere.—I send you samples of trusses taken from a plant of this handsome climber. It was planted out five years ago in the centre bed of a span-roofed greenhouse, trained up one of the supporting columns, and after reaching the roof, was further trained in various directions, covering a space 4 ft. wide and 40 ft. long, with scores of pieces like the sample sent drooping gracefully from the roof. There was no particular preparation of compost beyond a barrow-load of loam and leaf-soil to start in, since which the roots have had nothing further than ordinary garden soil. I have seen several Bignonias in various places, including the subject of this note, but more often without flowers than with them, being simply utilised to cover the back walls of conservatories and greenhouses, or trained under a roof of opaque glass instead of in a structure where they can have the maximum amount of light. Our plant has been free from all kinds of insect pests until this year. Some of the shoots became infested with green-fly; but as we do not fumigate the house in which it is growing, we syringed the plant with soapy water and tobacco-juice, which proved effectual.—*W. P. R.* [The specimens sent us were simply magnificent, each truss or cyme being in itself a conspicuous and attractive object of floral beauty. The individual flowers were close upon 5 ins. in length, and six to ten of these were in full bloom at one time, with other unexpanded buds in various stages of development. It is interesting to note the change of colour that takes place from the time the flowers first expand till they are just about to drop. The tube at first is of a rich orange-yellow, and this gradually changes to a deep bronzy or orange-red. Externally the lamina is orange-red, changing to a soft rose colour in the mature flower; but internally it is a brilliant scarlet, changing to a deep rosy red. The interior of the tube is clear bright yellow, finally changing completely to a decided orange-brown. These changes that take place with regard to colour are no less remarkable than the size, brilliancy, and beauty of the flowers themselves. The leathery evergreen foliage sent us was clean, healthy, and bright.—*Ed.*]

Cissus discolor.—This stove climber, on account of its effective colouring, is universally admired. It thrives well in pots, but for training on the roof, or over trellises, it is better planted out. It succeeds well in soil composed of two parts of peat to one part of loam and leaf-soil, with a sprinkling of sand. It is easily propagated in the spring by means of cuttings, which strike the more readily with a piece of old stem attached to them. When the plant is in good health, weak doses of manure-water can be safely given with good results. It is a native of Java.—*F. R. S.*

Root Crops and the Dry Season.—The effect of the drought upon root crops is causing much comment in every district, and especially where the ground is at all heavy. The intense heat has baked the soil into a solid hard mass, and crops, such as Potatoes, Parsnips, Carrots, &c., are full of holes and indentations; in fact, some Potatoes cannot swell to their proper size, and are "growing out" or sending forth shoots about 3 ins. or 4 ins. long in all directions, which render the crops perfectly useless. I send you herewith some Carrots I lifted out of a large field, from which you will see the grotesque shapes they are assuming. These are a fair sample of the crop, which were all taken out in a heap, and it is fair to assume that the whole field is in the same condition. They are stunted and full of dents, and unless rain comes to their rescue within a few days to soften the soil and allow them to fill out, they will be useless.—*Practical.*

Musa coccinea.—This is a handsome foliage plant, and grown in 10-in. pots will be found very useful for decoration during the winter time. It is one of the dwarf-growing species, having a brightly coloured inflorescence. The flowers are produced terminally, with spathe of a bright scarlet tipped with yellow. It requires a stove temperature, and should be liberally treated. A resting period should be allowed it, water being sparingly given. Propagation can be effected by seeds or by suckers, which offer a ready mode of increase.—*F. R. S.*

Torenia Fournieri.—This pretty annual is very suitable for conservatory decoration as a pot-plant at this season of the year. It belongs to an interesting family (the Scrophulariaceæ), and its monopetalous corolla being sky-blue, with a bright yellow throat, the lower and side lobes being tipped with deep indigo-blue, renders it very attractive and pleasing. The seed should be sown about the middle of April in a shallow pan in a mixture of leaf-soil and loam in equal quantities, with a little silver sand, and as soon as the young seedlings are large enough to handle prick them off into thumb-pots (3 in a pot), and afterwards shift into 48's, adding one-third well-decayed farm-yard manure to the compost above mentioned. Grow them in a stove temperature, and pinch them once or twice to induce them to grow bushy. As soon as the plants commence to flower remove them to an intermediate temperature until required for the conservatory. They will keep on flowering for some time under favourable conditions, and a succession of bloom can be kept up until late in the autumn by one or two successive sowings, and by giving a portion of the plants an extra pinching.—*Alfred Gault, The Gardens, Copped Hall, Totteridge.*

Campanula persicifolia alba plena.—There are several forms of this useful hardy perennial in cultivation; but none are more useful or pretty, either for cultivation in pots or out of doors, than this one, which finds a place on the new rockery at Devonhurst. The flowers are pure white and double, resembling a small Rose of the *Rosa multiflora* type. Another form on the same rockery is also pure white, and generally known as *C. p. calycanthema alba*. The calyx is greatly enlarged and white, as also is the corolla in this case. The typical form is blue, and is occasionally met with in a semi-wild condition in several northern counties from the fact of its being planted alongside drives or other half-kept places, and has strayed or otherwise become naturalised, and recorded in several British floras. A peculiarity of this *Campanula* is that it opens the terminal flower first, and in semi-wild specimens the whole inflorescence is frequently reduced to this solitary terminal flower.

Fasciated Stems.—At the meeting of the Scientific Committee on Tuesday, Mr. G. F. Wilson remarked upon the prevalence of fasciated stems in *Lilium auratum*. Professor Church corroborated his observations by mentioning a similar occurrence in Kew Gardens. Mr. O'Brien observed that the habit has become more or less fixed in *L. lancifolium* when raised from bulbs, but nothing is known of the variety, *L. monstrosum* being raised from seed. *Apropos* of raising Lilies by seed, Mr. O'Brien remarked that if seeds of Lilies be saved and sown in South Africa they will flower within six months, whereas in England it takes over twelve months. Also, if English-saved seeds be planted in South Africa they will not bloom under a year; showing the influence of climate upon the development of the plant. The only Lily, Mr. Wilson remarked, which comes up quickly is *L. tenuifolium*.

Lilium chalcedonicum.—Of all hardy plants—except, perhaps, Roses—which excel in stateliness and beauty, the Lilies must ever take a prominent position in the embellishment of the garden. Their only fault—if fault it be—lies in the fact that their glory is but of short duration, especially in such an arid season as the one we are now enduring. However, their name is legion, and their colour, habit, and variation is all that can be desired, so that a well-assorted collection cannot fail to produce a continuous display of bloom from June to September. Last year I had *Lilium auratum* in good condition as late as October; but this is a digression. The subject of my remarks is *L. chalcedonicum*, and a very brilliant and effective subject it is, either for the border or in a pot. This, with others, has suffered considerably through the drought, the result being shabby foliage and poor flowers. These said flowers are of pendulous form, beautifully reflexed, and of the most intense scarlet. The stem is erect, and rises from 2 ft. to 3 ft., producing terminal blossoms ranging from one to six in number. It is a native of Greece, an old-fashioned garden favourite, and one which deserves a better recognition than it receives.—*C. B. G., Acton, W.*

Venus's Looking Glass.—This old-fashioned garden plant, *Specularia perfoliata*, although of annual duration only, is not on that account to be despised, for when properly grown and tended, its tricoloured blossoms are interesting in themselves apart from their intrinsic beauty. The only fault in connection with them is their tendency to close soon after the sun has reached the zenith. But as the glory of a garden is any time before noon, this should not operate to their disfavour. The plant hails from the Levant, and is about 1 ft. high, and produces flowers freely. The corolla has a white base, the middle parts of the lobes being blue, and the outer edges bluish purple, which gives the plant a very effective appearance. It is useful either as a bordering to taller subjects, for rock-work, or for pot culture. In this latter position under glass it takes on a semi-pendulous habit, the peduncles elongating considerably, thereby showing the blossoms off to greater advantage. I have done well with it this season, both in and out of doors. I may here state that the seed was sown on March 6th, germinated March 27th, transplanted May 1st, and bloomed June 27th, from which time it has flowered profusely, and apparently will continue for some time. I forgot to add that the blossoms are broadly campanulate in form, and, in fact, the plant is generally grown in gardens under the name of *Campanula perfoliata*.—*C. B. G., Acton.*

Runner Beans.—In spite of the heat usually so harmful to the setting of the bloom on Runner Beans, the promise is very good, and considerable gatherings took place last week, the chief consignment going into market on Saturday, when prices varied from 10s. down to 7s. per basket, though 6s. seemed to be the general price for fair samples. Peas have given out so generally, the collapse of the crop being sudden, that it was expected Runner Beans would have proved, last week, an unusually good thing. We may expect to find fair samples of these excellent vegetables down to 4s. 6d. to-day, such is the rapidity with which market prices find their level. A very partial rainfall has helped to cool the atmosphere and moisten the foliage and flowers; but a soaking of twenty-four hours' duration is needed to reach the roots of the Beans, and so enable them to carry good crops until the winter comes in. With the exception of Peas, none of the pulse tribe are grown so largely as Runner Beans for market, and none others are more highly appreciated. I am growing that fine new variety, *Ne Plus Ultra*, for the first time this season. It is really a fine cropper, the pods being long, straight, handsome, and of a dark green hue. I think this is the Prince of Scarlet Runners, and in a year or two will be universally grown. As it does so well on the ground in the open field, I am satisfied that it must be a grand bearer indeed when grown on rods, as is usually the case in gardens.—*A. D.*

Allamanda Hendersoni.—This is, without doubt, one of the finest of the genus and a grand object when given a suitable situation. In a division of a span-roofed house at Harlaxton Manor, Grantham, the princely place of Mrs. Gregory, there is, at present, a sight which is at once beautiful and wonderful to behold. Trained upon the roof is a plant literally

covered with flowers; the trusses are enormously large, and there are hundreds of flowers expanded. Never in the whole of my travels have I seen a plant of this variety more profusely flowered or a grander object than the one mentioned. Mr. Vinden, a thoroughly practical gardener, delights in doing things well, and he may well be proud to show anyone anything so interesting as the plant mentioned.—*A. O.*

EXHIBITION OF ROSES AT MANCHESTER.

A MUCH better exhibition of Roses than could well have been anticipated, took place at the Royal Jubilee Exhibition buildings, Manchester, on the 22nd inst. Altogether there was a remarkably good show when the season is considered, and as was expected, the northern growers had it pretty much their own way. Such growers as Paul, Turner, the Cants, Rumsey, and others could not exhibit. Messrs. George Cooling & Son and Mr. S. P. Budd were there from Bath; the Rev. J. H. Pemberton, from Romford; Mr. John Cranston came from Hereford; but all the rest, almost to a man, came from north of the Trent. The show was arranged on tables placed along the centre of the splendid nave forming the new annexe, and a line of Crotons, Palms, &c., furnished by the Liverpool Horticultural Company, was placed along the centre of the tables, and had an excellent effect. The visitors to the exhibition appeared to thoroughly enjoy the Roses; they crowded the latter the whole of the day, and the number on a half-crown day appeared to be considerably in excess of the average attendance. There was a remarkable absence of competition in the classes where three trusses of blooms were required, showing the straits to which exhibitors were put to obtain triplets of one variety.

Nurserymen.—In the nurserymen's class for seventy-two distinct Roses, single trusses, Messrs. James Cocker & Son, Sunny Park Nurseries, Aberdeen, were first with highly creditable blooms of *Merveille de Lyon*, Victor Hugo, Prince Camille de Rohan, J. S. Mill, Innocente Pirola, Antoine Ducher, Mrs. Baker, Devonensis, Souvenir de Victor Hugo (Tea-scented), Madame Bravy, Alfred Colomb, Duke of Teck, A. K. Williams, Anna Olivier, Edith Gifford, Gloire de Bourg la Reine, Rubens, Elie Morel, Horace Vernet, Charles Lefebvre, Violette Bowyer, Duc de Rohan, Etienne Levet, Madame Victor Verdier, Sunset, Duke of Wellington, Ulrich Brunner, Dr. Andry, Marie Baumann, Comte de Raimbaud, Mons. E. Y. Teas, Général Jacqueminot, Souvenir d'Elise Vardon, &c. Second, Messrs. Harkness & Son, nurserymen, Bedale, Yorkshire, whose cut blooms were Duke of Edinburgh, Antoine Ducher, Her Majesty, Harrison Weir, Jean Sury, Mons. E. Y. Teas, May Quennell, Marie Rady, Dr. Andry, Dr. Sewell, Beauty of Waltham, A. K. Williams, Rosieriste Jacobs, Horace Vernet, Pierre Notting, Fisher Holmes, Dupuy Jamain, Alfred Colomb, Mrs. Jowitt, Charles Lefebvre, Duc de Rohan, Marie Baumann, Avocat Duvivier, Madame Victor Verdier, &c. Two exhibitors only competed. There was no competition in the class for forty-eight varieties, three trusses of each, but in that for the same number of single blooms, there were eight competitors, Messrs. J. Cocker & Son being again placed first with nice fresh blooms of Ulrich Brunner, *Merveille de Lyon*, Annie Laxton, Comtesse de Serenye, Mons. E. Y. Teas, Alfred Colomb, Mdme. Cusin, Sénateur Vaisse, Duke of Edinburgh, Duke of Albany, Marie Finger, Horace Vernet, Marie Rady, Souvenir de Gabriel Drouet, Etienne Levet, Madame C. Crapelet, Catherine Mermet, Queen of Queens, Marie Verdier, &c. Second, Messrs. R. Mack & Son, nurserymen, Catterick Bridge, with Duchess of Bedford, Horace Vernet, Duc de Rohan, Mons. E. Y. Teas, Baron Haussman, J. S. Mill, Jean Chopin, Dr. Andry, Harrison Weir, Countess of Rosebery, Souvenir d'Elise Vardon, and Sir Rowland Hill, a fine and distinct purple H.P. of great promise, said to be not yet distributed. Third, Messrs. James Dickson & Sons, Newton Nurseries, Chester. Fourth, Messrs. J. Cranston & Co., King's Acre Nurseries, Edinburgh. There were also eight competitors in the class for twenty-four varieties, single blooms, and here Messrs. R. Mack & Son were first with Pierre Notting, Mdme. G. Luizet, Sir Rowland Hill, La France, Duchess of Bedford, Charles Lefebvre, Marie Baumann, Comtesse de Nadaillac, Duc de Rohan, Comtesse de Serenye,

Abel Carrière, Maréchal Niel, Horace Vernet, Harrison Weir, Niphetos, A. K. Williams, Emile Hausberg, Alfred Colomb, Catherine Mermet, and Grace Darling. Second, Messrs. J. Cranston & Co. Third, Messrs. Harkness & Son. In the class for twenty-four varieties, three trusses of each, there were three competitors, Messrs. James Cocker & Son being again first with Her Majesty, Alfred Colomb, Marie Baumann, Comtesse d'Oxford, *Merveille de Lyon*, Etienne Levet, Madame Gabriel Luizet, Duke of Wellington, Lady Mary Fitz-William, François Michelon, Mons. E. Y. Teas, and Charles Lefebvre. Second, Messrs. Geo. Cooling & Sons, nurserymen, Bath, with M. P. Wilder, Charles Darwin, Camille Bernardin, Baron Gonella, Lady Sheffield, Arthur Dickson, Alfred Colomb, Baroness Rothschild, François Kruger St. George, Pierre Notting, Duke of Wellington, and Niphetos. Third, Messrs. Cranston & Co. In the class for three bouquets there was a brisk competition, Messrs. S. Perkins & Sons, nurserymen, Coventry, being first; Mr. J. House, Eastgate Nursery, Peterborough, second; and Messrs. Todd & Co., nurserymen, Edinburgh, third.

Amateurs.—In this division there were six collections of forty-eight varieties, single trusses, and here that successful grower, Mr. T. B. Hall, Rock Ferry, Cheshire, was first with a bright fresh even lot of blooms, though showing the effects of drought. Second, the Rev. J. H. Pemberton, Havering-atte-Bower, Romford, who had smaller in some cases and, therefore, less even flowers. Third, Mr. S. P. Budd, Bath. There was but one collection of twenty-four varieties, three trusses of each, and here Mr. T. B. Hall was first. Second, Mr. W. J. Grant, Hope Cottage, Ledbury. Third, Mr. W. Boyes, Derby. The class for twelve varieties, single trusses, brought seven competitors, and Mr. T. B. Hall was first. Second, Mr. W. J. Grant. Third, Mr. W. Boyes. In the class for twelve varieties, three trusses of each, the Rev. J. H. Pemberton was first.

In the class for three bouquets there was but one exhibitor; the first prize was withheld, and the second awarded to Miss Halliday, Edinburgh. She also had the best single bouquet; Mr. R. P. Gill, Ashton-on-Mersey, being second; and Mr. J. H. Abbott, Heatou-on-Mersey, third.

Prizes were also offered for district-grown Roses, the limit being within twenty miles of the Town Hall, Manchester. There were five collections of eighteen blooms, Mr. Thomas Tatham, Wilmslow, being first. Second, Mr. James Brown, Heatou-on-Mersey. Third, Mr. George Burgess, Ollerton Cottage, Knutsford. Mr. Geo. Burgess had the best twelve varieties out of ten competitors.

Prizes were also offered for the best collection of Roses, other than the usual exhibition varieties, and Mr. S. Barlow, J.P., Stakehill House, Manchester, was placed first, with a large representative group, including varieties of Moss, Provence, Rugosa, &c. Second, The Rev. J. H. Pemberton. Third, Mr. T. B. Hall.

There were also three open classes for Tea and Noisette Roses; that for twenty-four varieties did not bring a single competitor, and Messrs. Geo. Cooling & Sons were the only exhibitors of twelve varieties, having good blooms of Edith Gifford, David Pradel, Etoile de Lyon, Lurette, François Kruger, Catherine Mermet, Beauté de l'Europe, Perle des Jardins, Gloire de Bordeaux, Sunset, Niphetos and Boule d'Or. There was but one exhibitor of eighteen varieties, three trusses of each, Messrs. J. Cocker & Sons being placed first with Sunset, Madame de Sertot, Souvenir d'Elise Vardon, Madame Wele, Devonensis, Caroline Kuster, Perle des Jardins, Souvenir d'un Ami, Jean Pernet, Madame de Watteville, Marie Van Houtte, Anna Olivier and Niphetos.

A First Class Certificate was awarded to H.P. Rose, Earl of Dufferin, a very fine dark-shaded crimson flower of great merit, shown by Messrs. H. Dickson & Co., of Belfast. The same award was made to Messrs. Dickson & Sons, Newton Nurseries, Chester, for Clove Carnation, Mrs. Hole, a very free and well-formed terra-cotta-coloured variety.

Several boxes of Roses were shown by Messrs. F. & A. Dickson & Sons, Upton Nurseries, Chester; hardy herbaceous cut flowers by Messrs. J. Dickson & Sons; Orchids by Mr. W. Owen, Hartford Nurseries, Northwich; Carnations and Picotees by Mr. R. W. Proctor, Chesterfield; Poppies by Mr. R. P. Gill; and Roses and hardy flowers by Messrs. Dickson, Brown, & Tait, seedsmen, Manchester.

ORCHID NOTES AND GLEANINGS.

Odontoglossum Harryanum.—If this handsome new species prove to be tolerably easy to cultivate, it cannot fail to become popular on account of its size and form, which is distinct from any we have in cultivation. The oblong-elliptic sepals are a deep shining chestnut-brown, somewhat marbled and tipped with yellow, and like the other parts of the flower, of great substance. The upper one is incurved with a revolute tip, a direction also assumed by the petals precisely, which has the effect of making the flower somewhat cupped, and not flat as is most frequently the case. The latter are also beautifully marbled and lined longitudinally in the lower half with white and yellow. The labellum is, moreover, the most attractive and distinct organ of the flower. The lateral lobes are reduced to small blunt angles or teeth, and that region being narrow resembles a claw, while the middle lobe is greatly enlarged, ovate, acuminate, and boat-shaped from the infolding of the sides. The basal part of this is furnished with about eight curious yellow fringed lamellæ; the broader part is deep, dark purple, beautifully reticulated with white; and the apical half is pure white. The pale yellow and white column is nearly straight, and stands erect by itself in the centre of the flower. Mr. R. H. Measures, The Woodlands, Streatham, furnished us with the specimen from which the above description is taken; but Messrs. Sander & Co., also have the species in flower, and received a Certificate for it from the Floral Committee on Tuesday.

Orchids at The Dell, Egham.—One of the most remarkable Orchids at present in bloom is *Grammatophyllum Ellisii*, a very handsome species that many growers would like to see more plentiful; the same remark would also apply to the lovely *Lælia callistoglossa*, *L. Batemaniana*, *Cattleya Wallisii*, *C. Mossiæ Arnoldiana*, now in bloom at The Dell. Orchid growers will be pleased to know that Mr. Ballantine has succeeded in growing *Cypripedium Fairreanum* thoroughly well. It occurred to him that cool treatment would best meet the requirements of this beautiful species that has so long baffled cultivators, and the result is that *C. Fairreanum* is now growing at The Dell in a cool house, every whit as vigorous as the common *C. insigne*. This discovery will be the salvation of the species to our collections, which is all the more valuable, inasmuch as their re-introduction seems as remote as ever.—*Leo. Gordon.*

Bletia Shepherdii.—This robust-growing species flowers, as a rule, in the winter months, but Mr. Wright, at Devonhurst, manages to flower it about midsummer. It is very different in appearance from the more common Japanese species, *B. hyacinthina*. The broad, lanceolate, plaited leaves, although they attain a length of 18 ins. or more, arch over; while the long naked-branched flower-scapes attain a height of 3 ft. or more. For this reason it is more suitable for mixing in groups of decorative stuff, and is utilised for that purpose. The whole flower is of a dark reddish purple, with the exception of several longitudinal white lamellæ on the lip. Flowers continuously for a long time.

Cattleya Gaskelliana.—This *Cattleya* comes in time to supply a want after *C. Mossiæ* and *C. Mendelli* have mostly gone out of flower. It seems also to be intermediate between those two, having sepals and petals of a soft rose; but its intermediate character is best seen in the lip, where the relative positions of the white, orange, or yellow markings of the throat, and the area they occupy are intermediate in character. No doubt it is liable to variation, as most other *Cattleyas* are; but it becomes valuable as an essentially summer-flowering form of the *C. labiata* group. The plants at Gunnersbury Park, Acton, have commenced flowering, and present the same peculiarity as *C. gigas*—namely, that of flowering on the young or current growths of the season.

Pleione humilis Proliferated.—From the apex of almost every old leafless pseudo-bulb of this species in the collection of Mr. Peacock, Sudbury House, Hammersmith, a great number of little elongated buds arise, giving the pseudo-bulbs a curious and interesting appearance. The little sprouts or buds seem to occupy the whole of the space from which the old leaves have fallen. Cultivators of this elegant little species might be able to say whether proliferation of the kind mentioned is common or not.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CLOVE CARNATIONS.—Preparations should at once be made for the layering of Cloves and Carnations. In most instances they will now be in flower, and consequently the value of new or seedling varieties judged, although one must admit this is hardly a season for a proper test, the excessive heat and long spell of drought rendering the growth weaker, and the flowers smaller than usual. Attend regularly to the stock of Pinks for next season's forcing, giving them a full supply of water, or else at potting-up time, instead of single plants, they will be simply bunches.

POINSETTIAS.—We have potted on into flowering size all the Poinsettias, and as there was not head-room in the pits we have staged them all in the intermediate house, keeping them as near the glass as possible; and, as the house is freely ventilated, there is but little fear of their drawing. They must not have too much water given them until it is certain they have taken to the new soil; but when once well established, an abundance is required and frequent doses of liquid manure, so as to obtain as strong a growth as possible.

EUPHORBIAS, too, should receive their final shift: in fact, the potting of all such plants should be completed without further delay. Through press of work we have not yet gone over our Azaleas, but we hope shortly to do so, and pot on all that require it; after potting, these require a thorough soaking, and great care should also be taken before potting that the old ball is thoroughly moist, for if potted at all dry they invariably die. The same remark applies to all hard-wooded plants. Whether in or out of doors, let a free use of the syringe be made, or thrip will make sad havoc of the foliage—in fact, completely spoil the plants for the season.

STAKING CHRYSANTHEMUMS.—If not already done, see to the staking of Chrysanthemums, for they are making a very free growth, and there is great danger of them snapping off if subjected to gusty winds or heavy storms. The plants required for mixed staging need not be staked out like those grown for specimen purposes. Compact heads are far preferable; but for specimens, each growth should be neatly staked, and tied into proper position, avoiding as much as possible undue beuding or twisting. Should there be any sign of worms in the pots, let a good dose of lime and soot-water be given, allowing the plants to become rather dry before it is applied. Do not give stimulants of any kind thus early in the season, as it only tends to the production of a sappy growth, which will never generate really first-rate blooms.

CALANTHES have made a fine growth, and we have been obliged to give them more room, so that they may fully develop. Now that the pots are full of roots, we give them an occasional dose of manure-water made from deer or cow-dung, with a bag of soot added. This treatment is far preferable to using large pots, the soil in which frequently becomes a sour soddened mass, with the result that the flower-spikes do not last above one-half the time that they do on a healthy vigorous plant.

THE FRUIT HOUSES.

VINES.—We have been busy giving all the Vine-borders a thorough watering, and as all has to be drawn some distance in swing-barrows it is rather a heavy matter; however, there is no shirking the job, for with the long-continued drought the borders quickly dry up, and it is impossible for the fruit to finish properly if they are short of water at the roots; strictly speaking, we have had no rain since Whit-week, if I except a slight storm or two, which quickly disappeared as the sun rose, so that some idea may be formed of our condition. The Fire King has, indeed, obtained complete mastery over us this season, and the effects will be more keenly felt later on than just now.

LATE PEACH HOUSE.—We still continue the firing in the late Peach-house, as we need the fruit by a stated time, and, as before remarked, they are later than usual on account of the cold spring; they are swelling away rapidly, the house is damped down four or five times a day, and a sprinkling of Clay's is now and again given. The trees are copiously syringed morning and evening, and the house is closed early and

allowed to run up as high as 95°, but a little air is put on in the evening. As the fruit ripens follow directions lately given, so that flavour may be obtained as well as size.

CUCUMBERS in the pits are now fruiting freely, and consequently require constant attention, so that they may not become crowded; keep them stopped rather closely in, now and again giving a thorough pruning away of the older wood, and frequent applications of liquid manure are also absolutely necessary.

THE KITCHEN GARDEN.

MUSHROOMS.—A short supply of vegetables is now a certainty, so that it is advisable to make an effort to prevent its effects being too keenly felt. We made up a good-sized Mushroom-bed, which is just now showing, and these will, no doubt, be appreciated in the kitchen. It will also be advisable to at once commence the collection of materials for the making up of further beds, so that an early autumn supply may be obtained.

SEA KALE.—Attend thoroughly to the Sea Kale quarters, giving, now and again, a good soaking of water to the batch of crowns which will be required for the first lifting. Where, as in many cases, a sewage-tank is near the garden, let a good soaking of its contents be given to the Asparagus-beds required for next season's forcing; it will greatly help the crowns, and permit of good grass being cut in the beginning of October, when green crops will be exceedingly short.

BRUSSELS SPROUTS AND SNOW'S BROCCOLI are doing well, and will be of the greatest service; also Cauliflowers, though a great many of them went blind from the drought. Those affected we have removed, and have planted Autumn Giant in their places. The whole will be kept constantly watered. Peas are most unsatisfactory, and all the attention bestowed upon them seems of little avail; the haulms are not more than half the usual height and very wiry. Ellam's Cabbage being well up, has been removed to the cold frames for a few days, when it will be placed out of doors, and a bed prepared for pricking it out; also Coleworts, which are quite ready.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*July 26th.*—The leading features of this meeting were hardy plants exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham; Messrs. Paul & Son, Cheshunt; a miscellaneous collection from Kew; and another from Messrs. J. Veitch & Sons, Chelsea. Various Orchids or blooms were shown, some of rare merit, and several collections of fruit were very attractive and fine. The several collections of vegetables, for the prizes offered by Messrs. Sutton & Sons, Messrs. Webb & Sons and Messrs. Carter & Co., were also a source of special interest, owing to the lengthened drought to which they have been subjected.

A Silver Banksian Medal was awarded to Mr. T. S. Ware for his extensive group, containing, amongst other things, many fine Lilliums, such as *L. auratum*, *L. longiflorum*, *L. elegans Prince of Orange*, *L. Humboldtii* and *L. concolor*, for the last of which a vote of thanks was accorded. There were also several fine Gaillardias, such as *G. maxima*, *G. grandiflora* and *G. aurea*. A large collection of cut blooms of border Carnations made up in trusses and arranged with Maiden-hair Fern; Jas. Bailey, Charles I. and Sailor Gordon were fine; they had no shading or other protection whatever, and were cut from the open border. Several boxes of beautiful Hollyhock blooms were shown by Mr. Blundell, Dulwich; one box was occupied by Princess of Wales alone, a delicate pink variety, for which a vote of thanks was given. Votes of thanks were also accorded for *Gaillardia maxima* and *Delphinium cardinale*. A Bronze Banksian Medal was awarded to Messrs. Paul & Son, Cheshunt, for a group of hardy plants, consisting of *Zauschneria californica*, Gaillardias, Sweet Peas, Phloxes, Pentstemons, *Stenactis speciosa*, *Helenium pumilum* and others. The collection from the Royal Gardens, Kew, was of a mixed character, containing some new hybrid *Streptocarpus*, described in another column, *S. Dunnii*, *Lomaria fluviatilis*, *Statice Suworowi*, *Phaius bicolor*, *Adiantum reniforme azarifolium*, various forms of *Mesembryanthemum* and other things.

Messrs. J. Veitch & Sons exhibited *Phalænopsis*

Hariette, described in another column, besides *Begonia Bismarekii*, *Rhododendron jasminiflorum carminatum*, in a pot, together with cut trusses of several other fine greenhouse varieties. Mr. G. Norman, The Gardens, Hatfield House, Herts, received a Cultural Commendation for a fine specimen of *Saccolabium Blumei*, with five long spikes of bloom from one growth. R. J. Measures, Esq., Cambridge Lodge, Camberwell, (gardener, Mr. H. Simpkins), exhibited cut blooms of *Vanda tricolor*, Cambridge Lodge variety, very deeply coloured; *Cattleya Acklandiae*, *C. speciosa*, *C. Shilleriana*, with a rich violet-purple plicate lip, for which a vote of thanks was given; *Cypripedium javanicum*, *superbiens*, and a curious two-lipped form of *C. concolor*; all were fine flowers. Messrs. Page & Sons, Grove Nursery, Teddington, exhibited *Odontoglossum vexillarium formosum*, with deep rose petals. A singular form of *Cypripedium Lawrencianum* was shown by Mr. Gordon, Twickenham. The standard had become separated into two, which stood at right angles to one another, and the petals had united into one piece and stood erect in front of the standards.

Messrs. H. Cannell & Sons, Swanley, Kent, received a Cultural Commendation for a group of double tuberous-rooted *Begonias*, that had all been raised from seeds sown in January this year. A number were certificated. Messrs. Hooper & Co., Covent Garden, exhibited some finely spotted *Gloxinia* blooms. A vote of thanks was accorded to Mr. F. T. Smith, The Nurseries, West Dulwich, for four boxes of named *Hollyhock* blooms. Messrs. J. Carter & Co. exhibited *Lilium Hansonii*; Rev. H. H. D'Ombra, Westwell Vicarage, Ashford, Kent, showed *Amaryllis Bayard*, which has been grown in the open for the last eight years. Double-flowered forms of *Matricaria inodora* were shown by Mr. Robertson Munro, Abercorn Nurseries, Edinburgh, and received a vote of thanks. G. F. Wilson, Esq., Weybridge and Wisley, exhibited *Eryngium giganteum*; and Mr. R. Spinks, florist, Horley, staged *Carnation Pride of Horley*, white, slightly flaked with red.

At a meeting of the fruit committee, Messrs. T. Rivers & Son, Sawbridgeworth, received a vote of thanks for a fine exhibit of *Peaches*, *Exquisite*, *Lord Palmerston*, *Sea Eagle*, and *Royal George* being very attractive. Messrs. James Veitch & Sons also were accorded a vote of thanks for a collection of *Cherries*, *Apples*, *Raspberries*, *Quatre Saison Strawberry*, and some *Peaches* in pots. Messrs. Paul & Son, Cheshunt, exhibited a considerable number of varieties of *Gooseberries*; some *Currants*, and a green *Gooseberry* named *Roseberry* came from the Royal Horticultural Society's Gardens, Chiswick. Messrs. Carter & Co. exhibited *Tomatos*, *Blenheim Orange* and *Sandwich Islands*. *Cook's Perfection Melon* was shown by Mr. C. W. Cook, Park Gardens.

There was a keen competition for the prizes offered by Messrs. Sutton & Sons for Duke of Albany, Sutton's Royal Jubilee, and Satisfaction Peas, Mr. H. Marriott, senr., Skirbeck, Boston, Lincolnshire, being first; Mr. E. S. Wiles, Edgcote Gardens, Banbury, was second; Mr. H. Marriott, junr., Skirbeck, Boston, was third; and Colonel the Hon. W. P. Talbot, Glenhurst, Esher (gardener, Mr. C. J. Waite), was fourth. The latter was first for Reading Mammoth Beans. Mr. T. A. Beckett, Cole Hatch Farm, Penn, Amersham, was second in this class; and Viscountess Chewton, Bookham Lodge, Cobham, Surrey (gardener, Mr. A. J. Sanders), was third. For Sutton's Little Gem and All Heart Cabbage, J. Downing, Esq. (gardener, Mr. P. Cornish), The Shrubbery, Enfield, was first; while Mr. T. A. Beckett secured the second award; and Mr. C. J. Waite came in third. Messrs. J. Carter & Co. offered prizes for Carter's Leviathan Bean, for which Mr. C. J. Waite secured the first award. Mr. T. A. Beckett won the second; and Mr. R. Timms, Hammersley Lane, Amersham, came in third. For Carter's Hartwell Cabbage, Mr. H. Marriott, senr., was first; Mr. C. J. Waite was second; and Mr. T. A. Beckett was third. Messrs. Webb & Sons offered prizes for three specimens of Webb's Emperor Cabbage, and Mr. H. Marriott, senr., secured the first prize for this; and the second went to Mr. E. S. Wiles. Mr. H. Marriott, senr., was first for Webb's Chancellor Pea; Mr. H. Marriott, junr., was second; and Mr. E. Burden, Wake Green House, Moseley, Birmingham, came in for the third award.

Lichfield Horticultural.—This society is now getting in years, having an existence of thirty or thereabouts, and as Mr. Chapman—the well-known plant

grower and exhibitor, and head gardener at Hawkesyard Park—mentioned at the luncheon, the first exhibition was held in a room over the Market Hall. Lichfield is a Cathedral City with many pleasant surroundings, and the exhibition is held in the Museum grounds, with the grand old Cathedral in stately dignity close by, and charming sheets of water and pleasant scenery adjacent. Tamworth, Burton-on-Trent, Atherton, Nuneaton and Derby are not far away, and a good portion of these districts are used for market garden purposes, and that fact alone testifies to the suitability of soil and climate for gardening. But the terrible heat and drought has left its mark on these districts as well as elsewhere, and no wonder the exhibition suffered. The earlier calculations and expectations of exhibitors have often gone wrong this year, and there was weakness in most of the departments of the show.

The display of stove and greenhouse and fine-foliaged plants, for competition, was meagre, but Mr. Chapman sent from the Hawkesyard collection a grand group of specimens which gladdened the hearts of many. This collection included a very large *Erica Parmentierii rosea*, well flowered, and a superb *Erica Paxtonii*; also a very large well-flowered *Phenocoma prolifera Barnesii*, nearly 5 ft. through, and capital specimens of *Statice profusa* and others. Grandly-coloured fine specimens of *Croton pictum*, *C. Weismanniana* and others, and *Palms* and other plants made up a glorious group. Three prizes were offered for groups of plants, but only one exhibit was staged, and this fell very short of what a group should be. The zonal, bronze and tricolor *Pelargoniums* were, as a rule, over-potted, and the bronzes not well coloured. Mr. A. Hinckley's six tricolors were nice plants, and fairly well coloured, but over-potted. Tuberous *Begonias* were not badly grown plants by any means, but there was so little quality in the varieties. Good sorts are now so easily obtained at small prices, that cultivators will find it advantageous to get hold of good sorts. Mr. J. Standley's first-prize six *Fuchsias* were large plants, but wanting in style, while the others were very inferior and old plants. The first prize for six *Ferns* was awarded to S. L. Seckham, Esq., for a clean medium-sized lot of nicely-grown plants. The same exhibitor was also first with six *Coleus*, having bright-coloured well-grown plants of medium size, and free from any stiffness in training. They stood out as models of good culture, and were not over-potted. The same remarks apply to this gentleman's six double *Petunias*, which took the first prize, they being naturally tied, well bloomed and models of good culture. Mr. Standley's second-prize plants were even better grown, but not sufficiently in flower, and more faulty in the staking, too much timber being visible.

In the open classes for twenty-four cut *Roses*, distinct, and for twelve of the same, Messrs. Perkins & Sons, Coventry, were first, and Mr. Sandy, nurseryman, Stafford, second; while Mr. Crane, Mr. Chawner and Mr. G. Radford were the most successful competitors in the amateurs' classes. Some excellent table decorations were staged, superior to those generally seen, Mr. Thomas Plant taking first prize, Miss Trevor second, and Miss Shipton third. Mr. Gilmer was first for twelve kinds of cut stove and greenhouse plants, which were of good quality, but too closely packed to be so effective as they ought to have been; and he was also first for twelve hardy flowers, exhibiting a capital lot. Messrs. Hewitt & Co., nurserymen, Birmingham, set up, not for competition, a nice lot of tuberous *Begonias*—both double and single—and other plants. Mr. R. H. Vertegans, nurseryman, Birmingham, had a good display of cut blooms of herbaceous and Alpine plants; and Mr. Hans Niemand, nurseryman, Birmingham, blooms of Mrs. G. Hawtry, a very fine yellow *Carnation*; and Mr. Barrance, nurseryman, Lichfield, a nice group of plants in pots and cut herbaceous blooms. The cottagers exhibited very good vegetables; and there was an extensive display of bouquets of wild flowers by children.

In the fruit department, the Rev. Sir G. Wilmot Horton, Bart, was first with two bunches of *Muscat of Alexandria*, and second with *Black Grapes*; and first for a collection of fruit, a very good lot. Mr. J. Udale, Elford Hall Gardens, was second for *Muscats*, but not ripe enough; and first for two bunches of *Black Hamburghs*, well finished in every way. Good *Peaches* and *Nectarines* were staged, also *Melons*. *Strawberries* and *Raspberries*, generally, were small. Vegetables were

good, notwithstanding the heat and drought; *Potatos* good sized, but in many instances scathed; *Shallots* very fine indeed; and exceedingly good autumn *Onions*. Mr. Udale contributed a dish of excellent *French Crab Apples*; and amongst the *Potatos* were some good examples of *Mona's Pride*. Mr. R. Cleaver, seedsman, Lichfield, is the acting secretary, and takes great interest in his work.

Lewisham and District Floral.—The second summer exhibition of this society was held last week in the grounds of J. Wallis, Esq., Riverdale, High Street, Lewisham. The groups of decorative plants, both in the classes for prizes and not for competition, together with the flowering greenhouse, ornamental-foliaged plants and *Ferns*, formed the leading features of the show.

In the leading groups, Mr. J. Balcombe, gardener to J. S. Rivolt, Esq., Blackheath Park, secured the first prize in a fairly keen competition. The group consisted of *Gloxinias*, *Begonias*, *Palms*, *Ferns*, *Lobelias* and other decorative stuff; Mr. W. Jeffrey, gardener to A. Young, Esq., Blackheath Park, was second; and Mr. F. Hudd, gardener to F. Prior, Esq., Gordon House, Blackheath Park, third. Smaller groups of similar stuff were exhibited, in which Mr. W. E. Berry, 5, Bonfield Road, Lewisham, was the first prize taker; P. Loek, Esq., 11, Wistaria Road, Lewisham, second; and Mrs. A. Greenc, Cressingham Road, third. There were several entries for twelve plants in flower, which occupied one side of the central stage of a large tent. Mr. F. Hudd had the best plants in this case, including some *Ixoras* and *Alamandas*; Mr. W. Jeffrey won the second prize; and Mr. J. Mullins, 40, Lee Terrace, Blackheath, took the third. The latter exhibitor had the best ornamental-foliaged plants. Mr. T. Dobson, gardener at South Bank, had the best *Fuchsias* in pyramidally-trained well-flowered specimens. The first prize for *Ferns* went to Mr. G. Hester, gardener to J. T. Noakes, Esq., Brockley Hall. Mr. J. Balcombe was the first prize winner, both for single and double *Pelargoniums*, and for *Gloxinias*, which were very fine. Mr. H. A. Needs, Catford, had the best single-flowered tuberous-rooted *Begonias*; and Mr. F. Hudd was first for doubles, receiving a medal. A special prize was given to W. E. Jupp, Esq., 72, Braxfield Road, Brockley, for a group of *Begonias*; he also got the first prize for single *Begonia* blooms. *Roses* showed signs of the drought, but Mr. W. Rumsey, Waltham Cross, had very good blooms, securing the first prize for thirty-six; Mr. R. E. West, Firth Dene, Reigate, was a good second. Mr. T. Dobson and W. Bennett, Esq., 23, Hither Green Lane, Lewisham, had each a first in separate classes for twelve blooms. Otto W. Prutz, Esq., 22, Barmeston Road, was the only competitor in two classes for *Liliums*. A. Spurling, Esq., The Nest, Blackheath, had the best *Carnations* shown.

Fruit and vegetables were not strongly represented, although the quality was good. *Grapes*, *Strawberries*, black and white *Currants*, and yellow *Gooseberries* were best shown; Messrs. W. Jeffrey, F. Hudd, and T. Dobson were first, second and third respectively. Special prizes were offered by Messrs. J. Carter & Co. for the best six dishes of vegetables; Mr. Burgess secured the first prize, and Mr. C. Nunn, gardener to J. K. Soames, Esq., Greenwich Park, was second; both had good examples. Mr. W. H. Cox, gardener to J. Collingwood, Esq., Hither Green Lane, Lewisham, came in third.

Miscellaneous groups were a great feature of the show. Messrs. J. Laing & Co., Forest Hill, exhibited a fine collection of *Begonias* of the tuberous-rooted kind, single and double, including many fine types; *Caladiums*, *Crotons* and other decorative stuff made up the group. They also exhibited some boxes of *Roses*. Another showy collection, consisting of many annuals, *Tobaccos*, *Caladiums*, *Begonias*, *Crotons*, *Petunias*, and *Liliums*, came from Messrs. J. Carter & Co., High Holborn, London. Messrs. Barr & Son, King Street, Covent Garden, exhibited an extensive group of *Liliums*, *Gaillardias*, *Sweet Sultan*, *Godetias*, *Coreopsis*, *Alstroemerias*, and many other showy hardy plants. Mrs. A. Green, Cressingham; Mr. Sayers, High Street, Lewisham; Mr. C. Nunn, and H. A. Needs, Esq., Catford, exhibited each small but generally very beautifully arranged groups of decorative plants. A special prize was given to the latter, and Mr. Sayer was commended for one of his groups. Mr. Nunn's *Gloxinias* were especially fine. Mr. A. Robinson, 8, Leadenhall Street, London, exhibited a box of very showy and popular annuals.

St. Peter's, Hammersmith, Horticultural.—The third annual show of this local society was held in the Studland Hall, Hammersmith. The efforts of

this society are being crowned with great benefit to the neighbourhood, and notwithstanding the present circumscribed area over which it holds sway, its influence is being felt; while we have great hope that before long, perhaps before next year, its membership will be greatly extended. The worthy president, Major-General Goldworthy, who showed his appreciation of the objects of the society by making a point of being present, in the course of a speech said how much he admired the exhibits, and hoped to see the number of exhibitors greatly augmented, which would make the competition keener and the interest greater. Considering the crowded state of Hammersmith, however, and the unfavourable atmosphere for plant-life, the exhibits were very fresh, and, as a rule, well grown and flowered.

In the gardeners' class, Mr. John Addison, gardener to Mrs. Ford, Merton Lodge, Chiswick, exhibited the best group of plants arranged for effect on a space not to exceed 40 sq. ft. It consisted of some excellent varieties of Palms, Dracænas, Begonias, Kalosanthes, Gloxinias, and Cockscombs, arranged with Maidenhair Ferns, Selaginella and Isolepis. Mr. Stanton, gardener to H. Smith, Esq., Hammersmith, was second in this class with a group of Nerium Oleander, Eucalyptus, Pelargoniums, Lobelias, Maidenhair Ferns, and Isolepis. Mr. E. Booker, gardener to J. Glover, Esq., had the best three decorative plants, his premier plant being a fine specimen of tuberous-rooted Begonia; Mr. Stanton being second with a finely-flowered Trachelospermum jasminoides amongst other things.

The amateurs' classes were more numerous. The first prize for a group of plants was a marble time-piece, presented by J. H. Green, Esq., 72, King Street, and Mr. T. Nelson, 21, St. Peter's Road, secured this; while Mr. J. Hillier, Black Lion Lane, won the second; and Mr. F. Woodhouse, 43, St. Peter's Road, came in third. For amateurs these groups were creditable. Mr. J. Hillier had the best three decorative plants. Mr. W. Thompson, 23, Albion Gardens, had the second prize for Fuchsias, no first being awarded. Very creditable annuals were shown by Mr. W. Thompson and Mr. T. Nelson, who gained first and second prizes respectively, showing Helichrysum, Stocks, Chrysanthemum carinatum, Phlox Drummondii, Sweet Peas and others. Boiled Potatoes constituted a feature that should be more frequent at shows, especially in the case of new varieties of this noble tuber. Messrs. F. Woodhouse, T. Nelson, W. Thompson and Mr. T. Finch, the secretary, were first, second, third, and fourth respectively.

Considerable interest was given to the exhibition by several large groups of decorative plants, not for competition. F. G. Tautz, Esq., Studley House, Hammersmith (gardener, Mr. Cowley), had the most valuable group, from the fact of its containing numerous Orchids, amongst which we noted *Disa grandiflora*, *Epidendrum vitellinum majus*, *Cypripedium tonsum*, *C. niveum*, *C. barbatum*, *Odontoglossum vexillarium*, *O. Uro-Skinneri*, *Cattleya Eldorado*, *C. Mendelii* and *C. Gaskelliana*, all finely flowered. Mr. Prewett, Swiss Nursery, Hammersmith, had a group of *Lilium auratum*, *Adiantums*, *Dracænas* and Palms. Mr. T. P. Turner, River Court Nursery, exhibited *Kalosanthus coccinea*, *Hydrangea paniculata grandiflora*, *Diplacus*, *Spiræa palmata*, *Gladioli* and other things. Dr. Goods, Shepherd's Bush (gardener, Mr. Finch), exhibited several fine forms of *Begonia Rex*, a large well-grown specimen of *B. metallica*, *Adiantum pubescens*, *A. decorum* and other fine-foliaged plants. A large well-grown specimen of *Hydrangea hortensis*, and several other smaller plants, were exhibited by Mr. E. Booker, gardener to J. Glover, Esq., Gold Hawk Road. Mr. A. J. Robins, Young's Corner, contributed a collection of vegetables, including Vegetable Marrows and fine specimens of Long-pod Beans; and others in the neighbourhood contributed several interesting and useful exhibits.

North Lonsdale Rose Society.—The annual exhibition of this society, with which an exhibition of Pansies is combined, was held at Ulverston, on Saturday last, and though, owing to the unusually dry season, there was not so great a number of exhibits as was at one time expected, there was, nevertheless, a really splendid collection of Roses, and the number of exhibits was larger than on any previous occasion. Of Pansies the show was exceptionally good, though not quite so large as last season, owing to the drought; but there was an admirable display of miscellaneous productions. The leading trade exhibitors of Roses were Messrs. Harkness & Sons, Bedale, Yorkshire; Messrs. A. Dickson & Sons, Newtonward, County Down; and Messrs. F. & A. Dickson & Sons, Chester, while among amateurs the leading awards went to T. B. Hall, Esq., Larchwood, Rock Ferry; S. P. Budd, Esq. (gardener, G. Campbell), Bailbrook, Bath; Mr. C. K. Hall, Oxtou; Mr. R. Dilworth, Ulverston; Mr. W. E. Hall, Higher Bebington, Birkenhead; Miss Woodburne, Thurston Ville; and the Jubilee prize for the best Rose in the show—open to all—was won by Messrs. Harkness & Sons, with Horace Vernet.

The best Pansies came from Mr. A. Ratson, Stainton, Kendal; Mr. H. Rothery, Pennybridge; Mr. George Browne, Troutbeck, and Mr. J. Sharpe, Carnforth.

FLORICULTURE.

THE NATIONAL CARNATION AND PICOTEE SOCIETY.—*July 26th.*—The annual show of the southern section of this society took place in the conservatory of the Royal Horticultural Society, at South Kensington, on Tuesday last. On the whole, it was very similar to what it has been in previous years, and many fine blooms, especially of Picotees, were shown. As might be expected this dry season, some of the flowers were not up to the standard with regard to size, and some instances of spotting or other imperfections of the ground colour were noticeable, doubtless due to the same cause. The premier Carnation bloom in the show was *Alismerid*, a scarlet bizarre occurring in a stand of Mr. T. E. Henwood, Hamilton Road, Reading, who was third for the Turner Memorial prizes. The premier Picotee was Liddington's Favourite, a fine bloom of the light rose-edged class, shown in a stand of twelve blooms which won the first prize, and was exhibited by Mr. J. Douglas, gardener to F. Whitborne, Esq., Great Gearies, Ilford.

The first prize for twenty-four Carnation blooms went to Mr. Chas. Turner, Slough, who staged Robert Lord, H. K. Mayor, Mars, James Taylor, Rob Roy, Squire Llewellyn, John Ball, Captain Preston, Sporting Lass, William Skirving, Sarah Payne, Matador, Robert Lord, James Taylor, George, Jessica, John Keat, Outsider, Mrs. Bridgewater, Sporting Lass, James Mackintosh, Sarah Payne, James Mackintosh, and Rob Roy. Mr. J. Douglas was second; Mr. H. Cattley, 16, Claverton Buildings, Bath, was third; and Mr. F. Hooper, Vine Nursery, Widcomb Hill, Bath, came in fourth. In the class for twelve blooms, Mr. J. Douglas secured the first prize, his blooms being arranged four in a line in the following order: James Douglas, Robert Lord, Thalia, Seedling, Miss Gorton, Rob Roy, Seedling, Rosamond, Seedling, Seedling, Squire Whitbourne, and Seedling. The seedlings were of his own raising. Mr. J. Lakin, Temple Cowley, Oxon, secured the second prize; Mr. L. Walker, Dunollie, Early, Reading, secured the third; and Mr. Huson Morris, The Nest, Hayes, Kent, came in fourth; while Mr. J. Buxton, 27, Manor Street, Clapham, was fifth. Mr. M. Rowan, 36, Manor Street, Clapham, was first in the class for six blooms, there being four other prizes awarded in this case. In the class for single specimens of scarlet bizzarres, Mr. C. Turner was first with Robert Lord; Mr. Rowan was second with Admiral Curzon; Mr. Douglas was third and fifth with Robert Lord; and Mr. Turner was fourth with George. Mr. Turner was again first for pink or purple bizzarres, showing Sarah Payne; he also got the second prize for William Skirving; and the fifth for Sarah Payne; Mr. Douglas was third and fourth with Miss Gorton. For purple flakes Mr. Douglas was first; second and third with Sapin, James Douglas and Mrs. L. Walker respectively; Mr. Turner was fourth and fifth with Squire Whitbourne. In scarlet flakes Mr. Turner was first and third with John Ball and Matador; Mr. Douglas secured the second and fourth prizes with the variety Matador; and Mr. L. Walker came in fifth. Rose flakes were good flowers, Mr. J. Douglas securing the first and second prizes with Thalia; Mr. Rowan won the third with Jessica; Mr. Turner secured the fourth with Samuel Newman; and Mr. Austiss, Brill, came in fifth with Mrs. May.

Picotees were generally fine, some of them being very large and chaste. Here, again, Mr. Turner came to the front with two boxes of twelve blooms each. The first box was arranged in the following way, from left to right: Favourite, Jessie, Orlando, Dr. Abercrombie, Mrs. Gorton, J. B. Bryant, Mrs. A. Chancellor, Lucy Zerlina, Mrs. Payne, Mrs. Gorton, and John Smith. The second lot ran as follows:—Orlando, J. B. Bryant, Juliette, Favourite, William Summers, Lucy, Princess of Wales, Baroness B. Coutts, Zerlina, Lord Valentia, Mrs. Payne, Lord Valentia. Mr. Douglas won the second in this class; Mr. F. Hooper was third; and Mr. H. Catley was fourth. Mr. Douglas secured the first prize for twelve blooms of Picotees, his arrangement being as follows:—Brunette, Liddington's Favourite, Constance Heron, Mrs. Gorton, Seedling, Her Majesty, Seedling, Seedling, Seedling, Seedling, Thomas Williams, Mrs. Sharpe. Mr. M. Rowan won the second; Mr. J. Lakin got third; Mr. Buxton, 27, Manor Street, Clapham, was fourth; and Mr. W. L. Walker was fifth. Mr. Huson Morris was the first of the prize-winners for six blooms. There

was great competition in the class for single blooms, and for heavy red-edged, Mr. Douglas came in first with Brunette; Mr. Turner was second with J. B. Bryant, and third with Lord Valentia; Mr. J. Douglas won the fourth with Brunette; and Mr. Rowan was fifth with J. B. Bryant. In the group of light red-edged varieties, Mr. Turner was first and second with Thos. Williams and Mrs. Gorton; Mr. Rowan came in third with Thos. Williams; Mr. Douglas was fourth with Dr. Horner; and Mr. H. Headland was fifth with a seedling. In the heavy purple-edged group Mr. Douglas was first with a seedling, and fourth with Muriel; Mr. Turner was second and third with Muriel; and Mr. Rowan was fifth with Alliance. In the light purple-edged group, Mr. H. Headland was first with Pride of Leyton, and fourth with a seedling; Mr. Turner was second and third with Baroness B. Coutts and Mary; while Mr. Douglas was fifth with Baroness B. Coutts. Mr. Rowan secured the first prize in the heavy rose-edged group, exhibiting Edith Dombrain; Mr. Turner was second and fourth with Mrs. Payne; and Mr. Douglas was third with a seedling, and fifth with Mrs. Sharp. In the light rose-edged group, Mr. Douglas was first and second with Liddington's Favourite; Mr. Turner was third with Favourite, and fifth with Ethel; while Mr. Rowan was fourth with Nellie. Mr. Douglas was first and second for yellow ground Picotees, showing Agnes Chambers in both cases; while Mr. Turner was third and fourth with Prince of Orange.

Mr. Turner was again first in the class for twenty-four blooms of selfs, fancies, or yellow grounds, the following being the arrangement of his blooms:—In the first box were Guardsman, The Governor, Purple Emperor, Florence, Rose Celestial, Purple Emperor, Florence, Squire Llewellyn, Will Threlfall, Seedling, The Governor, and Will Threlfall; in the second box were Jessica, Lady Rose Molyneux, Arthur Medhurst, Rosa Bonheur, Janeira, Mrs. Champneys, Robert Lord, Thomas Page, Scarlet Gem, George, The Bride, and Scarlet Gem. Mr. J. Douglas was second, Mr. F. Hooper came in third, Mr. H. Cattley secured the fourth, and Mr. J. Searle, 7, Paradise Row, Bath, was fifth. There were twelve entries for twelve blooms of a similar description as the last, and Mr. J. Lakin secured the first prize, his blooms being Marchioness, Duchess of Teck, Ella Morris, Seedling, Pride of Penshurst Seedling, John Soper, Sir F. Roberts, Seedling, Maréchal Niel, Sparkler, and Alice Ann Mary. Mr. Rowan was second in this class, Mr. Huson Morris came in third, Mr. T. Anstiss secured the fourth, Mr. A. Spurling, The Nest, Blackheath, won the fifth, and the sixth award went to Mr. C. Phillips, Hamilton Road, Reading. Mr. Douglas secured the first prize for yellow-ground Picotees, showing Almira and Annie twice, then Ne Plus Ultra and Agnes Chambers twice, Janeira and three seedlings. Mr. Turner was second in this class, Mr. F. Hooper came in third, and Mr. A. Spurling was fourth. Mr. Douglas secured the first prize for nine plants in pots, and Mr. Turner was second.

Turner Memorial Prizes were offered for six Carnation and six Picotee blooms. Mr. M. Rowan was the first prize winner, his Carnations being William Skirving, Jessica, James Whitbourne, George Melville, Master Fred and Robert Lord; his Picotees ran as follows, Edith D'Ombrain, Countess of Wilton, Favourite, Mrs. Gorton, Constance Heron and Alliance. Mr. J. Rebbeck, 5, Bevoir Terrace, Southampton, won the second prize; Mr. T. E. Henwood secured the third, having, amongst others, *Alismerid*, the premier Carnation in the show; and Mr. C. Phillips was fourth. Mr. Douglas was awarded a first prize for a heavy purple-edged variety. Certificates granted are recorded in another column. Messrs. J. Veitch & Sons, Chelsea, exhibited six boxes of Carnation and Picotee blooms that had been grown in the open ground; the flowers were remarkably good in size, and showed a great range of colour; the exhibit was very highly commended by the judges. Mr. Ernest Benary, Erfurt, Germany, forwarded by post some blooms of a yellow Carnation, named Ernest Benary, and the variety was highly commended.

QUESTIONS & ANSWERS.

ACHYROCLINE SAUNDERSONI.—*Carpet Bedding:* The plant you mention must be a new species, or an old one under a new name, as it does not occur in the catalogues of nurserymen; nor do any of the species appear to have been (previously at all events) introduced to this country in a living state, and neither are there specimens under that name in the leading herbaria. The species are woolly-leaved herbs, with heads of Composite flowers similar to the *Gnaphalium* or *Helichrysum*. They are natives of South America, and, if introduced, might be serviceable in producing colour in carpet or other bedding, or as edgings in a similar way as *Gnaphalium lanatum* is used.

ROSE, HER MAJESTY.—I have got the Rose, Her Majesty, in a 6-in. pot; it has made a strong, vigorous growth, and over 4 ft. in length, but shows no signs of flowering. As I am very anxious to see it bloom, it has occurred to me that it may be a climber, and should be treated as such. Is this so?—*B. Brook.* It is a most vigorous grower, but is not a climber.—*Ed.*

ANTIRRHINUM STRAIN.—*A. B.*: To preserve these garden flowers actually true to colour, striping, or to name, they must be propagated by cuttings. They are easily struck in pots or boxes of sandy soil under a handlight from now onwards, and the earlier they are struck the better if large plants are desirable for next year's work. They can be raised in quantity from seed, but great variation in the colour of the flowers will be the result.

MOORE MEMORIAL.—*Subscriber*: See a note on this subject at p. 756.

NAMES OF PLANTS.—*A. R. C.*: 1, The Caper Spurge, Euphorbia Lathyris; 2, a seedling of the same plant. *J. P.*: The Caper Spurge, Euphorbia Lathyris. *Omicron*: 1, Lysimachia Nummularia; 2, Galega officinalis, a pale variety; 3, Antennaria margaritifera. *Enquirer*: 1, Echites argyrea; the others are garden varieties of Coleus, which it is impossible to name except by comparison with others, which we have no means of doing.

COMMUNICATIONS RECEIVED.—*J. S. F.*—*G. F.* (next week).—*S. M.* (many thanks).—*R. D.*—*E. W. & Sons.*—*W. G.*—*W. J. M.*

TRADE CATALOGUES RECEIVED.

D. MAC DANIEL, Boskoop, Holland.—Bulbs, Roots, Roses, Fruit and Ornamental Trees, &c.

JOHN DOWNIE, 144, Princes Street, Edinburgh.—Dutch Bulbs and Plants for Forcing.

DICKSON & Co., 1, Waterloo Place, Edinburgh.—Dutch and other Flower Roots.

CHR. LORENZ, 100 to 103, John Street, Erfurt, Germany.—Bulbs, Flower and Vegetable Seeds.

W. CUTBUSH & Sons, Highgate, N.—Hyacinths, Tulips and other Bulbous Roots.

LONDON SEED TRADE.

July 27th.

Messrs. *HURST & SON*, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a slow trade for Trifolium at somewhat higher prices owing to present short supplies. Mustard and Rape more freely at rates current last week. Clovers are neglected. New French Italian Rye Grass of very fine quality is now offering at moderate rates. Blue Peas are dearer. Hemp firm. Canary unchanged.

COVENT GARDEN MARKET.

July 28th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve			Peaches....per dozen	2 0	8 0
Grapes	1 0	2 6	Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3 0	8 0
per lb. 0 9	1 6		Pine-apples, Eng., lb.	1 0	1 6
Kent Cobbs.. 100 lbs.			Strawberries, per lb..	0 3	1 0
Melons	1 6	3 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch....	0 2	0 4
Asparagus, per bble.			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 9	1 0	Lettuces ..per dozen	1 6	2 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 0	2 6	Onions, per bushel ..	4 0	5 0
New Carrots, per bun.	1 0		Parsley, per bunch ..	0 6	
Cauliflowers, English,			Radishes, per dozen..	1 6	
per dozen	4 0	6 0	Small salad, punnet	0 4	
Celery, per bundle ..	2 0		Spinach, per strike ..	2 0	
Cucumbers, each	0 6	1 0	Tomatos, per lb.	1 0	
Endive, French, doz.	2 6	3 6	Turnips.... per bun.	0 6	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.					

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones....12 bun.			Narcissus double,		
Arum Lilies, 12 blms.	3 0	5 0	12 bunches		
Bouvardias, per bun.	0 6	1 0	Narcissus, 12 bunches		
Carnations, 12 blooms	0 6	1 0	Pelargoniums, 12sps.	0 6	1 0
Carnations ..12 buns.	3 0	6 0	Pelargoniums, scarlet,		
Cornflower .. 12 bun.	1 0	3 0	12 sprays..	0 4	0 6
Day Lily ..12 bunches			Pinks, colored & white,		
Eucharis, per dozen..	3 0	6 0	dozen bunches ..	2 0	4 0
Gardenias, 12 blooms.	2 0	4 0	Polyanthus, 12 buns.		
Heliotropes, 12 sprays	0 6	1 0	Primula, double, bun.	0 9	1 6
Iris, various.. 12 bun.			— single 12 bun.		
Lilies, white 12 buns.	18 0	24 0	Pyræthrum .. 12 bun.	2 0	6 0
— orange....	6 0	9 0	Roses (coloured)	1 0	4 0
Lilium longiflorum,			Roses, Tea, per dozen	0 6	1 6
12 blooms	3 0	6 0	Roses, mixed, per doz.	0 6	2 0
Lilium speciosum,			— Saffrano ..per doz.	0 6	0 9
12 blooms	1 0	2 0	Spiræa		
Lilies of the Valley			Stephanotis,		
12 sprays			dozen sprays	2 0	4 0
Marguerites, 12 bun...	3 0	6 0	Tropæolums	1 0	2 0
Mignonette, 12 bun...	2 0	4 0	Tuberose, per dozen.	0 6	1 0
Myosotis, 12 bunches	2 0	3 0	White Jasmine, bun.	0 6	0 9
Pansies, 12 bunches..					

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Lilium longiflorum,		
Balsam	3 0	6 0	per doz.18 0	30 0	
Calceolarias ..per doz.	4 0	9 0	Lilium speciosum doz.	9 0	18 0
Cyperus, per dozen ..	4 0	12 0	Lobelia	3 0	4 0
Dracæna term., doz..	30 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignonette..per doz.	4 0	6 0
Evergreens, in var.,			Musk.....per doz.	2 0	4 0
per dozen	6 0	24 0	Palms in variety, each	2 6	21 0
Ferns, in var., do ..	4 0	18 0	Pelargoniums....doz.	6 0	12 0
Ficus elastica, each..	1 6	7 6	Pelargoniums, scarlet,		
Foliage Plants, vari-			per dozen	3 0	6 0
ous, each.....	2 0	10 6	Rhodanthe ..per doz.	6 0	9 0
Fuchsia.....per dozen	3 0	9 0	Scented Verbena	4 0	6 0
Heliotrope	4 0	8 0	Spiræas per dozen	6 0	9 0
Hydrangea ..per doz.	9 0	12 0	Tulips...per doz. pots		

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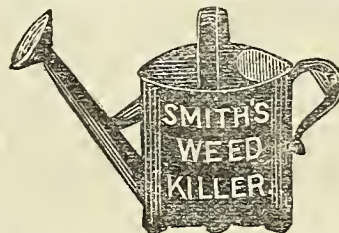
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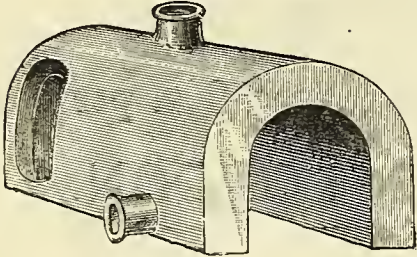
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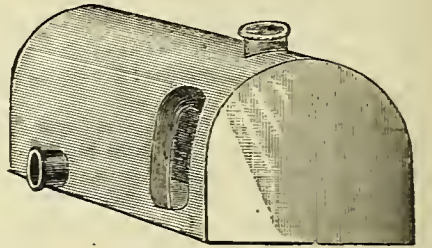
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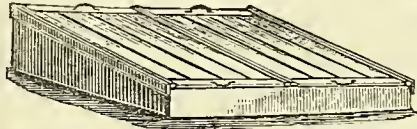
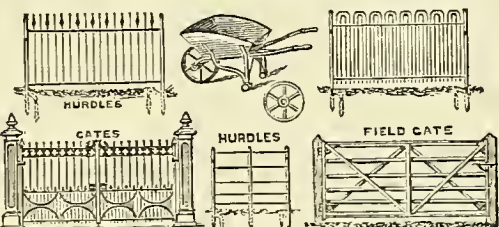


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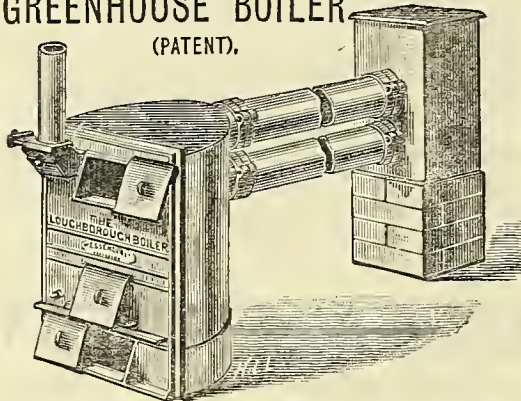
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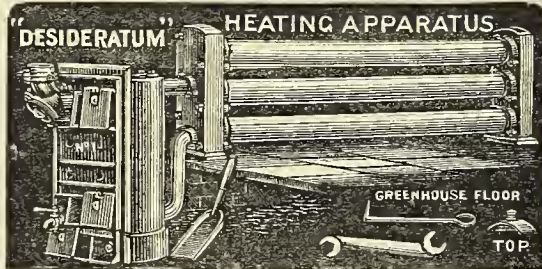
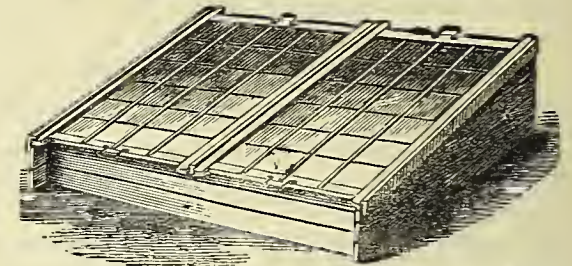
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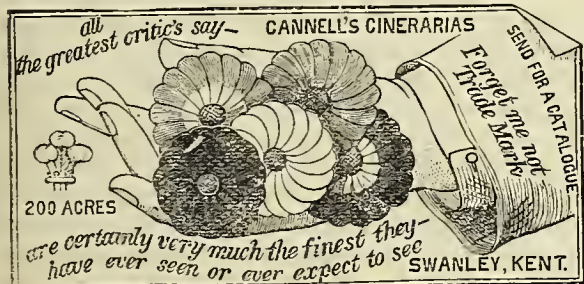
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August 25th, 1887. £150 in prizes.

Schedules on application to

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Schedules and entry forms of all Co-operative Societies, and of WILLIAM BROOMHALL, Secretary.
1, Norfolk Street, Strand, W.C.

Next Week's Engagements.

MONDAY, August 8th.—Newcastle (Staffs.) Rose and Horticultural Society's Exhibition.

TUESDAY, August 9th.—Fruit and Floral Committees of the Royal Horticultural Society meet at 11 a.m.

WEDNESDAY, August 10th.—Luton Horticultural Society's Show.

THURSDAY, August 11th.—Taunton Deane and South Ayling Flower Shows.

FRIDAY, August 12th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, August 13th.—Church Coppenhall (Crewe) Horticultural Exhibition.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 6, 1887.

THE ROYAL HORTICULTURAL SOCIETY.—The publication of Professor Michael Foster's letter to the president of the Royal Horticultural Society, which we gave our readers *in extenso* last week, may be regarded as an important incident in the history of the society; and amply excuses our renewed reference to the affairs of this somewhat unfortunate body. The letter referred to is important because it emanates from one of the most distinguished members of the Council; also because it attracts, necessarily, more attention than can be looked for from outside criticisms; and, not least, because it exhibits on the part of an intelligent and enlightened member of the Council, not only entire appreciation of the need of doing something to save the society from dissolution, but also makes suggestions which, it is hoped, may prevent that deplorable ultimatum. But it must be admitted, that in spite of the eminence of the writer and the interest which attaches to the proposals contained in the letter, yet they seem peculiarly open to criticism, and, not least, to the objection that they are not sufficiently practical.

The Royal Horticultural Society is in such a condition that it may be said to be almost at its last gasp, unless remedies of a very drastic and life-restoring kind are introduced speedily; indeed, the society may be said to be dying through loss of popularity, and only an entire

restoration of the needful popularity can bring back life and energy. The learned Professor opens his communication with the assumption that the Fellows at the recent special meeting did express their intention that the society should devote itself to the advancement of horticulture, and undertake nothing that was not distinctly calculated to advance that interest. That stray expressions in that direction were given utterance to we cheerfully admit, but we still hold that the resolution carried and the words used which led to its acceptance, seemed rather to favour, as the first consideration, the providing of a home for the society in the City of London, and specially of a place in which Orchid-growers could display to the gaze of their admiring rich fellow-citizens the products of their Orchid-houses. There was also a suggestion that the Royal Horticultural Society should, in common with other learned and scientific bodies, have its habitation in the metropolis. Professor Foster may hold that objects of this sort were really calculated to promote the advancement of horticulture; we believe that such a movement would be eminently calculated to make the society a mere City appanage, and to withdraw it from broad and genuine horticulture, whilst it would repel the bulk of the horticulturalists of the provinces. Here we may say at once, that any movement calculated to render the society purely metropolitan will destroy its national character and usefulness absolutely, whilst without the support of the provincial horticulturalists, not only would the society not exist, but its *raison d'être* for existence would be removed also.

The mistake made by Professor Foster, and of those who think with him, is in assuming that the Royal Horticultural Society occupies the same relationship to horticulture that the Royal Society or the British Association does to science. The fact is, horticulture is a practical avocation and not a theoretical science; horticulture, divested of all fanciful habiliments, is gardening pure and simple, and the gardening profession of the country must constitute the constituency of any horticultural society, royal or otherwise. The members of scientific bodies form a very diverse constituency from that which forms the basis of horticulture. The gardening profession is of the clubbish kind only in a limited degree, evidence of which is afforded in the fact that the London Horticultural Club now more than satisfies their club requirements. It is not a wealthy constituency, and cannot afford—any more than it needs—the luxuries of club life. It is not a scientific body, and, therefore, has more diverse aims than scientists have; it is, in fact, a hard-working and practical-minded constituency, which lives upon horticulture, and which, in all its associations, will ever put the advancement of practical horticulture in the foreground. It will thus be seen, that to the mass of the horticultural community, the somewhat ambitious proposals of Professor Foster, in relation to the society's future accommodation, offer nothing that is attractive, and presents much that is uselessly costly and indefensible.

The Professor in the important—indeed, just now we may say, the all-important subject of income or pecuniary means, has no better suggestion to make than that one guinea subscriptions should be established in association with existing ones for two guineas and four guineas. That is neither financially a very drastic or democratic suggestion, and seems to be based on the assumption that the gardeners of the United Kingdom have ample means, and will be certain to take up these guinea fellowships. If the guineas are not suggested as a sop to the gardeners, what class of persons, we ask, are they intended to fetch?

If the distinguished amateur and scientific class, as also the chief of the horticultural trade, we take it for granted that these can afford the two guineas as easily as they can one guinea; but not one provincial gardener in a hundred, or one general horticulturist in fifty, will thereby be induced to become Fellows. The guinea subscription may remain for the few intermediates if desirable; but of this we are assured, that until a half-guinea annual Fellowship is constituted, it will be useless to look for tangible support to the society from the great body of the gardeners of the kingdom. Whether, say, one thousand half-guineas are worth having or not, we leave to the consideration of the Council; but, apart from the money, the importance of securing, through the lower rate of subscription, one thousand, and possibly double that number of the gardeners of the country as permanent Fellows of the Royal Horticultural Society, cannot be over-estimated.

The present deplorable condition of the society's finances ought to check ambitious enterprises, and we should hold it to be a blessing were the society very speedily compelled to fall back for its permanent home upon Chiswick, and there provide at a moderate cost all that at present it needs for its operations. Movements in any other direction seem absolutely certain to lead the society deeper and deeper into the mire of indebtedness and insolvency. The financial position is the very crux of the society's existence; it is the first problem to be faced; to ignore it is but to defer the evil day a little while.

Professor Foster's suggestions as to internal re-organisation are worthy of full consideration, though seemingly very complex. He thinks the Council too hard-worked—a suggestion which provokes a smile—and not large enough. Generally, we think, readers will agree with us in holding that the chief defect of the Council is to be found in its non-representative character and its lack of business qualifications. If any demur to that criticism, we have but to point to the present position of the Royal Horticultural Society, and ask whether any body of practical or business men would have allowed it to get into its present deplorable condition. Given a good business like Council, composed of men in full sympathy with practical horticulture, and equal to its requirements, and we care not a rap whether they be eighteen or twenty-four in number or whether permitted to hold office for three or five years.

But Professor Foster's strangest suggestion seems to be found in the formation of a general committee, the duties of which are, however, not too clearly defined, but it is to consist absolutely of Fellows. To this condition we make no objection if the lower rate of subscription we have advocated be adopted. If it be not so, then, at once, from that committee will be excluded much of the best practical knowledge in the Kingdom. Does Professor Foster know that at present there are not a few members of the Fruit and Floral Committees who are not Fellows, and who, in giving their able and practical services on those bodies, hold that they give to the society that which is more than money's worth. If anyone be elected as members of these committees, make him a full Fellow, at once, for the time he is serving; that would surmount the difficulty, but the point would need the fullest consideration. As to the formation of one entire committee, of which the Fruit, Scientific and Floral should be divisions, that is an old idea put forth years ago in the columns of the *Gardeners' Chronicle*, and is now received with greater authority. However, we have said enough in criticism of Professor Foster's kindly effort, and that it is kindly and well-intentioned we recognise to the full.

THE CARNATION AND PICOTEE UNION AT OXFORD.—This highly popular and interesting gathering took place as usual in Mr. E. S. Dodwell's Garden in the Stanley Road, on Tuesday the 2nd inst., it being the third annual exhibition. On this occasion so grand was the display, so fine the weather, and so large the company, not a few of the *élite* of Oxford coming to see what Mr. Dodwell fitly terms the feast—for it is a floral feast of the highest order—that our old friend must be congratulated upon having scored a splendid success. It was an exhibition worthy of the fullest record; it was pronounced to have been the finest display of Carnations and Picotees ever seen in the southern counties.

And what a gathering of old and new friends! Genial Samuel Barlow and Francis D. Horner, with Robert Lord, B. Simonite, Thomas Bower, and John Whetham, were there, as representing the north; J. S. Hedderley, W. M. Hewitt, William Slack, William Bacon and J. P. Sharp represented the midland counties; Oxford furnished a heavy contingent, floral, literary, friendly; Reading was represented by W. L. Walker, Charles Phillips and others; Slough by that hearty florist, honest John Ball; London by Shirley Hibberd and Richard Dean. Everybody seemed hearty and happy. In addition to the show there was Mr. Dodwell's 12,000 flowers.

At three o'clock nearly 100 persons, including many ladies, sat down to a substantial luncheon in the Hall of Cowley St. John High School, under the presidency of the deputy mayor of Oxford, Mr. Alderman Buckell, a past grand master in the art of successful chairmanship. There was some good speaking; our dear old friend Dodwell was in excellent form, and the whole thing went merrily as a marriage bell. A more loyal, hearty and united band of florists never before sat down at the same table together. May we be there again in 1888 and again in 1889, if the best interests of the Oxford Carnation and Picotee Union require we should sojourn on the earth until that remote period. Surely we may couple the Carnation with the Rose and shout, *Floreat Regina Floreum!*

THE annual excursion of the HORTICULTURAL CLUB took place on July 27th, when a number of ladies and gentlemen paid a visit to Eridge Castle, near Tunbridge Wells, and Penshurst Place, the seat of the Right Hon. Lord de L'Isle.

MESSRS. DICKSON, BROWN & TAIT, seedsmen, 43 and 45, Corporation Street, Manchester, have received the Royal Warrant appointing them seed merchants to His Royal Highness the Prince of Wales.

THIS (Saturday) evening, at a meeting of the PRESTON AND FULWOOD HORTICULTURAL SOCIETY, Mr. Samuel Heaton (gardener to Robert Smith, Esq., Longridge) will open a discussion by reading a paper on "Natural versus Artificial Manure."

At the Royal Horticultural Society of Aberdeen's summer show, held on July 29th and 30th, the silver cup, presented by Dr. Maitland Moir for the best SCOTCH THISTLE, was gained by Mr. A. Cook, jun., The Birches, Peterculter, for a majestic specimen grown from seed gathered from a plant on Burns' grave. Fifteen entries were forwarded, and the specimens made a very interesting class.

AN interesting case of LAUREL LEAVES RECOVERING FROM FROST, was brought under the notice of the Scientific Committee on Tuesday week by the Rev. G. Henslow. The leaves which had been severely injured at their apices and along the margins in early spring, had thrown off the injured part and formed a new cuticularised edge in place of it. The serratures were wanting, so that the portions renewed were entire.

HIGHSTONE WOOD, one of the ornamental plantations established by the Earl of Strafford on the Wentworth Castle estate, a favourite pleasure resort, situate near Worsbro' Common, was, to a great extent, so far as the underwood is concerned, destroyed by fire on Monday evening, caused by children playing.

Every effort was made to check the flames by cutting a ditch and throwing on water, but a strong breeze was blowing, and, owing to the elevated position of the plantation, the flames did much damage. Over forty acres of Shines Moors, near Sheffield, was destroyed by fire on the same day.

THE co-operative movement will be well represented at South Kensington on August 23rd, the occasion of the NATIONAL CO-OPERATIVE FLOWER SHOW, held under the auspices of the Royal Horticultural Society, which will be an exhibition of the products of *bona fide* working men's gardens. The show cannot help being interesting and instructive, as it will represent the gardening capabilities of small cottagers throughout the length and breadth of the land. Cheap excursions are, we understand, being organised from all parts of the Kingdom, and the conference which is to be held in the afternoon on the "Possibilities of Co-operative Allotments and Associated Gardens," will doubtless be well attended, and give rise to an interesting discussion. All persons who would like to attend should communicate with the hon. secretary, Mr. W. Broomhall, 1, Norfolk Street, Strand, W.C.

GAILLARDIA PULCHELLA.

MR. JAMES PERCIVAL, of Smithy Bridge, near Rochdale, has just sent me two flowers of *G. pulchella*, which he informs me were obtained from seeds gathered somewhere on the route of the Canadian Pacific Railway, when in course of construction some six years ago, and sent home to him by a friend. Though both flowers came, doubtless, from seed of the same bloom they differ materially, for one has a large dark disc, around which is a circle of broad, stout, golden yellow florets, while the other has the same disc, but tubular florets, thus illustrating the sport much found in seminal varieties of the *Gaillardia*. The first is a very fine type, and makes one feel how necessary it is that the greatest care should be observed in granting Certificates of Merit to new forms of this flower. Mr. Percival states that the plants have been in flower for the past month, and if kept cut they go on blooming until disabled by frost.

There is one excellent characteristic about this species; Mr. Percival states that it is perfectly hardy, and has withstood the past four winters without the slightest protection, and he regards it as one of the finest composites grown—superior to *Harpalum rigidum* and *Rudbeckia Newmannii*. Mr. Percival further states that he has some seeds of *G. aristata*, *G. picta* and *G. bicolor* at various times, but has never flowered them, the plants having always died off during the winter. Last year he sowed seeds of *G. Lorenziana*, and the plants were all killed by the first frost that came in November. Therefore, *G. pulchella* may be stated to be perfectly hardy, which is a good deal to say, in comparison with *G. picta*, *G. aristata* and others.—R. D.

SANVITALIA PROCUMBENS FLORE PLENO.

AMONGST annual composites this Mexican plant should hold a leading place; but at the present day it suffers great neglect—by no means deserved—for it is really an attractive subject for the open borders, and flowers with great profusion even in the driest weather, as we have evidenced this year. Our illustration represents the so-called double form, and is by no means an exaggeration of its profuse-flowering nature. The single or typical form of the inflorescence has a golden yellow ray and a black disk, that render the head very conspicuous by contrast. In the double or full flower-head, the disk florets develop into the ligulate form, similar to those of the ray, and are coloured like them. What is gained in this way by the uniformly golden yellow flower-head is lost by the disappearance of the beautiful black disk. Lovers of both single and double flowers (and each have their recommendations) will find in this *Sanvitalia* something to their taste. Sown early in spring in pots or pans, and planted out singly when the weather becomes favourable as to heat and moisture, a lasting display of bloom is the result from early spring onwards, till frost cuts the plants down. They may be grown singly, in clumps, or in beds, for which the low procumbent stems are admirably adapted. For this reason either of the forms of *S. procumbens* would be a boon to amateurs who wished to fill up a bed or two with an easily procurable, easily raised, and profuse-flowering subject.

WOODHATCH, REIGATE.

Go wherever one may at this season of the year, gardeners are everywhere busy to meet the demands made upon them by the numerous necessities of their active avocation, which are more difficult to meet through this trying season, which has been felt throughout the length and breadth of the land. We were pleased to see this spirit of activity at work the other day at Woodhatch, the beautiful seat of T. B. Haywood, Esq. pleasantly situated on the sunny slope of a hill, about a mile from the undulated and partly wooded Surrey Downs. The gentleman whose name we have just mentioned is well known in horticultural circles, being the treasurer of the National Rose Society, and additional interest is attached to his name from the fact that he has recently been elected to the post of treasurer to the Gardeners' Orphan Fund. In addition to the ordinary duties of his occupation, we find Mr. Ridout, Mr. Haywood's active gardener, cheerfully contributing to the local effort of establishing a cottagers' flower show at Redhill, which has been set on foot this year for the first time. At home the work was not being neglected, as was evidenced on every hand.

The staging of two houses was occupied with tuberous-rooted Begonias, which, with few exceptions, are all seedlings of this year. Greater dwarfness of habit is secured by this method of growing them, besides the additional interest attached to the raising of new varieties. The flowers are large and beautifully varied in colour, showing all the shades of rose, crimson, scarlet, and yellow, besides bicoloured forms, such as white with rose edge, and primrose-yellow with a rose edge, which some describe by the very appropriate term of Picotee-edged varieties. We noticed some beautiful white forms and yellows that showed a marked improvement upon the Begonia Pearcei type, whose beautiful silvery veins on a dark background

are still retained by the leaves. The whole bank of plants in the two houses formed a gay sight, such as plant-lovers in general could hardly fail to admire, the plants having broad, healthy foliage, profusely covered with generally erect flowers, and ranged from 6 ins. to 12 ins. in height, but seldom exceeding it.

The last week in July is not the time to inspect Orchids for the sake of their blooms, but one can catch a glimpse of the work done in preparing for next season's display. The growths made by the Odontoglossums, such as *O. crispum* and *O. vexillarium*, Cattleyas, *Lælias*, *Masdevallias*, and others are satisfactory in the highest degree, and the dark-flowered, late *O. vexillarium* *Klabochorum* still lingers. There are, however, some very fine forms of *Lælia elegans* in flower; as also the valuable summer-flowering *Cattleya Gaskelliana* and *C. Eldorado splendens*, with white sepals and petals and a rich purple blotch on the labellum, which has the customary golden yellow blotch. *Dendrobium Dearei* will always hold its own for the purity of its white flowers, made more conspicuous by the green blotch in the throat. The small rosy purple-flowered *D. secundum* must not be overlooked. The summer display is greatly augmented by *Saccolabium Blumei majus* and the lovely rich purple-tipped *Ærides Lawrencianum*. A rich floral feast, such as we seldom enjoy, was presented by *Vanda Sanderiana*, the yellow lateral sepals of which are beautifully reticulated with purple; and a magnificent spike of

Grammangis Ellisii, which had produced thirty well-formed and perfect flowers. The latter Orchid is most generally known in gardens as *Grammatophyllum Ellisii*, and has curious square pseudo-bulbs, massive ligulate leaves and sepals heavily spotted with brownish purple on a yellow ground; the petals and lip are smaller and white. Taken altogether the spectacle was magnificent.

Cool Orchids are represented by a large number of *Masdevallia Harryana*, with large flowers, some of which were good examples of rich colouring. The curious *M. chimæra* seems indispensable to any collection, and the same might be said of *M. Veitchii*. *M. ignea superba*, a large rich flamed variety, with darker veins, is also in bloom, and the many-flowered *M. Schlimii* likewise finds a home here. Already the old flower-stalks of *M. tovarensis* are throwing up buds afresh, and, judging from their strong and healthy appearance, a fine display will be the result later on. *Oncidium cucullatum*, and the profusely-flowered *O. incurvum* (frequently called *Odontoglossum albo-violaceum*), with lovely violet and white blooms, afford a kind of colouring by no means common in the genus; but their blooms are small compared with the magnificent *Disa grandiflora*, which by some is considered the finest of all the terrestrial Orchids.

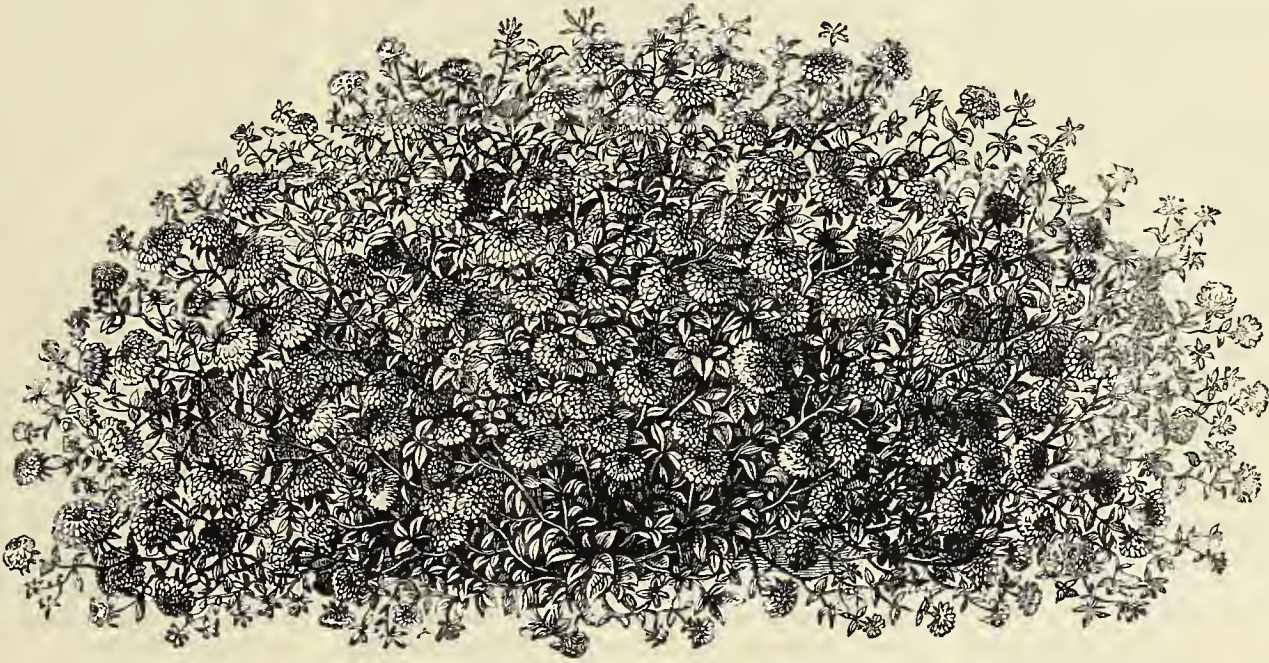
Stove plants are well represented by useful decorative

Vines, Peaches, Nectarines, Cucumbers, Tomatos and Melons all receive due attention at the hands of Mr. Ridout, and the foliage of the younger and successional batches of Melons exhibited foliage of remarkable size and vigour, and some were bearing excellent crops of fruit. The quantity of the latter produced by the Tomatos has been something remarkable, and still they continue to ripen their wholesome fruit in abundance.

In the open air a beautiful and showy display of Carnations and Picotees greets the visitor almost from his entrance to the garden. They are arranged in beds, and in spite of the dry weather are very prolific and effective. Already the all-important operation of layering has been performed, and unless cut a succession of bloom will be kept up for some time to come. Amongst Carnations, Charles Turner, a crimson bizarre; John Bull, a dark rose-flake; Milner, a white self with a fimbriated margin; White Edge, more deeply fimbriated and flaked with red; King of the Yellows, a primrose self; Aurea-carnea, a yellow variety flaked with rose; and The Governor, a blush-coloured self, were especially fine. The last is a grand, sweet-scented Carnation, which is grown in quantity, and highly popular. Numerous extremely handsome and chaste Picotees were scattered through the beds, the following being conspicuous by their

size or the distinctness of their markings:—Baroness Burdett, light purple-edged; Red Braes, heavy purple-edged; Mrs. Brown and Triumphant, both heavy red-edged, the latter being a grand variety and quite distinct; and Mrs. Raynor, a heavy pink-edged variety.

Mr. Haywood being an ardent admirer of Roses, large breadths of all the best varieties are grown and carefully kept to name. It is the less desirable to enumerate names seeing that attention has been called to the finer sorts at the recent flower shows. Roses from



SANVITALIA PROCUMBENS FLORE PLENO.

foliated specimens, exhibiting a great variety of colour. A beautiful drapery of *Cissus discolor*, in all its richness of colouring, festooned a wall, and was the result of this season's growth. Another wall was occupied with the universally popular *Hoya carnosa*, while a grand specimen of *H. bella* in a pot having already flowered is again showing a wealth of bloom. *Allamanda Hendersoni*, the best of all the forms, and *Bougainvillea glabra* would be difficult to surpass for the quantity of bloom produced by them. The greenhouse was equally gay with flowers of the usual class to be had at this season, and we noticed several varieties of *Rochea* (*Kalosanthos*) *coccinea*, some with deep scarlet flowers, and others with larger ones having a white eye. *Crassula* (*Rochea*) *falcata* is another fine old thing. On the roof, *Passiflora racemosa* (*syn.* *P. princeps*) was showing flower freely, while *Lapageria rosea* and *L. r. alba* afford both flowers and shading from the fierce rays of the sun. The Heaths were consigned for the summer months to the open air, but screened from the sun by a white awning. Popular winter-flowering kinds were there, but the exquisite beauty of some of the summer flowering species would be difficult to surpass by any other class of greenhouse subjects. *Erica Eweriana superba* completely concealed its foliage by a profusion of soft but rich rose-coloured flowers, and to this might be added *E. eximia superba*, *E. Aitoniana turgida*, *E. exquisita* and *E. ventricosa rosea*.

this place appear at the exhibitions, but enormous quantities of cut blooms are required for decorative purposes at home, and, notwithstanding the severe and protracted drought, the bushes continue to flower with great freedom, and the quantity of buds now showing augurs well for a late supply when the weather becomes cooler and moister. Mr. Ridout buds a great number annually on the briar stock, which develop into large bushes, and produce the finest blooms the season following. He also finds that when deaths occur amongst already established plants, the best plan is to bud on briar stocks already established *in situ*.

The other branches of the out-door department were all conducted by the same careful and skilful management, although we had no time for anything except a cursory survey; but what we saw was sufficient to convince us of the beauty of a well-kept garden, harmonising well with the snug repose of the mansion embosomed amidst a wealth of fine old trees.

LEYCESTERIA FORMOSA.—No garden with any pretensions to a collection of trees and shrubs should be without this distinct and very free-flowering plant, which is a native of the Himalayas, and sufficiently hardy to be grown with little trouble even in the severest winters. Even when killed down strong shoots are sent up annually, and flower with great freedom. The individual blooms are large and white, with a purplish tint; but the profusion of deep, blackish, purple, leafy bracts which subtend the flowers are in themselves highly ornamental, and the flowers are succeeded by deep purple berries that are also very conspicuous and ornamental.—*Tarus*.

CARNATION AND PICOTEE UNION.

THE third exhibition of the Carnation and Picotee Union, of Oxford, took place in Mr. E. S. Dodwell's garden, in the Stanley Road, Oxford, on Tuesday last, and was the means of bringing together one of the most remarkable exhibitions of flowers seen for many years past. Growers in the south, like John Ball, of Slough, and in the north, Thomas Bower, of Bradford, stated that, for good average quality, the blooms were truly wonderful—richly coloured and bright in the extreme. So rapidly do the exhibitors at this show increase in number, that the space afforded by Mr. Dodwell's garden is far too limited in extent to admit of the blooms being seen to the best advantage. During the day a large number of visitors attended the exhibition, and appeared to be greatly delighted with what they saw, for, in addition to the flowers staged for competition, it was calculated that Mr. Dodwell had as many as 12,000 expanded in his collection, many of the plants being in pots and many in the open air. The task of the judges was by no means a light one. The making of the awards was undertaken by Messrs. S. Barlow, W. M. Hewitt, T. Bower, S. Hibberd, John Ball, B. Simonite, Joseph Lakin, R. Low, and J. P. Sharp. Mr. E. S. Dodwell superintended the arrangements, assisted by his sons, Messrs. George and A. H. Dodwell; and also by Messrs. W. L. Walker and C. Phillips.

CARNATIONS.—In the class for twelve blooms, dissimilar, eight prizes being offered, there were nine competitors, and it is extremely doubtful if such a number of stands of such good flowers generally ever competed together before. Here Mr. Robert Lord, florist, Hole Bottom, Todmorden, was first with a grand dozen—large, smooth, and finely-coloured—consisting of C.B. Master Fred, P.P.B. W. Skirving, C.B. John Harland, S.B. Fred, S.B. Admiral Curzon, S.F. Sportsman, R.F. Rob Roy, P.P.B. Thomas Moore, C.B. J. D. Hextall, P.F. Squire Whitbourne, S.F. Tom Lord, and S.B. Robert Lord. Second, Mr. M. Rowan, Manor Street, Clapham, S.W., with a very good lot indeed, consisting of P.F. James Douglas, C.B. Master Fred, P.P.B. Wm. Skirving, S.B. George, S.B. Robert Lord, S.F. Matador, R.F. Dolly Varden, P.F. Geo. Melville, C.B. Black Prince, R.F. Jessica, S.B. Admiral Curzon, and S.F. John Whitham. Third, Mr. B. Simonite, Rough Bank, Sheffield; fourth, Mr. Geo. Chaundy, Marston Street, Oxford; fifth, Mr. Geo. Geggie, Waterloo Street, Bury; sixth, Mr. W. L. Walker, Erleigh, Reading; seventh, Mr. R. Sydenham, Bristol Road, Birmingham; eighth, Mr. A. R. Brown, Handsworth, Birmingham; extra, Mr. Joseph Lakin, Temple Cowley, Oxford. There were seventeen stands of six blooms, dissimilar, and as none of the exhibitors of twelve blooms could compete, it follows that there were twenty-six exhibitors of Carnations in these two classes. Here Mr. John Whitham, Hebden Bridge, Yorkshire, was first, having very fine and grandly-marked blooms of C.B. Master Fred, S.B. Thomas Storer, R.F. Crista-galli, S.F. Sportsman, S.B. Fred, and P.P.B. William Wardill; second, Mr. J. S. Hedderley, Sneinton, Notts, with excellent blooms of C.B. Master Fred, S.B. Robert Lord, R.F. Tom Lord, P.P.B. Geo. Melville, P.P.B. William Skirving, and R.F. Rob Roy; third, Mr. T. E. Henwood, Earley, Reading; fourth, Mr. J. P. Sharp, Wheeler Street, Lozells, Birmingham; fifth, Mr. S. Barlow; sixth, Mr. T. Hellewell, The Hollies, Todmorden; seventh, Mr. H. Startup, Bromley, Kent; eighth, Mr. W. Bacon, Beckett Mill Works, Derby; ninth, Mr. Thomas Anstiss, Brill, Bucks.

PICOTEES.—In the class for twelve dissimilar blooms of Picotees—eight prizes being offered—there were nine competitors, and here Mr. R. Lord was again first with a stand remarkable for superb finish, the purity of the ground-colour, and the beauty of the marking, leaving little else to be desired. The varieties were—H. Red E. Morna, L. Rose E. Mrs. Payne, H. Red E. Master Norman, H. Scarlet E. Mrs. Sharpe, H. Rose E. Lady Louisa, L. Purple E. Clara Penson, L. Rose E. Cynthia, H.P.E. Muriel, H. Red E. Brunette, L. Red E. Thomas William, L.P.E. Ann Lord, H. Rose E. Royal Visit. Second, Mr. M. Rowan with fine blooms of H. Rose E. Duchess, L. Rose E. Nellie, H. Rose E. Mrs. Payne, H. Red E. Brunette, H.P.E. Alliance, L. Red E. Thomas William, H. Red E. Mrs. Dodwell, L.P.E. Jessie, L. Red E. Clara Penson, H. Rose E. Edith

D'Ombra, L. Rose E. Favourite, and H.P.E. Chancellor. Third, Mr. George Chaundy. Fourth, Mr. B. Simonite. Fifth, Mr. W. L. Walker. Sixth, Mr. A. R. Brown. Seventh, Mr. Joseph Lakin. Eighth, Mr. George Geggie. In the class for six Picotees there were nineteen competitors, making in all twenty-eight exhibitors of Picotees. Here Mr. John Whitham was first with H. Rose E. Royal Visit, H. Red E. John Smith, L. Red E. Thomas William, H.P.E. Muriel, H. Scarlet E. Mrs. Sharpe, and H. Rose E. Lady Holmesdale. Second, Mr. H. Thomson with H. Scarlet E. Mrs. Sharpe, L. Red E. Clara Penson, L. Rose E. Miss Wood, Medium P. E. Alice, H.P.E. McNiven, and H. Rose E. Mrs. Lord. Third, Mr. Hnson Morris, Hayes, Kent. Fourth, Mr. J. S. Hedderley. Fifth, Mr. T. E. Henwood, Reading. Sixth, Mr. Thomas Bower, Hoxton Green, Bradford. Seventh, Mr. John Payne, St. Paul's, Oxford. Eighth, Mr. J. P. Sharp. Ninth, Mr. A. Spurling.

SELFS, FANCIES OR YELLOW GROUNDS.—In the class for twelve dissimilar blooms, Mr. W. Read, gardener to A. H. Dodwell, Esq., St. Mary's Road, Oxford, was first with a superb lot of Mr. Dodwell's Seedlings, some of which were of great beauty, but all unnamed; second, Mr. Rowan, with Arthur Medhurst, Polly Peachum, Prince of Orange, The Governor, Duchess of Teck, Quilp, Rio, Markham Hill, Mrs. A. Medhurst, Florence Nightingale, Edith and Seedling; third, Mr. Hnson Morris; fourth, Mr. George Chaundy; fifth, Mr. A. Spurling; sixth, Mr. W. L. Walker; seventh, Mr. Thomas Anstiss; eighth, no name; ninth, Mr. Geo. Geggie. There were ten collections of six blooms, and Mr. Hovill, gardener to G. H. Morrell, Esq., Headington, Oxford, was first with Mrs. Dodwell, pale rose, Alice Mary, pink, Mrs. Watson, white, Edith, yellow, Mrs. Champney, pink, and Neptune, purple; second, Mr. Harding, Manor Road, Brockley, Kent, with Admiral Seymour, pale buff, Edgar, dull red, Janira, The Governor, Florence and a Seedling Yellow; third, Mr. C. Phillips; fourth, Mr. W. Bacon; fifth, Mr. J. S. Hedderley; sixth, Mr. P. E. Henwood; seventh, Mr. H. Startup; eighth, Mr. M. Rowan; and ninth, Mr. S. Barlow.

SINGLE BLOOMS.—Then followed the classes for single blooms of Carnations; the prizes were awarded as follows—the judges having large numbers to select from:—Scarlet Bizarres: first, second and fourth, Mr. S. Barlow, with Robert Houlgrave; third, Mr. R. Lord, with Fred, and fifth with Admiral Curzon. Crimson Bizarres: here Mr. Dodwell's Fred, which was seen in very fine form on this occasion, took all the prizes. First and fourth, Mr. J. Whitham; second, third and fifth, Mr. R. Lord. Pink and purple Bizarres: first, second and fourth, Mr. R. Lord, with William Skirving; third, Mr. J. Whitham, with J. D. Hextall; and fifth, Mr. R. Lord, with Unexpected. Purple Flakes: first, Mr. Brown, with George Melville; Mr. R. Lord was second and third; Mr. M. Rowan was fifth with the same variety; and Mr. B. Simonite was fourth with James Douglas. Scarlet Flakes: first, Mr. George Geggie, with Matador; third, with H. J. Tyler; fourth, with Mr. Carter; second, Mr. J. S. Hedderley, with Sportsman; and fifth, Mr. M. Rowan, with H. J. Tyler. Rose Flakes: first, Mr. R. Lord, with Rob Roy; second, with Sybil; third, Mr. J. Whitham, with Rob Roy; fourth, Mr. M. Rowan, with Jessica; and fifth, Mr. B. Simonite, with a Seedling.

PICOTEES, SINGLE BLOOMS. Here also large numbers were staged, and the awards were as follows:—Heavy red-edge: first and second, Mr. J. Whitham, with John Smith; third and fourth, Mr. Robert Lord, with Brunette, and fifth with Morna. Light red-edge: first, Mr. M. Rowan, with Mrs. Gorton; second and third, Mr. R. Lord, with the same; fourth, Mr. Rowan, and fifth, Mr. Lord, with Thomas William. Heavy purple-edge: Mr. R. Lord took all the prizes with admirable blooms of Muriel. Light purple-edge: first, Mr. R. Lord, with Minnie; second, Mr. J. Payne, with Baroness B. Coutts; third, Mr. Rowan, with Jessie; fourth, Mr. H. Morris, with Nymph; fifth, Mr. J. Whitham, with Clara Penson. Heavy rose-edge: Mr. R. Lord, first, with Louisa; second, with Mrs. Sharp; third, with Royal Visit; fourth, with Mrs. Payne; and Mr. S. Hedderley, fifth, with Mrs. Sharp. Light rose-edge: first, Mr. Rowan, with Nellie; second, Mr. R. Lord, with Cynthia; third and fourth, Mr. R. Lord, with Leddington's Favourite; and fifth, Mr. Morris, with Favourite. Yellow grounds: first, Mr. Read, with a very promising seedling;

second, fourth, and fifth, with seedlings; third, Mr. J. Lakin, with Janira.

PREMIER FLOWERS.—The premier Carnation was C.B. Master Fred, shown by Mr. John Whitham; the premier Picotee, H. Rose E. Mrs. Payne, shown by Mr. R. Lord; the premier self Carnation, Gladys, a charming fleshy pink flower, shown by Mr. Read, and raised by Mr. E. S. Dodwell; the premier fancy Carnation, The Maestro, also shown by Mr. Read, and raised by Mr. Dodwell, crimson, flaked with maroon.

CERTIFICATES OF MERIT.—Certificates were awarded to the following flowers:—S.B. Robert Houlgrave, a very bright flower in the way of Admiral Curzon, with fine petal and substance, and an excellent grower, which was shown by Mr. Samuel Barlow, J.P. Also to the following sent by Mr. C. Turner, Royal Nursery, Slough:—Yellows: Will Threlfall, pale primrose self; Almira, clear pale yellow, with slight flakes of rosy pink; Annie Douglas, pale primrose, flaked with rosy purple on the edges; Colonial Beauty, buff yellow, heavily edged with flakes of rose and dove-colour; Terra-cotta, pale terra-cotta ground, edged with pink and dove-colour; and Agnes Chambers, pale primrose, with slight edging of rosy purple. Selves: Scarlet Gem, bright crimson, with finely-shaped petals; and Rose Celestial, clear pale pink, large, full, and very fine.

ARBORICULTURE.

PROPOSED SCHOOL OF FORESTRY.—At the annual meeting of the Scottish Arboricultural Society held last week in Edinburgh, Sir D. Brandis, who has for some years been associated with the management of forests in India, made the following remarks on the proposal to found a School of Forestry in this country:—"Ever since I heard of the plan to establish a Forest School in Scotland, I have been of opinion that as soon as the desire gains ground among proprietors in Scotland, to obtain for their estates the services of wood managers and foresters who have received a more systematic professional training than is attainable at present, they will find the needful means and take the needful steps for the establishment of a Forest School. It clearly is their interest to increase the annual yield, and improve the productive powers, which means the capital value of their estates. These ends may, to some extent, be accomplished by a more systematic management of their woodlands, and this again will doubtless be promoted by giving to their foresters a more systematic training in their profession than they receive at present. I am, however, fully aware that there are two circumstances, which, to some extent, may impede the speedy accomplishment of this idea—the low price of timber, and the very high rent at present obtained by the letting of grouse moors and deer forests. Of these two circumstances, however, the members of this society are much better able to judge than I am, and I do not, therefore, attempt to discuss them. The natural and proper thing in the present case is for the proprietors to take action on their own account. Should this, however, not be the case, and should the Scottish Arboricultural Society feel themselves strong enough to take the initiative in such an undertaking, this would be an excellent and most important step in the great and good work which your society has steadily pursued since its formation in 1854. Your aim from the commencement has been to raise forestry in Scotland to the dignity of a profession. Your transactions, the prize essays annually set by your society, the excursions to instructive forest districts, the great International Forestry Exhibition at Edinburgh, and the lectures delivered under the auspices of your society, have all been important steps in the same direction.

"If the Scottish Arboricultural Society should find itself to be in a position to take the lead in this great movement, the large landed proprietors might, perhaps, afterwards be disposed to take up the scheme, and to work it out on their own account. A forest school, if the teaching is of the proper kind, will contribute much to a better understanding of the circumstances which have led to success by one method of forestry and to failure by another. The students will be taught to observe accurately, to combine their own observations with the theoretical knowledge they have acquired, and this will eventually enable them to draw correct conclusions from the facts which they have observed. The school, if well directed, ought to become a centre of scientific research, the results of which will contribute

much towards a more successful management of the woodlands. The foresters trained at the school will not only be more efficient in their work, but—and this is of very great importance—the better they learn to understand the connection, as gradually worked out by science, between cause and effect in the life of trees and shrubs, the greater will be their enthusiastic attachment to their profession. Believe me, true, healthy, enthusiastic attachment to one's profession is a blessing in the life of a young man, the value of which it is difficult to overrate. When the time for action comes in the matter of the Scottish Forest School, I shall deem it an honour and a pleasure, if it should be desired, and if circumstances should permit, to help with my advice, and some day, perhaps, to explain to the students some of the conclusions which I have formed as the result of many years' study of trees and shrubs in different countries." (Applause.)

LANDSCAPE FORESTRY.—Mr. John Methven read a paper on "Deciduous trees with ornamental and coloured foliage useful in landscape forestry." The paper was illustrated by an exhibition of upwards of eighty distinct specimens of the leaves of such trees. There could not, he said, be two opinions as to the importance of practical foresters cultivating a taste for planting with a view to producing landscape effect, and at the same time acquiring a knowledge of the various trees popularly known as "fine-foliaged." They lived in a time when the æsthetic was studied in everything connected with dress, house furnishing, garden decoration, and architecture, and thus plantations, in view of the now almost innumerable species and varieties of trees, with magnificent forms of foliage, and gorgeous variegations, should show more than hitherto that planters had an eye to the beautiful in the arrangement of colour and variation of form, which, after all, was the great charm in natural scenery. There could be no doubt that many of their lowland plantations would be brightened up by an admixture of such trees. As park or roadside trees some of them were unequalled, and all of those of which he showed specimens that day were perfectly hardy in their climate. As an example of what he considered a fine-foliaged tree, he referred to the Golden Sycamore, or Corstorphine Plane, as it was called, which stood near the village of Corstorphine, and which, during the month of June, was worth a pilgrimage to see. Not only might such trees be planted for effect, but almost all of them, as timber-producing trees, were of value. In the list given by Mr. Methven, the ordinary forest trees were mentioned, and a number of others not so well known, including the Caragana (Pea Tree), a native of Siberia, and very hardy; Catalpa, indigenous to the Southern States of America, and only equal to the climate of Scotland in favoured situations; the Tulip Tree (*Liriodendron tulipifera*), one of the handsomest of trees; the Aralia, of which only one or two were sufficiently hardy for Scotland, the most interesting being *A. spinosa*.

GARDENING NOTES FROM SCOTLAND.

Rose-growing at Aberdeen.—When visiting the granite city lately, I accepted an invitation from Messrs. J. Cocker & Sons to visit their nurseries, which are very extensive, and which also have a wide reputation for the culture of Pansies, Violas, Dahlias, Pinks, Carnations, Picotees, &c.; but the principal feature in which the Messrs. Cocker excel is undoubtedly in the cultivation of the Rose. The success which they have achieved in bygone years, and the good fortune they have had this season in the various competitions they have entered, speak volumes in favour of their mode of treatment. Their stock this year consists of 50,000 hybrid perpetuals and 10,000 Teas—as fine a lot of clean, healthy, vigorous plants as one could wish to see; and as they are grown in an exposed situation in their nurseries at Morningfield, near Aberdeen, they are well adapted for planting in fully exposed positions, for they must be thoroughly hardy. This season has been remarkable for its dryness, for in this district hardly any rain has fallen since the second week in April; and as I visited these nurseries in the middle of July, one can well imagine the labour that must have been bestowed upon the plants to keep them in such perfection as they are. All the most popular

sorts are grown here. Amongst the newer kinds, I noticed American Beauty, Brilliant, Hippolyte Jamain (climbing), M. Boncenne, Pride of Waltham, and Her Majesty, of which the firm possesses a very fine stock, undoubtedly expecting a great demand for this extraordinary Rose, which has proved itself equal to the praise which has been bestowed upon it. Amongst the new Teas, The Bride figures conspicuously. This is a sport from the well-known Catherine Mermet, but a pure white, and will become a popular favourite with the bouquetist, no doubt. Viscountess Folkestone is another good Rose, the colour being creamy pink; and Ye Primrose Dame, for a delicate primrose-yellow, will not fail to become popular. These are only a few of the newer ones. Of the old standard and popular varieties, I noticed a fine stock, both of H.P.'s and Teas.

Other outdoor stock—such as coniferæ, forest trees, fruit trees, ornamental trees and shrubs, &c.—are all well cared for and extensively grown. Herbaceous plants are likewise a good feature, a large collection being grown; consequently, there is always something of interest to be seen. Beds of Violas, Pansies, Pinks, Picotees, Pyrethrums, Delphiniums, Phloxes, Pentstemons, Carnations, &c., were in bloom, giving lovers of these favourite flowers a rare treat.

I was also struck with the beauty of some of the Ivies, of which all the varieties in commerce are grown against a wall suitable for that purpose, so that anyone can easily see those which are most suitable for their requirements. The glass department, although not extensive, contains a choice collection of plants, grown in a very satisfactory manner. I was much pleased with the beauty of a new Fuchsia named Lady Aberdeen, which the Messrs. Cocker intend distributing next spring. It has a fine free-branching habit, with flowers not over large, but produced in great profusion; while the sepals, petals, and corolla are all of one colour—a pretty shade of rose.—*Rusticus*.

Royal Horticultural Society of Aberdeen.—On Friday and Saturday last, the annual summer show of this society was held in a field adjoining Polmuir House, Duthie Park, and proved the most successful this society has ever held, the total number of entries being 1,011 as compared with 652 last year. The Jubilee prizes offered for the best tables of horticultural produce arranged for effect, brought out four competitors whose productions were adjudged to be in order of merit as follows:—First, Mr. Alexander Grigor, gardener to A. O. Gill, Esq., Fairfield; second, Mr. John Proctor, gardener to Lord Provost Henderson; third, Mr. John Forrest, gardener to the Earl of Aberdeen; fourth, Messrs. James Cocker & Sons. Mr. Forrest well held his own in classes for stove and greenhouse plants, Heaths, vegetables, &c.; and among other successful exhibitors were Mr. Noonan, Stoneywood House; Mr. A. Grigor; Mr. Proctor; Mr. John Henry; Mr. Ogg, Morken; Mr. McLennan, Fetteresco Castle; Mr. James Hunter, Richmond Hill, &c. Fruits and vegetables were an attractive feature, and the cut Roses of Messrs. Cocker & Sons were greatly admired.

The Scottish Horticultural Association.—At a meeting of this association, held in 5, St. Andrew Square, Edinburgh, on Tuesday night, Mr. James Grieve presiding, the first paper read was one by Mr. Charles Webster, Gordon Castle, on the transplanting of trees and shrubs. In the course of his paper, Mr. Webster stated that it had been said that evergreens might be planted in any of the months in which the letter "r" occurred. This generalisation might do very well for young nursery plants, which might be turned out at almost any season of the year with a reasonable amount of success if due attention were paid to watering and other things, but to think of removing large established plants during the winter months would, he thought, be courting failure. The months in which he would most prefer the work of planting to be done were April or September, and both might be equally good. The soil and situation were important factors in determining the proper time for the removal of the plants. In order to make the operation successful, root pruning, especially if the plants were large, should be resorted to at least a twelvemonth previous to lifting, by which means a larger increase of fibrous roots were brought within a given area, thus rendering the accomplishment of re-planting a greater certainty. The paper

concluded by describing the after-treatment of the plants.

Mr. Robertson Munro, the secretary, then read "Notes on the Climate of Scotland," his references beginning with 1563 and ending with the present time. An unusually large number of subjects were exhibited, including, from Messrs. Thomas Methven & Son, Princes' Street, a specimen of Australian flax (*Phormium tenax*) in flower; from Messrs. Dickson & Co., a stand of Carnation seedlings and other miscellaneous flowers; from Mr. Robertson Munro, Abercorn Nursery, a large collection of hardy cut flowers; and from Beechhill Gardens, Haddington, twenty-five distinct varieties of seedling Carnations.

FLORICULTURE.

CHRYSANTHEMUM NOTES.—Judging from some private notes I have seen from various Chrysanthemum-growing centres, if I may use the phrase, never were they so extensively grown, and certainly not for a score or more years have they had to contend with so persistently dry a season. Upon this, and other peculiarities, I would suggest that you invite the views of some of your correspondents, so as to arrive at the best mode of procedure on such points as

Watering.—Will over-watering cause mildew? But the answer is contingent on what is meant by over-watering—a question not so easily answered as it otherwise might be, with the thermometer 135° Fahr. in the sun, and between 85° and 90° in the shade. Can any running water be described as hard water, with that sun playing on it all day? I am inclined to say, Not so. Several exhibition growers during the past two months, being contiguous to rivers, take the same view, and are proud to have it for watering and syringing.

I am sorry to say, I and many others, getting water from wells, and from a distance, and requiring large quantities in a limited period, have had no time, on some occasions, to expose it to the sun, or put a piece of soda in it; and so far as I can observe—and I grow 300 varieties—the plants are all healthy, though syringed with water from a limestone subsoil almost every evening. This brings me to

The Black Aphis.—To-day I have been among several exhibition collections, and only in one have I found this pest. This is the first year that I have ever heard of it being in Ireland at all, but other correspondents may have had different experience. I would suggest you consult your entomologist as to its analogy—if any—with the green-fly. My own opinion is that it is wholly different, and that Mr. Molynenx, in recommending Tobacco powder, as in the case of the green-fly, for its destruction, may be mistaken. I have tried it on my friend's collection, when dry, but their comparatively large wings seemed to save them from any injurious effects, but if the powder is put on after syringing, it is much more effective. But there is the dilemma; then it will also "buru" tender young expanding buds or foliage. I got rid of the few I had myself by syringing with soot-water, and persistent syringing afterwards. Caution is necessary lest the curc is worse than the disease. Unlike the green-fly, the aphis is comparatively hard like a grain of sand under the fingers. [Try a decoction of Quassia chips.—Ed.]

Blind Buds?—I have seen a good many of these in different collections, and heard the result attributed to many and various causes, such as the earwig, woodlice, caterpillars, large and small larvæ, including the frog hopper. To-day, a few of us examined many hundred plants, a fraction only having the buds imperfect or eaten out, and could not satisfy ourselves as to the real cause. On one occasion a gentleman was satisfied he had the real culprit when he found the young larvæ of the ladybird—which is insectiferous—feeding on green aphids. I was up in time to save his life, and put him back to his useful work. I am strongly inclined to think those imperfect buds and half-developed embryo leaves is the result of constitutional delicacy in the respective varieties.

By the way, what do you think of the new Crustaceous Pulverised Fish Manure, of which I believe the Messrs. Carter & Co. are agents? I got a bag, divided it with a neighbour for trial, and am satisfied it is a valuable nitrogenised stimulant, and so also is he. I have received a letter this morning from a noted Liverpool grower, who first told me of its efficacy, saying he intends using it as the principal artificial manure in his top-dressing compost for his Chrysanthemums in pots.—*W. J. Murphy, Clonmel*.

NOTES ON AURICULAS.

BY THE REV. F. D. HORNER.

I ONCE heard of a cautious old farmer who watched with sceptical interest the experiment of a neighbour with a new Turnip, said to possess the early virtue of being fly-proof. When asked whether he did not intend to try it himself, he replied, "Nay! it 'll bring its own flea with it, and if it doesn't, the other fleas will invent one for it."

It will be a sore thing if young Auricula growers are to be hemet and discomforted by new and special enemies. From the plaint of "C. A. G." (July 16th), it would seem that the unlovely family of Pests has had an addition—large, after the manner of all such increase.

I have, however, asked to be allowed a post-mortem on the next plant "C. A. G." may lose, apparently by "white footless grubs" infesting the stem. Until then I will only say that I have not known any living stem, or "carrot," of the Auricula attacked by such-like grubs. Even that arch grub, the wireworm, finds the Auricula an exceeding bitter herb; and though he will abide in the same pot, yet he is to be found at the sides of it, or other place of respectful distance from the plant, preferring to live on turfy materials somewhat decayed to mortifying his appetite on unrelished meats.

The whole living plant of the Auricula is pungent to the taste, but it may be different in decay. Within parts of the underground-stem, effete as having done their work and useless, I have found patches of a white grub; but they were merely scavengers, not destroyers. I have watched their work, and seen them leave but a shell behind, and they never worked above the division line between the dead and living stems. Finding no plants harmed by them, I have not apprehended the larvae to see who they are in the perfect insect, nor offered them the rival attraction of a sweet young Carrot or the gentle aromatic Onion.

Auriculas have this summer been rather weary of the parching heats of the long drought, and have parted very freely with their blooming foliage, which should remain till the autumn growth is well begun. A severe loss of foliage, other than the natural shedding which precedes the winter resting habit, is always a great check to Auriculas, and it may be that under the difficulties of "C. A. G.'s" situation (a London garden) the plants have suffered much in this way. Lancashire Hero is a variety that does not bear such a check with patience. To lose all main leaves is a loss of lung power, and the end is, as it were, "a decline."

However, if the white grubs do feed on living tissues they are deadly things, and, I fear, may arise from the eggs of some roving fertile green-fly alighting where she lists, and whose access to freely ventilated plants it will be difficult to bar.

I think, if the grubs are evidently to be brought in "guilty," I would counsel "C. A. G." to set up a counter-irritant—offer them a possibly more tempting food, experimenting, by way of a trap, with the "vile corpus" of a real Carrot, a wedge of new Potato, or a slice of the fragrant Onion.

I do not think the long-legged frames, under which and upward all drying winds can blow, are good quarters for Auriculas. I remember them in days gone by. Mr. Lightbody had some; I have seen them elsewhere as tall as a young Punch and Judy show. I would amputate all such legs, or, at least, let down in windy weather some such kindly covering as conceals the legs of the Punch and Judy man, and so keep the plants from draughts and drought. Frames raised by about 2 ft. of brickwork from the ground are much better. The plants should be as near the glass as possible, after calculating length enough to allow blooming stems not to come within touching distance. The lights must have a good slope or there will be drip, which is ruinous to the flowers, and most dangerous to the plants. The space between the ground level and the pots can be filled in with rough rubble with ashes over it, and a surface of coarse sand; this will tend to keep worms away. Do not be tempted to save bricks by leaving half brick spaces open. It looks light and almost pretty, and I did so once; but rats made a note of it, and took up their abode inside, and had nests, and before long I had a number of plants gnawed over out of sheer mischief, and some carried away, it might be for salad.

With regard to heating soil to destroy insect-life, I am not aware that it demolishes nutritive properties,

though that invigorating scent of fresh earth is changed. I should prefer what I may term roasting to a system of haking, as in an oven. But as roasting is for the nobler meat of joints, and the oven for the humbler hash and stew, so the only soil that conveniently can be roasted is the royal "sirloin" of the pasture sod. A long low fire of sticks is roofed in with sods, a row on each side, meeting at the top like the letter V inverted, with their grassy sides inward. As to ready mixed compost (hash or stew), I suppose its friable condition would smother any fire, so the only way to heat that would be by haking.

With the exception of a little for fresh sown seed, I have never myself heated any soil. Worms, whose mischief, beyond eating decayed substances, is purely mechanical, can be got rid of by waterings of clear lime-water. Other things I hunt or trap. For green-fly, thrips, or the ever abominable red-spider, a dipping in a solution of soft soap and tobacco-paper juice in rain-water. But I never had red-spider on Auriculas, and they must be under very bad treatment to contract that pest. The mixture is always "as before," and I make it to look like very weak tea with very "blue milk" in it.—*Burton-in-Lonsdale, Aug. 1st.*

ALLOTMENT GARDENING.

At the opening of the St. Ann's Amateur Floral and Horticultural Society's annual exhibition, held at Nottingham last week, Mr. Arnold Morley, M.P., said he had been very glad indeed, when asked to come down, to do so for more than one reason. First, because his visit afforded him an opportunity of seeing the Nottingham garden allotments in their prime, or, in other words, under the most favourable circumstances. It had been his pleasure to see them under these conditions that day. He had never seen them under circumstances so favourable as he had done, thanks to the kindness of their president. In the second place, he had special reason to say that it was satisfactory to find allotment gardens in such a condition, because on the night preceding in the House of Commons the Government introduced their Allotments Bill. As yet, he confessed that he had not seen the provisions of the measure, but he believed that it might be made to be one effective really for their purpose as holders of allotments. He was extremely glad to find that the Government had seen their way to confer the power, which had been so long advocated, upon corporations and other local authorities, enabling them to acquire land for purposes of allotments, in order that working men and labourers generally might have the chance of cultivating the land which, within a short period, might become their own.

He had been surprised to ascertain that in England and Wales there were some 386,000 garden allotments, varying from a quarter of an acre to much more than that size. But comparing that with the enormous number of the working population of the country, they might readily conclude that that number might beneficially be increased, and that, as a consequence, considerable advantage would accrue, not only to the working classes, but also to the community at large. Certainly he had himself spent a most pleasant couple of hours in visiting gardens in that vicinity. They knew more as to the system of allotment gardens than he; but he could not help feeling that the inducements which they held out for healthy recreation were of the greatest importance. If they employed hours day by day in their work, healthy recreation of the kind which garden cultivation afforded was to be encouraged. Change of occupation and change of thought were to be regarded as of benefit. For his own part he knew of no better change than that involved in going from the workshop and devoting one's attention to horticulture.

There were other benefits to be derived in the direction of the elevation of taste and the development of character. If they could only get into force some system that would enable them to allow a man to acquire land for his own cultivation, to increase the means of support of his family, a good work would have been accomplished. There would result a distinct encouragement of thrift. He understood that many of the Nottingham garden-holders materially added to their income by the cultivation of their gardens, turning what might be happy and comfortable homes already into still more happy and comfortable homes. He understood, too, that there was one garden-holder

who said he must in his time have walked between 8,000 and 9,000 miles between his garden and his house. Well, that was a pretty good walk, and he did not know which would do the gentlemen in question more good, the walking to or from his garden or the actual gardening in which he exerted himself.

FLOWERING TREES AND PLANTS.

JAPAN MEADOW-SWEET.—By the name *Spiraea japonica* it must not be understood that the popular and universally-cultivated plant known in gardens under that name is meant. That is an herbaceous plant, and more correctly designated *Astilbe japonica*. On the other hand, a beautiful shrub frequently grown as *S. callosa*, and sometimes as *S. Fortunei*, has more right to the name *S. japonica*, and is a native of China and Japan. The leaves are lanceolate and sharply serrated, while the rosy red flowers are borne in terminal umbels during the months of June and July. The species is exceedingly various, and there are several forms in cultivation.

SPIRÆA JAPONICA ALBA is one of the commonest and prettiest forms grown on account of its dwarfness, and for this reason it forms a very suitable miniature shrub for the rockery. The stems are perfectly shrubby, but seldom much exceed 1 ft. in height, forming a level top over which the pure white flowers are spread in great profusion. Its habit is very compact, and little or no pruning is required.

SWEET-SCENTED BRAMBLE.—For the front of a shrubbery, or for isolating in masses on a bank, a fine sub-tropical effect is produced by the palmately three to five-lobed leaves of *Rubus odoratus*, that attain grand proportions when the plant is cultivated so as to grow strongly. The stems attain a height of 3 ft. to 5 ft. if unmolested; but should fine foliage be the prime desirability, then grow the plants in rich soil, and cut the stems down annually, so as to induce the plants to throw up a few vigorous-growing stems annually. The flowers themselves are purplish rose, fragrant, and 2 ins. or more in diameter.

THE SALT-TREE.—This is a name popularly applied to *Halimodendron argenteum*, a native of many semi-arid places in Siberia and other parts of Asia, where the ground is naturally of a very saline character. In this country the plant is chiefly valuable from its pinnate silvery leaves, that effectually clothe the stems when in healthy condition. The long slender shoots assume a drooping habit, and for this reason it might be made to cover banks or similar places where no staking would be necessary. The Pea-shaped flowers are soft purple, and produced in axillary umbels.

OLEARIA HAASII.—After several years of cultivation this New Zealand Composite proves sufficiently hardy in our climate to warrant its being planted on a more extensive scale. In very severe winters it gets killed down when growing in the open; but planted against a wall a large hush is the result, beautifully clothed with leathery, evergreen, Olive-like leaves. A great profusion of white flower-heads in terminal umbels renders the shrub a very attractive object at this season.

MARSDENIA ERECTA.—Possibly this is the hardest of a genus, the members of which require, with this exception, stove or greenhouse treatment. A large plant on a wall at Kew has stood out several winters, and increases in size annually. The ample heart-shaped leaves are of a silvery grey or glaucous hue, giving the plant quite a distinct appearance from all its surrounding neighbours grown in the same way. The flowers are very abundantly produced in terminal umbels, and are very fragrant. Considerable interest is attached to this plant, because so nearly related to the *Stephanotis*. The tube of the corolla is, however, very short, and the plant, a native of South-east Europe and Asia Minor, has also been named *Cionura*.

ESCALLONIA MACRANTHA.—Independently of the flowers, the large, handsome, shining, evergreen leaves of this shrub entitle it to the foremost rank amongst beautiful and ornamental subjects. The flowers are large, deep red, and produced from the axils of the leaves from June to August. By some growers it is considered tender, but on the sea-coast in several places, particularly at Langland Bay in Glamorganshire, a fine hedge of it keeps flowering for months; even some northern counties can boast of tolerably good representatives of it without any protection whatever.

ROMAN HYACINTHS.

THE true Roman Hyacinth, and that of the botanists, is *Hyacinthus romanus*, a native of Greece, Rome, and other places in that region. It was figured in an early number of the *Botanical Magazine*, t. 939, under the name of *Scilla romana*, and has small pale blue flowers fading to white at the margins. It is a hardy bulbous plant, blooming in May, but of no service to cultivators for forcing or cut-flower purposes.

The Roman Hyacinths of the bulb merchants, and those intended to be noticed here, are varieties of *Hyacinthus præcox* and *H. albulus*, which are really forms of *H. orientalis*, the common garden Hyacinth. There are several forms grown under the collective name of Roman Hyacinths; but the best and earliest of all to force for decorative and cut-flower purposes is the white Roman, *H. orientalis albulus*. This is, probably, the smallest-flowered form; but it is the purest white and the most popular, because it can be had in flower in November, and from thence onwards till spring, according to the time the bulbs are potted and put into the forcing-pit. When pushed, or forced very early, the flowers are not so large as when allowed to come on naturally, either in pots, boxes, or the open ground; but that is no consideration when earliness is desired. The flowers of this, the earliest form, are single, and furnished with an ovate bract at the base of each little pedicel or flower-stalk, which may serve to distinguish it from any of the under-mentioned varieties.

Like the other kinds, it is as hardy as the common garden Hyacinth; but the best flowers are obtained from imported bulbs, as they are apt to deteriorate in our soil and climate. Now is the time to get them, as they are imported earlier than the large-flowering kinds. The best bulbs are obtained from the South of France and Italy, as might naturally be expected, seeing that *H. orientalis albulus* is a native of Southern France, and, consequently, bulbs exported from that quarter come from a home where soil and climate alike are most favourable to their perfect development. The season there is earlier than ours, therefore the bulbs are ripened naturally, and ready for forcing at a much earlier period than they could be in our climate.

The double white Italian comes next to the white Roman as regards earliness, and has more numerous pale rose-coloured flowers on a scape. They may even exhibit a pale creamy tint, but in no case are they of such purity as the last-mentioned kind—at least, after they have been in bloom for some time. The doubling is due to a number of segments produced in the interior of the ordinary segments of the flower, which are 1 in. in length. The pedicels or flower-stalks are subtended by small, rounded, hollow bracts, which, together with the doubling, will readily serve to distinguish it from other kinds. It is useful as supplying variety to those who are fond of such, but is not likely to displace the white Roman for early work.

The so-called White Italian has considerably larger flowers than either of the foregoing, and more numerous produced. The flowers are single, but not exactly white as the name would imply, but are rather

of a creamy hue somewhat tinted with pale rose, which is likely to be more pronounced with age and a thorough exposure to light. The bracts supporting each individual flower are linear and slender.

The blue Roman Hyacinth has smaller flowers than the two last-mentioned, but they are more decided or pronounced in tone than either of those forms, being of a deep purplish hue, and this is also communicated to the flower scapes, individualising them to such an extent as to render the variety desirable where coloured flowers are wanted early in the season to supply a want less easily procurable, in the shape of flowers that must be grown in this country all the year round. The bracts, in this case, are small and hollow, surrounding the base of the individual pedicels. The flowers are fragrant, as are all those of the varieties already mentioned, and not too powerful to be disagreeable to

added with advantage to the compost in which the different varieties of Roman Hyacinths are grown. Five-inch pots constitute a very suitable size in the latter case, and as the bulbs are small, and the leafage proportionate, three to five equal-sized bulbs (according to their relative strength) may be inserted in each. Drain the pots well, fill them loosely with soil, and press the requisite number of bulbs firmly in the compost, so that when finished they may be just beneath the surface. This is better than putting a certain quantity of soil into the pots, and settling it down before arranging the bulbs, and afterwards filling up to the desired height, as the new roots push into it more regularly without throwing themselves out of the pots. When finished, stand the pots on a bed of ashes behind a north wall, or where they will not be affected by drought, or subject to undue excitement. Cover

them over with several inches of ashes or cocoa-nut fibre, and allow them to stand there till new roots have formed, and penetrated the compost. As soon as this has happened, transfer them in batches of desired quantities to the forcing house.

Later batches need not be potted so early, and both the time and required quantities may be regulated by the season at which the bulbs are potted and the period they are brought into heat. Roman Hyacinths are not only earlier coming into flower, but they are greatly preferred by most people for cut-flower purposes and other kinds of decorative work, so that a quantity may be reserved till the main and late batches of the large-flowering kinds are potted.

Cultivators of these and other bulbs, who grow them in large quantities for market, insert them thickly in boxes, growing them on until the spikes are well advanced, and the flowers almost ready to expand. By this method the space that would otherwise be occupied with pots during the whole time is economised for something else, and the plants themselves can be better regulated or sorted into sizes. Disturbance of the roots at this period does not appreciably affect the size of the flowers, while the bulbs—early forced ones especially—are worthless for the same purpose a second time, unless they have been recuperated by growing them naturally a season or two previously; but seeing

that better imported bulbs can be bought cheaply, old ones are not worth the trouble of growing.

The practice of inverting a flower-pot over the advancing crowns is not a bad one, as the flower-spikes are thereby enabled to get more forward than the foliage, and afterwards maintain their supremacy. When fairly started into growth, let the plants in winter be near the glass, so as to get all the light possible.—B. B.

OROBUS LATHYROIDES.—This is a charming purple-blue flowered hardy perennial, blooming in early summer, that does well in any good garden soil. I made a note of it in Mr. Ware's collection at one of the meetings of the Royal Horticultural Society this year. It is said to come true from seed; but it is not at all difficult to increase it by means of division of the roots.—E. W.



OLEARIA HAASTII: A HARDY SHRUB.

those of refined tastes and having sensitive olfactory nerves.

CULTURE.

Where an early supply of forced flowers are required, no time should now be lost in securing the bulbs so that they may have proper time to develop roots after they are potted and before they are transferred to the forcing house. If put into the heat before this has taken place, the flowers develop very irregularly, and besides being small, cannot possibly be so good, or give the same satisfaction as when allowed to establish themselves gradually and naturally in the early stages.

Cultivators of the large-flowered varieties use a very rich compost, consisting of turfy or fibrous loam, and well-rotted manure in equal quantities, with an admixture of clean sharp river sand to keep the whole porous and open; but a quantity of leaf-soil may be

DUTCH BULB CULTURE.

IN an interesting *brochure*, entitled, "How I Came to Grow Bulbs," Mr. Robert Sydenham, Tenby Street, Birmingham, remarks:—"When I first went specially to Holland to see why the Dutchmen were able to grow bulbs better than they can be grown in any other country, I quite realised, when there, the secret of their success. The land is all perfectly flat; the soil is nothing but fine sand, such as is seen by the seaside, which is always about one even moisture, for about 18 ins. to 24 ins. under the surface is always water; consequently, however dry the weather is, the moisture drawn from the water always keeps the bulbs in one even state of dampness, as the soil is never dry 3 ins. under the surface. As a proof of this, I am told the Dutch can plant young Lettuce out in the hottest weather, and the plants will hardly feel the shift after the first night. Should heavy rain ever fall, it drains through the sand immediately. The Dutch always cover their bulb-beds over during the winter with straw or reeds, about 4 ins. thick, to keep out the frost, and they tell me the great secret of success is to keep the bulbs in an even temperature and away from the frost. The land where the bulbs are grown is *very very* richly manured with cow-manure every second or third year, the ground being covered with it 6 ins. or 8 ins. thick. There is such a demand for cow-manure in the bulb districts that it is brought from all parts of Holland, and constitutes quite a trade; in fact, many dairymen make nearly as much out of their cows' manure as they do out of their milk. Hyacinths are only grown in the same ground once in three years, then a crop of Tulips or Crocus, the third year often standing idle.

"Bad bulbs are to be seen in Holland as well as good ones, but the poor kinds are generally the one or two-year-old bulbs, it taking from four to six years for a Hyacinth to mature properly. This accounts for the high prices of some of the varieties which grow very slowly, and also for the lower prices of the doubtful bulbs usually sent to auctions, which are really only the waste or doubtful bulbs of the large growers, or the one and two-year-old bulbs of small growers, who cannot afford to wait till they are properly matured for their returns.

"I found that in Holland, as here, there are often failures in some of the best bulbs, which the growers cannot account for. To protect themselves as much as possible, they always plant the different varieties in several different fields, as often a disease called black or white 'spot' or rot will destroy the whole of one variety in a field, leaving all the others untouched, and the variety that is thus destroyed in one field may be perfectly healthy in the next. This, I find, is a source of great loss to the large growers, who have from thirty to fifty acres of bulbs. To protect themselves as much as possible, they keep one man expressly to walk up and down the different beds or gardens to look out for any bulbs that show any signs of disease, or any that have been planted in the wrong beds; in either case they are taken out and thrown away. Rats are great enemies of the bulb growers; When the straw or reeds are taken from the beds, the growers often find they have been at work during the winter, and have eaten nearly the whole of a good-sized bed of bulbs."

On the subject of Hyacinth cultivation by amateurs, Mr. Sydenham gives it as his opinion that where most fail in growing them is that they do not give them enough air. "Hyacinths are hardy, and the more air they get the better they will flower. It is quite sad to see how some amateurs, when they have potted Hyacinths or placed them in glasses, put them in a close room or on the mantelpiece, where they get suffocated, so to speak, early in life, and they seldom if ever recover. They ought rather to be put out of doors every favourable opportunity, or, better still, kept in a cold frame plunged in *cocoa-fibre* or *sand*, opening the frame in all weather except during frost. This may delay their flowering, but when they *do* flower they will be finer, and last twice as long in bloom. The end of March to the end of April, according to the season, is when the Dutch expect these bulbs to bloom. This season (1887) it was well into May before the best Hyacinths were seen to perfection. In England we want them from January onwards; but this can only be done by forcing, and the more they are forced the more necessity there is for air, otherwise the strength of the bulb goes into the green leaves, and makes them drawn and long, instead of into the spike of bloom."

FRUIT NOTES FROM PRESTON.

APRICOTS are not much grown in this district; but where they are, and the soil suits them, they are a very heavy crop. The same may be said of Plums, including Damsons. Peaches and Nectarines set so thick that as many as a score of fruit was counted on a shoot 12 ins. long of Bellegarde Peach. All the above are swelling well considering the dry weather. Morello Cherries are giving way in places, and as they are changing colour they drop; dessert Cherries were and are still good. Some varieties of Apples and Pears that seldom bear have a good crop on this year, as for instance, Golden Noble in this garden has not had such a crop on only once in seven years. Small fruit has been abundant, and the size has varied according to the nature of the soil and rainfall; heavy showers having fallen in places, whilst only a few drops in others, perhaps only a mile or two distant.

Black Currants, from the method of pruning them, suffered severely in most gardens from the gale on the 19th of May, when the ground was covered with the racemes of flowers and partially set fruit. Honeydew has troubled the trees in odd places. We have had the finest lot of Strawberries in these gardens this year that we ever had, both on old and young plants, but some of the former are all now dying for want of water. We have had good crops most years, but the weather has been invariably showery at picking time, and many of the best fruits have been lost. We have had no rain on them this season since they commenced to flower; what had fallen we secured from evaporation by a heavy mulching of short litter, which we were fortunate enough to possess. Mowings from the lawn are useless in this garden, and, I should say, in any other in a wet season, when it is advisable to protect the fruit from dirt, but litter answers for this as well as for mulching.

The set of fruit in all gardens was marvellous, and as many as 200 fruit were counted on one plant of Barnes' Prolific, a local variety much grown in the district; but many old plants of this and other sorts in light soils shrivelled up before scarcely a fruit was picked. Potatoes are few in number, and miserably small; there has been no rain to reach their roots since the tops appeared above the soil, nor, indeed, very little since they were planted, and that little was in the shape of snow.

Last night, July 26th, we had several hours of rain, but on lifting some plants of winter greens this morning, with the view of transplanting them, lumps of soil adhering to the roots were dust dry. Our "oldest inhabitant" informs me that he cannot recollect such a season for heat and drought in this part. —W. P. R.

ONIONS AT CHISWICK.

THERE is quite a large trial of these at Chiswick, and having made fair progress towards maturation, the visitor is enabled to gain some idea of their characters. How many there are of the White Spanish or Reading type, and what a striking family resemblance they bear to each other! Take the Banbury, the Banbury Improved, Main Crop, a very good selection; Veitch's Main Crop, and Improved Wroton, which is slightly gloular-shaped, but mainly flat. Sion Yellow Flat (Vilmorin) and Rousham Park Hero are all of the White Spanish type, the latter being the best, probably because the seeds were saved from bulbs highly cultivated, and therefore a good strain might be looked for. Here, at Chiswick, where they are all growing together, it would take something more than a human being to show the essential difference between them.

The old two-bladed Onion is here—an old kind formerly used as a pickling variety, but now superseded by other sorts. It produces two blades of top—hence its name, though as many as three can be counted upon some of them. Nutting's Golden Ball is a kind of gloular-shaped Danvers' Yellow. Improved Globe, from Messrs. Carter & Co., is a fine stock of the Brown Globe, or James's Keeping. Dark Red Mezieres is of the Blood-red type, and so is the Bright Red August. There is a bright red form of the Mezieres Onion also, and the name is derived from a village in France, where this particular form has been cultivated for a very long period. The Pear-shaped Early Yellow is a good form of the White Globe kind, with a yellow skin. Large Yellow Trebons is a very excellent Onion, and can be

had very fine when sown in the autumn with the Tripolis; but does not stand the English winters well.

The Large Brown St. Laurent (Vilmorin) is of the Brown Globe type. The Yellow Lescur is a good form of the Yellow Zittau, and White Round Early Hard Dutch a late form of the Nocera Onion.

After all, there are not many really distinct types of Onions. There is the White Spanish, or Reading, and the Brown Spanish, or Deptford, or Strasburgh. There are the Brown and White Globes, the Blood-red, Tripoli, and Silver-skinned, and thus we get a list of the leading types. All the others are more or less related to one of these.

CAMBRIDGE LODGE,
CAMBERWELL.

Go whenever one may there will always be something to interest or instruct in such an extensive collection of Orchids as that of Mr. R. J. Measures at Camberwell. The season is practically over for the bulk of the more popular Orchids anywhere; but where variety prevails, no month of the year is without its quota of interesting or useful things. The labour of the cultivator is not, however, at an end for the season, as that is incessant, and at no time must greater attention be paid to Orchids than when making their growth.

At a recent inspection we were highly pleased with the clean and healthy appearance of every plant, whether in flower or not, a matter which reflects great credit on the care and attention exercised on them by Mr. Simpkins, the gardener. In one house a stalwart-looking collection of Vandas in vigorous health occupied the centre stage. It may not be out of place or inappropriate to state that not only Vandas but *Ærides* are kept in this house, and the temperature is kept so cool and enjoyable compared with those sweltering hot and steamy houses in which such tropical Orchids are usually grown, that we were agreeably surprised with the results. The deep green foliage and stiff leathery leaves made under this treatment is very noticeable. The amount of growth for any one season is certainly not great, but the stems are short-jointed, and the leaves are retained for a great length of time.

Vanda *suavis* Leeana, flowering at the present time, shows a close rich spotting on the purest of white grounds, which latter is always a telling point in good varieties of *V. suavis*. The labellum is, also, much deeper in colour than usual. A fine form of *V. tricolor*, on the other hand, showed its rich spotting of brown on a yellow ground. A magnificent specimen of *V. Lowii* showed its spikes advancing from the axils of its great rigid deep green foliage. In this same cool temperature, a great quantity of *Ærides odoratum* were showing their spikes abundantly, and the foliage was healthy, rigid and clean. A very distinct species is *Æ. Leonii*, with broad expanded flowers, slightly spotted and tipped with purple on a white ground. The median and longitudinal area of the lip is deep purple. An altogether different type is represented by *Æ. Ballantineanum*, which has an erect or infolded lip, in the way of *Æ. odoratum*. Its yellow colour, however, marks it out as a distinct and fine thing; the sepals and petals are, on the contrary, soft purple and white. Two fine pieces of *Æ. Lawrenceanum* are not yet in flower. The well-known *Æ. Fieldingi* showed considerable vigour in a large-branched, many-flowered spike. A form introduced about twelve months ago, and named *Æ. Reedii*, has slender closely flowered spikes, similar to *Saccolabium guttatum*, and spotted with purple on a soft rose or white ground.

Some rare and excellent Orchids, grand specimens of cultivation, were to be seen in several other houses. *Chysis aurea*, usually considered a difficult species, was pushing up two or three flower-spikes from each pseudo-bulb; and *Dendrobium speciosum* Hillii showed considerable skill in cultivation, inasmuch as the pseudo-bulbs had attained the enormous length of 2 ft., with foliage of corresponding vigour. Two grand plants of the rare *Dendrobium Gibsoni* were noticeable for their size, and a fine specimen of *Miltonia ceculea* is believed to be unique. How very distinct is *Phaius bicolor*, with its long yellow tube and purple lamina, changing to white some time before the flower becomes spent and fades! The vigour of this plant is also very noticeable, and the leafless flower-stems contrast strongly with the leafy upright ones of its near relative, *Thunia Mar-*

shalliana, with white flowers and deep yellow, heavily-bearded throat. A batch of *Disa grandiflora* exhibited some peculiarity in the difference of individual vigour. The terminal flower is also the largest produced on any plant, and one form in particular was noticeable for the size and beautiful markings of the dorsal hooded sepal, with the principal veins lined with a rich blood-red colour. The lateral, spreading, and flat sepals were rich scarlet. No less noticeable was a large plant of *Epidendrum prismatocarpum*, carrying six erect spikes, with twelve to fifteen of its striking and showy flowers on each. The soft colour of the sepals and petals shows off the deep purple, thinly-arranged blotches admirably. A very distinct species is *Augræcum arcuatum*, having flowers several times as large as those of *A. falcatum*, with a curious curved spur, and altogether very distinct.

Although so late in the season, some of the last blooms of *Cattleya* and *Lælia* still linger. Those of *C. Mendelii* are flowers of superior merit as to size and colouring. The collection can also boast of a unique plant in the shape of *C. M. Alexandræ*, with pure white flowers, but not in bloom at present. Some fine forms of *C. Gaskelliana*—a valuable *Cattleya* from its habit of flowering in summer when most of the others are over—showed themselves up conspicuously in the absence of the more intensely-coloured but earlier-flowering kinds. *Lælia purpurata* is sometimes designated the king of Orchids, and certainly the appellation is a happy one. A variety with a large, richly-coloured lip, still flowering at the time of our visit, overlooked the others of its allies with a dignity quite its own. *L. bicolor* was showing for flower.

Several fine things amongst *Odontoglossums* and *Oncidiums* arrest the attention of visitors from their size, showy colours, or the profuse-flowering nature of some of the *Oncidiums*. *O. vexillarium* is a favourite with Mr. Measures, as also with growers of Orchids in general, and the great size and showiness of the flowers offer many inducements to cut them for indoor decoration. In this instance, 800 spikes of bloom had been cut the previous day. Another grand species now in season is *O. Schlieperianum*, similar in habit to *O. Insleyi*, though not flowering at the same time, with differently-formed and distinct-coloured flowers. The so-called white variety of *O. bictonense* is readily distinguishable from the type by its pale greenish yellow sepals and petals and pure white lip. In its habit, *Oncidium stelligerum* somewhat resembles *O. hastatum*; but the flowers are different, and produced in great profusion on panicles about 6 ft. long, contrasting strongly with the modest though pretty-flowered *O. Harrisoni*.

One of the most telling features here is the truly grand collection of *Cypripediums*, for which the place is noted, and which appear occasionally in great force at the metropolitan or other local shows. An idea of their numbers may be gathered from the fact, that 235 species or varieties have been collected together from all sources. The popularity of *Cypripediums* is well deserved, for no class of Orchids is more productive of a continuous supply of flowers throughout the year. The best of all hardy species, namely, *C. spectabile*, is well done at Cambridge Lodge, being grown in shallow pans in a cool house, and well supplied with water; a fountain even was occasionally allowed to play in the house, supplying and softening the atmosphere with its moisture. Several of the stems bore three flowers each.

The East Indian species, their hybrids, and others that are usually grown in very high temperatures, are located in warmer quarters than *C. spectabile*; but Mr. Measures believes in the lowest possible temperature in which a healthy growth can be made. Among valuable and well-known kinds flowering at present, *C. concolor* *Regnieri* (having broad spotted petals), *C. superciliale*, *C. Lowii*, *C. Veitchii*, and the beautiful form of it, named *Prince Demidoff*; *C. ciliolare*, *C. Stonei*, *C. porphyrum* and others show a wide range of form and colour, which no language can adequately describe, but must be seen to grasp an idea of their beauty, both in colour and form. *C. Lawrencianum* was there in full force, with its huge flowers and beautifully marbled foliage; but a variety named *C. L. magnificum* was conspicuous for the enormous size of the dorsal sepal, which, owing to its great development at the base, caused the petals to present the very singular appearance of being inserted in front, instead of at the base of that organ. *C. Dayanum superbum* is a distinct and beautiful form, with the

standard closely marked with green and white in alternate lines; the petals are rose coloured and the lip purple. A form that finds acceptance with many, is *C. Swauianum*, with rose and purple petals, a large and deep purple labellum and a handsome standard veined or lined with purple and green at the base, and white at the margin and apex. We also noted a very dark and handsome form of *C. calurum*, with two lateral branches on a strong flowering spike. A hybrid between *C. Lawrencianum* and *C. barbatum*, named *C. alnum*, has a standard similar in appearance to that characterising both species, but intermediate in size, and the petals have the submarginal blotches generally so conspicuous in *C. Lawrencianum*.

PHLOX DRUMMONDI.

I THINK the finest lot of *Phlox Drummondii* I ever saw is in the garden of Samuel Barlow, Esq., at Stakehill House, Manchester. The plants are in a bed with boarded sides, raised a little above the ground level, and the soil is rich—an indispensable requirement if anyone would have fine flowers. At Stakehill there is a generous growth, and large bold trusses of fine and varied flowers. When a bed of *Phlox Drummondii* is well done as this one is, the *Verbena* is put into the shade completely. At Stakehill there is a great variety of colours, but before all the varieties must be put the grand bright vermilion-crimson *Splendens grandiflora*, with its striking white centre. There are crimson, scarlet and purple self flowers of splendid quality; and there are pale purple, pink and mauve shades, with bold white centres. There are pretty marbled varieties also, and a pure white self form is one of the best I have ever seen.

But, as I have stated before, all this is the result of good culture. I am certain many persons grow their *Phlox Drummondii* in too poor a soil, with the result that they have starved plants and poor flowers, and they aggravate the defect by permitting the plants to mature their seeds. Now, Mr. Pomroy, Mr. Barlow's gardener, has proceeded upon a different principle. He not only gives the plants something good to grow in, but he has taken care not to plant them too close together, so as not to injure them. It is true, that when they grow vigorously the branches run one into the other, but that is the way to get a well-furnished bed, and this is just what one sees at Stakehill. I am sure that there is, among amateurs especially, great ignorance as to the value of *Phlox Drummondii* as bedding plants, and if they were once to begin to grow them, and grow them well, they would not soon abandon their culture during the summer.—*R. D.*

GARDENING MISCELLANY.

New Seedling Pea.—A beautiful sample of a new, and as yet unnamed seedling Pea comes to us from Messrs. Hurst & Son, 152, Houndsditch, London. It is described as a second early, something in the way of *Duke of Albany*, but rather earlier and a heavier cropper, growing to a height of 5 ft. The pods sent us measured about $4\frac{1}{2}$ ins. in length, quite straight, and well filled throughout with an average of nine large sweet peas in each. The latter, when perfectly mature, are deep green and wrinkled. As an exhibition variety it will, no doubt, take a leading place, owing to the fine appearance of the pods, their well-filled character, and the first-class quality of the peas themselves.

***Lilium japonicum Colchesteri*.**—The Japanese Lily is a magnificent thing under whatever form it may be grown, but some of the varieties of it now in cultivation far surpass the type. In this strain must we speak of the form under notice, a fine spike of which is sent us by Messrs. Barr & Son from their grounds at Tooting, where it is now flowering freely. In shape it very much resembles the type; but the flowers are larger, deliciously scented, and the stems are closely furnished with leathery, oblanceolate, deep green leaves. The number of leaves on the typical form is stated to range from twelve to twenty, but the stem, or that part of it sent us, and which was only 18 ins. in length, bore fifty leaves in the most robust and healthy-looking condition. The odour of the flowers seems to increase considerably towards night, and the spike sent us bore two flowers remarkable for their size and handsome appearance.

A Very Dwarf Pigmy Aster.—In the trial of these at Chiswick, this stands out as a very dwarf early type that is well adapted for pot culture, planting as an edging to taller-growing varieties, or filling small beds. Flower gardeners have oftentimes great difficulty in hitting upon suitable subjects for small beds, and this Aster supplies a useful type for the purpose. They are of various colours, and fully double, while the plant forms a dense little tuft that is replete with bloom, which when properly expanded assume quite a ball-like appearance. But good strains of this very dwarf Aster are not infrequent, and it is very desirable on many grounds.—*R. D.*

A Monster Double White Camellia.—In the gardens of G. F. Lyndon, Esq., The Henburys, Mosely, Birmingham, there is a very fine double white Camellia, 17 ft. high and 17 ft. through, in the best of health, and a well-furnished symmetrical specimen, from which 4,000 flowers were taken this year. The tree is in a greenhouse devoted almost entirely to it, and is growing in a large square box, 7 ft. square and 3 ft. deep, and stands on a revolving axis of iron-work, so that the plant can be turned round at pleasure. Mr. Bluck, the gardener, states that he keeps the tree liberally syringed and well supplied with water, using liquid manure also. For some years this Camellia has borne a local reputation for its size and the great number of flowers annually produced. It would be interesting to know if there are many other Camellias under glass, and growing in England, which will compare with this plant in size and form. Some of your readers may be able to give some information.—*D.*

The Potato Crop.—I was very much surprised, on reading your leading article in the last number, to hear of the deplorable condition of the Potato crop. I scarcely think it can be general, for I have never had a better crop of early ones than this season, and the late varieties are looking equally well. Certainly the tubers are not so large as usual, but the quantity—as many as thirty useful Potatoes at a root—and the quality are excellent. Our soil is rather heavy, so that no doubt we stand the hot dry weather much better than they do on light sandy and gravelly soils.—*J. Wallis, Keele Hall Gardens, Newcastle, August 3rd.*

***Plumbago capensis*.**—We have one of these plants now in full flower, with about 500 heads of bloom upon it, and a beautiful object it is. It is planted in a box in an intermediate house, and reaches to the top of the structure, about 10 ft. high, trained up two posts. This subject does not seem to do well in pots; but when planted out where its roots can ramble in space, it grows luxuriantly. Although the plant here is in a box, its roots have penetrated through the bottom into the floor beneath, to ramble where they will. No special treatment is given to it, the young shoots being simply cut back to the old wood every winter, and each spring it sends forth an abundance of young wood, which flowers very freely. There are, I know, many plants of greater dimensions; but ours would be larger if we could afford them room, and I only wish to show how this beautiful shrub can be grown and do well. It is, like many good old-fashioned things, very much neglected.—*Alfred Gault, The Gardens, Copped Hall, Totteridge, Herts.*

House's Victory Strawberry.—When shown at the Crystal Palace Rose show this Strawberry was seen to great disadvantage. Plants of it in fruit were sent from the Eastgate Nurseries, Peterborough, with the result that the fruit, though lying on moss, had all the flavour taken out of them. Mr. House claims it to be a cross between British Queen and President, and it partakes of the character of both; it is early, very prolific, and an excellent forcer. Mr. House had some fruit of it at the Manchester Rose show, and I had an opportunity of tasting it again, with the result that I found it delicious. It resembles British Queen in the fruit, and President in the habit of the plant. Mr. House faucies it greatly, and believes that it will come to be a leading forcing kind; but time will prove its value, and a really good Strawberry is certain to be recognised in time.—*R. D.*

***Chrysanthemum segetum grandiflorum*.**—This is a fine selection from the ordinary type; and having sent Mr. Percival a pinch of seed, he informs me that he considers it a great acquisition, the flowers being fully half as large again as those of the wild form, and it is the admiration of all who see it. It is invaluable for cutting from.—*R. D.*

Bignonia radicans.—A grand truss of this hardy, but by no means too common climber comes to hand from Mr. McLean, Vinter's Park, near Maidstone. It was taken from a specimen over fifty years old—a fact which speaks for itself as to the safety of planting it in the open air. Why it should so seldom appear adorning the walls of gardens, in the southern counties at least, is a mystery, for the flowers must be described as both large and richly coloured. The name, Trumpet Flower, describes the shape of the corolla, which measures $3\frac{1}{2}$ ins. long, and gradually widens towards the five-lobed, rich scarlet lamina; externally the tube is a mixture of orange and scarlet, but internally these colours take the form of alternating and regularly defined lines; the calyx is also of a deep brownish or bronzy scarlet colour; the stems cling to the wall naturally by means of the roots they emit, and grow to a height of 20 ft. to 30 ft. This fine climber was originally introduced in 1640 from North America.

Seedling Fuchsias.—Mr. G. Fry, of Lewisham, sends us a sample of some seedling Fuchsias, of which we must speak in very complimentary terms. He is an old worker in this field, and evidently a silent or quiet one, but of whose work we should like to hear a great deal more, in view of the splendid samples sent. Of the floriferous nature of his seedlings we cannot speak, but the foliage and flowers sent speak volumes for themselves. A single variety named Fiery Cross has a scarlet tube, with sepals of the same colour, loosely reflexed, and of a strikingly thick leathery texture. The leaves we must compare to that of a Lime tree for size, but two or three times as thick, with a leathery texture. The petals are violet-red, suffused with scarlet. A variety named George Fry is remarkable for the size and beauty of its flowers, having scarlet, closely revolute sepals of great texture, and broad, erect, convolute petals of similar good substance, which are of a violet colour, suffused and veined with scarlet at the base. The foliage is similar in texture to that of Fiery Cross, but smaller. Beauty of the West is a double flower of great size, with white petals, beautifully veined with rose, and the scarlet sepals are short, broad, ovate, and spreading. The foliage is finely veined with crimson. Many of his seedlings come into flower when only 8 ins. to 12 ins. high.

Lilium auratum polyphyllum.—The golden-rayed Japan Lily is a grand flower and very popular, whatever form may be grown, but that under notice is one of the most distinct and best. Some fine specimens, from 5 ft. to 6 ft. in height, at Devonhurst, Chiswick, have afforded an example of what the English climate is capable of effecting, notwithstanding the difficulties that some have experienced with this noble Lily. They are grown in a bed amongst Rhododendrons, and sheltered on the eastern side by evergreen Oaks, Firs, and other trees; but comparatively open to the south and north, and exposed to heavy gales of wind that often sweep through between the house and trees with great violence. Last year there were only two flowering bulbs, which have this year produced five stems, two of them each bearing eleven flowers, and three others carrying nine, six, and two respectively, or, in the aggregate, thirty-nine flowers. The latter are of a much purer white than the type, with a pale yellow median band, and yellow instead of purple spots. Some of the stems of the ordinary form, under the same conditions, carry from twelve to twenty-two flowers each.

Alonsoa linearis.—The flowers of this distinct species are paler in colour than those of the better known *A. incisifolia*, and, judging from its infrequency in collections, would seem to be less popular than the latter plant, but a well-grown plant would, no doubt, be a beautiful object, and well adapted for conservatory work, where its slender, linear, entire, or distinctly toothletted leaves would tell in its favour among a mixed collection of that description. Like the rest of its congeners, it delights in plenty of light and a free circulation of air, which keeps the plants close and bushy. Given these conditions, there would be no difficulty in keeping this plant well furnished with foliage, as it is naturally a very leafy plant, producing little tufts of leaves very abundantly in the axils of the primary leaves. The flowers are pale orange scarlet, with darker spots at the base. Mr. Baird grows it in his greenhouse at Homefield, Ealing.

Pachira insignis.—Well might this species be entitled to its specific name, for it is indeed a remarkable plant from the huge size of its flowers, the petals of which individually measure 1 ft. in length. When they first expand they are pale rose or white. The great fault of this, as of many other large flowers, is their short duration after they become fully expanded. This is compensated for, in a measure, by the succession of flowers produced on large specimens, the truth of which is exemplified by a large specimen at Pendell Court, Bletchingley, under the charge of Mr. F. Ross. The tree in question (for such is its stature) is planted out in a large conservatory, where the flowers are conspicuous as much by their numerous bundles of stamens, 9 ins. in length, and red style as by the petals themselves. The beautiful leaves are of great size and digitate. This species is a native of the West Indies, requiring stove temperature and a tall house in which to grow and flower it, although small plants may be grown for their foliage. The species are generally known in gardens under the name of *Carolinea*.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—Where Dendrobies are briskly cultivated, some of the *D. Wardianum*, *D. crassinodes*, and others will be finishing up their growths, and should, when fully completed up to this point, be placed in a light, airy, and cool house to ripen. In most gardens, one or other of the green-houses or fruit-houses readily offers itself for ripening off Dendrobies and other Orchids requiring a distinct resting season, and in all cases it is better to look out for such a structure, where as many plants as possible requiring a dry resting season may be placed together. The desired crop of good flowers depends as much on the treatment during the dormant as during the growing stage. At the same time, I have always found it necessary to look over the resting Dendrobies and other Orchids occasionally, and give them sufficient water to prevent shrivelling. Dendrobies, *Calanthes*, and other things which appear backward should be pushed on in order to complete their growths as early as possible.

Odontoglossum vexillarium may now be re-potted where requisite, and in the intermediate house sundry *Zygopetalums*, *Maxillarias*, *Anguloas*, &c., will be found, which, having passed out of bloom and sufficiently started into new growth, are now ready for re-potting.

The Mexican *Lælias*, it should be borne in mind, require an abundance of light and a fair amount of air and water at this season. *L. anceps* and most of the others like warmth when growing, but make thin weak growths if kept close. For the rest it may be said that the houses cannot well be kept too moist by damping the stages and underneath them, and the back walls. Shading should also be carefully looked after, for now we may expect occasional cloudy weather, after which the sun comes out with great strength, and is likely to cause damage quickly if the blinds be not readily interposed.

THE TEMPERATURES FOR THE MONTH OF AUGUST should be:—East Indian or warm house, 75° to 85° by day, 70° at night; *Cattleya* or intermediate house, 70° to 75° by day, 65° at night; *Odontoglossum* or cool house, 60° to 70° by day, 55° at night.—*James O'Brien*.

Dendrobium Seidelianum.—This is a fresh name attached by Professor Reichenbach to the well-known *D. pulchellum* (Roxburgh), which is quite a distinct thing from the old garden plant, as may be seen by Roxburgh's drawings kept at Kew.—*J. O'B.*

Cattleya Gaskelliana.—A lovely series of these has just bloomed with the Hon. and Rev. J. T. Boscawen, at Lamorran, Probus, Cornwall. In size and colouring some of the forms were equal to the best *C. labiata* Warneri we have seen. One is a magnificent thing, with large blush or pearly white flowers, the lip being marked, but not heavily, with bright purple. This might well be called the Lamorran variety.

A Freak in Odontoglossum Schlieperianum.—Amongst a batch of finely-flowered specimens of this species at Sudbury House, Hammersmith, is one where, for some reason or other, one pseudo-bulb has been developed close on the top of another without any intermediate rhizome or similar structure. From the base of the lower one arises a peduncle or flower-stalk bearing four flowers; and from the base of the upper

pseudo-bulb two scapes, each carrying four flowers, have been produced. Further, from between the two latter, an offset, in the form of a large bud, already shows itself conspicuously, so that, in the absence of any untoward accident, a colony of pseudo-bulbs on the top of the primary one will be the result. On another plant one scape carries about a dozen flowers, equal in number to those borne by the three scapes on the above-mentioned plant.

Acropera Loddigesii.—Although this was the first introduced species of *Acropera*, it is not particularly common at the present time, but was figured many years ago in the *Botanical Magazine*, t. 3563, and was introduced from Mexico. Several plants of different sizes are now flowering at Style Hall, Gunnersbury, having been got into a healthy and more vigorous condition by Mr. Beaton, who found them in a very neglected state. One plant bears from twenty to thirty spikes, supporting in the aggregate over 100 flowers. The latter are neither large nor strikingly handsome, as those who are acquainted with the species well know, but they are singularly quaint, enrious, and even pretty from the curved condition of the pedicel and ovary, and from the strange formation of the flowers. The sepals are brownish yellow, the upper one hooded, enclosing both petals and column. To the base of the latter is fixed the singularly saccate labellum, heavily spotted brown and yellow, and from the elastic and mobile state of the claw, the whole lip resembles a short stout grub or caterpillar of some sort; and when the flowers are moved or shaken in any way, the likeness is greatly increased. The species of *Acropera* are now generally relegated to *Gongora*, from which they differ merely by having broader sepals, and the truncate petals ending in two short divaricate bristle-like appendages.

Phalænopsis tetraspis.—In habit and general appearance, when out of flower, this Himalayan species bears a close resemblance to *P. sumatrana*, but differs greatly in the colour of the flowers, which are wholly of a waxy white, with the exception of a small yellow blotch on each of the small lateral lobes of the lip. The convex or ridged apical lobes of the latter, is furnished with a cushion of hairs, as densely arranged as those of a fine hat brush. The sepals and petals are oblong, the lateral sepals being the broadest. These chaste-looking flowers are freely produced on arching or drooping panicles, and are valuable, not only on account of their distinct colour, but their fragrance. The oblong or obovate leathery leaves are of a fine green appearance. It is now flowering, or did recently, at Sudbury House, Hammersmith.

Oncidium pumilum.—Seldom has one the pleasure of inspecting this elegant and pretty little species, for it is rare in cultivation. It came originally from Brazil, where it grows on the stems of the Calabash Tree—*Crescentia*. A few leathery oblong leaves without any pseudo-bulb, and a short panicle of closely set yellow flowers, spotted with brown, is all that we see of it; but it is nevertheless a gem amongst its kind. The structure of the flower is so unlike the typical form of *Oncidium*, or, indeed, any other species, that Reichenbach has said if the genus were to be dismembered, this is the first that ought to be separated from it. Lindley first described it, and classed it in his group *Integrilabia*; but anyone taking for granted that the lip was entire on that account would be very much deceived, and find great difficulty in hunting it up for the name. On the other hand, that organ is almost equally three-lobed, although these are short and blunt. The column is also furnished with very curious hooked wings. The specimens we had were grown by Mr. J. Baird, at Homefield, Ealing.

Angræcum falcatum.—The old-fashioned Orchid of this name still maintains a place in many gardens, owing probably to its small size, the delicious fragrance of its pure white flowers, and the small accommodation it requires for its perfect development. The spurs are out of all proportion to the size of the flowers, or even the plant, although at the same time they are small compared with those of *A. caudatum* and *A. sesquipedale*. A small piece covered with a profusion of flowers has lasted for a month in perfection at Homefield, Ealing, where Mr. Baird grows it in a moderately warm stove temperature. Its chief requirements are a small bit of sphagnum, peat and crocks, and to be grown in a basket well exposed to the light.

Lycaste leucantha.—This pretty Orchid is now in flower with Major Mason, at The Firs, Warwick; the sepals are a pretty shade of pale green, with the lip and petals pure white. It is a profuse flowerer and by no means common. The fine *Odontoglossum Schlieperianum*, bearing several strong spikes, and sundry other good things, are in bloom in the Orchid houses at The Firs.

Pleoine humilis Proliferated.—With reference to the remarks on this subject (p. 764) I may say that such proliferation is the normal habit of this plant. Growing on the Indian Alps at an altitude of 7,000 to 8,000 ft., principally on the bare trunks of trees, and but sparsely sheltered by small mosses growing thereon, it is probable that the plant would frequently perish altogether after flowering, and before seeds could be ripened. The aggregation of bulbils at the apex of many of the pseudo-bulbs, however, renders the standing of the plant secure, no matter what becomes of the old stock, as even in dying they nourish the small fry attached to them, and carry them on till the favourable season for growth arrives.—*J. O'B.*

HORTICULTURAL SOCIETIES.

Liverpool Horticultural Association.—The eighth summer exhibition of this society was held in Sefton Park on Saturday and Monday last, when the number of exhibitors was in excess of any previous occasion, and the aggregate display surpassed all previous efforts. The arrangements were carried out somewhat on the lines of former occasions, the large marquee on the left being utilised as a plant tent, the exhibits being arranged on the green turf. The lower tent, some 450 ft. in length, contained groups of various sizes arranged down the centre, with the cut flowers, fruit, vegetables, and dwarf-growing plants staged on tables round the sides; the result was a magnificent and rich display, in which all sections of horticulture were represented.

Specimen plants were decidedly more numerous than usual; but though, perhaps, we have seen larger examples staged here, certainly they have never been in better health or more finely finished. Mr. Roberts, gardener to A. Nicholson, Esq., Highland Hall, Staffordshire, is to be congratulated on his achievement in taking the premier position in the most important class; and we are pleased to note that there were some other exhibitors from a distance who made their mark.

For twelve stove and greenhouse plants, six foliage and six flowering, Mr. C. Roberts was first with a magnificent collection, containing *Kentia australis*, *Cycas circinalis*, 12 ft. high, and of an equal diameter; *Thrinax elegans*, *Croton angustifolius*, C. Baron James de Rothschild, *Cycas revoluta*, a fine *Erica jasminiflora alba*, *Dipladenia floribunda*, well flowered; *Ixora Amboynensis*, *Clerodendron Balfourianum*, 3 ft. 6 ins. in diameter; *Ixora Williamsi*, 4 ft. through, with large trusses; and *Dipladenia splendens*, beautifully fresh. Mr. James Cypher, Cheltenham, was a good second with grand specimens of *Kentia australis*, *Latania borbonica*, *Kentia Fosteriana*, very good; *Bougainvillea glabra*, well flowered; *Statice profusa*, fine colour; *Ixora salicifolia*, and *Erica Irbyana*. W. H. Watts, Esq., Wavertree (gardener, Mr. A. R. Cox), was third with a good collection. In the amateurs' class for eight stove and greenhouse plants the highest award was gained by T. S. Timmis, Esq., Allerton (gardener, Mr. B. Cromwell), with *Croton Disraeli*, to which was awarded a Cultural Certificate; *Dicksonia antarctica*, fine *Ixora Dixiana*, *Allamanda Hendersoni*, A. Wardleana, *Statice profusa*, &c. Bernard Hall, Esq., Wavertree (gardener, Mr. A. Crosbie), was a good second, and F. H. Gossage, Esq. (gardener, Mr. J. Jellicoe), took the remaining prize.

For six stove and greenhouse plants in bloom, Mr. J. Cypher was first, Mr. C. Roberts second, and Mr. A. Crosbie third; and in another class for four plants, Mr. A. R. Cox was a good first, Mr. J. Jellicoe and Mr. B. Cromwell following in the order named. For a single specimen in flower, Mr. C. Roberts was to the front with a good *Dipladenia amabilis*; G. L. Baker, Esq. (gardener, Mr. Lewis), Aigburth, was second with *Eucharis amazonica*; and the third went to an Orchid, shown by M. Barnsley, Esq. (gardener, Mr. P. Barker).

For one greenhouse plant in flower, Mr. C. Evans was first with *Bouvardia Alfred Neuner*, which was 3 ft. 6 ins. in diameter and well flowered. For eight fine foliage plants, Mr. J. Jellicoe was first, having in his group a grand example of *Pritchardia pacifica*, which was 11 ft. in diameter; and Mr. J. Cypher was second.

In the amateurs' class for six plants, Mr. B. Cromwell took the lead, followed by Mr. A. R. Cox and John Brancker, Esq. (gardener, Mr. T. Foster), Wavertree. For three Palms, Mr. A. Crosbie, Mr. J. Jones, and Mr. W. Bustard were successful in the order named; and for a single Palm, Mr. C. Roberts came in first. The class for six table plants brought forth a number of competitors, and the prizes were awarded to Col. the Hon. W. P. Talbot (gardener, Mr. C. J. Waite), Esher, Surrey; Mr. J. Jellicoe; and Mrs. Watts (gardener, Mr. T. Agnew), Grassendale. J. Cunningham, Esq. (gardener, Mr. T. Gowan), Mossley Hill, came to the front with eight exotic Ferns, having fine examples of *Goniophlebium subauriculatum*, *Gymnogramma argyrophylla*, &c.; and Mr. A. R. Cox was a close second. In the amateurs' class for four, the prize winners were Mr. B. Cromwell (with fresh bright stuff), Mr. J. Hurst, and H. Mac Iver, Esq. (gardener, Mr. J. Hughes), Allerton.

Orchids were very good, the best four coming from Mr. J. Cypher, and included *Saccolabium Blumei*, with three spikes; *Cattleya Gaskelliana*, with twenty flowers; *Epidendrum vitellinum*, with twenty-seven spikes; and *Cypripedium barbatum superbum*, with sixteen flowers. Henry Tate, Esq. (gardener, Mr. J. Edwards) and Mr. Moss followed. For a single exotic Orchid in bloom, Mr. Jellicoe was first with a good *Cattleya Gaskelliana*, bearing eighteen flowers. For three greenhouse *Ericas* in bloom, Mr. J. Cypher was first, and Mr. A. R. Cox second. For six *Fuchsias*, Mr. J. Hughes was first with immense pyramids some 6 ft. high and 4 ft. through, and the same exhibitor also had the best three, while Mr. T. Gowan and Mr. T. Jones were first and second for six single zonal *Pelargoniums*, distinct. For the threes, Mr. E. Bridge, Hyton; A. J. Steel, Esq. (gardener, Mr. D. McKellar), Aigburth; and Mr. W. Bustard, were the successful exhibitors. For four double *Pelargoniums*, distinct, Mr. T. Gowan was first; and for four Ivy-leaved, Mrs. Bateson (gardener, Mr. J. Harrison), Allerton, was the winner. For six *Begonias*, distinct, Messrs. A. R. Cox, J. Hunt and A. Crosbie were the winners, with meritorious plants. For the threes, Mr. Cox had fine examples with gigantic flowers and well grown. For the single, Mr. A. R. Cox was again successful. Mr. J. Hughes won with six *Coleus*, well-coloured plants. *Gloxinias* were splendidly shown, the prizes going in the following order:—Mrs. White (gardener, Mr. R. Johnstone), Wavertree, and Mr. T. Gowan. A special prize, given by Messrs. W. Cotterell & Co., for eight distinct *Dracaenas*, grown in 6-in. pots, was won by John Bruce, Esq. (gardener, Mr. John Shaw), Wadhurst, Sussex, with a good collection. The special prize (a cup) for six pots of *Tomatos*, distinct, was won by Sir T. Earle (gardener, Mr. J. Stoney) with a grand fruited lot.

Miscellaneous groups, arranged for effect, always excite a large amount of interest and were very satisfactory on this occasion. In the open class, 250 sq. ft., the first prize was easily won by Messrs. R. P. Ker & Son, with a magnificent arrangement on a ground-work of *Adiantum cuneatum*, margined with *Dactylis glomerata variegata*, &c., from which richly-coloured *Crotons*, well-flowered *Gladiolus* (The Bride) and Palms stood well out and formed a beautiful light design, most creditable to the exhibitors and their manager, Mr. Ranger. In the amateur class for 150 sq. ft., three fine groups were staged, Mr. J. Jellicoe and Mr. A. R. Cox running very closely with similar groups, the first-named taking the premier position with the lightest arrangement; Mr. T. Jones was a good third.

Cut flowers: The cooler weather and agreeable showers have made a greet improvement in the queen of flowers, with the result that a grand collection was staged. For forty-eight *Roses*, distinct, single trusses, Messrs. J. Cocker & Sons, Aberdeen, were first with a fine lot; T. B. Hall, Esq. (gardener, Mr. Gitiens), a good second; and Messrs. J. Dickson & Sons, Chester, third. For twelve distinct single trusses, Teas, Hybrid Teas or Noisettes, E. Claxton, Esq., Allerton, was first with fresh well-coloured blooms; Messrs. J. Cocker & Sons, second; and T. B. Hall, Esq., third. For twenty-

four distinct, amateurs, T. B. Hall, Esq., was first; S. P. Budd, Esq., Bath, second; A. Tate, Esq. (gardener, Mr. H. Pewtress), Woolton, third. Mr. Hall was again first for twelve varieties. For twelve, one dark variety, Messrs. J. Cocker & Sons, Messrs. Harkness & Sons, Bedale, and Messrs. J. Dickson & Sons took the awards in the order named. For twelve of one light variety, the prizes were awarded to Messrs. J. Cocker & Sons (for *Merveille de Lyon*), Messrs. Harkness & Sons and Messrs. R. Mack & Sons, Catterick Bridge.

Mr. B. Cromwell staged the best eighteen bunches of stove and greenhouse cut flowers, very choice examples; and for twelve varieties, amateurs, S. Baerlein, Esq. (gardener, Mr. G. Williams), Didsbury, had a grand lot.

Hardy herbaceous cut flowers were represented, perhaps, more largely than ever; the prize winners for twenty-four being Mr. G. Eaton and Mr. W. Bustard.

Fruit was shown in far larger quantities than usual, and the quality was fully up to the Liverpool standard. Grapes were very numerous, and the competition in most classes very keen. In the class for eight dishes of fruit, Mr. Goodacre, Elvaston Castle, Derby, was first; Mr. J. Edmonds, Bestwood, Notts, second; and the Hon. Mrs. Maxwell third. For six kinds, amateurs, Pines excluded, Mr. J. Edmonds, Bestwood, was first, followed by Mr. J. Stoney, and Mr. T. Elsworthy, Court Hey. For four distinct varieties of Grapes, two black and two white, R. Pilkington, Esq. (gardener, Mr. J. Middleton), St. Helen's, was first, having good Muscat of Alexandria, Madresfield Court, and Black Hamburgh. Mr. J. H. Goodacre and Lieut.-Col. W. W. Pilkington (gardener, Mr. Stevenson), Prescott, were second and third. For two bunches of Black Hamburgh, G. Raynes, Esq. (gardener, Mr. J. Barker), Rock Ferry, was first of fourteen competitors, with noble bunches well colored. W. Cunningham, Esq. (gardener, Mr. W. Wilson), Gateacre, was a close second. Amongst nine competitors, Mr. Middleton was first for two bunches of Muscat of Alexandria, with very fine berries. For two bunches of black (Black Hamburgh excluded), Mr. G. Raynes was first with splendid bunches of Madresfield Court of three pounds each. For two bunches of white, Mr. J. Bennett was first with large bunches of Duke of Buccleuch. Peaches, Nectarines, Melons, Strawberries, and Cherries were well represented in their respective classes, and for six dishes of hardy fruits (Peaches, Plums, Apricots, and Nectarines excluded), Col. Wiugfield (gardener, Mr. J. Lambert), Onslow Hall, Shrewsbury, secured the leading award, Mr. Goodacre being second, and Mr. L. T. Turner, third.

Vegetables: For twelve distinct kinds, Col. The Hon. W. P. Talbot (gardener, Mr. C. J. Waite), Esher, Surrey, was first; Mr. J. Lambert, Onslow, a good second; and Mr. E. Sheppard, third. In a similar class, open to exhibitors within ten miles of Liverpool, Mr. Stoney was first with a capital selection; Messrs. A. R. Cox and J. Rainford taking the other awards.

Miscellaneous Exhibits: Certificates of Merit were awarded to the Liverpool Horticultural Co. (John Cowan) for an exceptionally fine group of Tea Roses, which was much admired; a group of stove and greenhouse plants (foliage and flowering), which was also very attractive; bouquets and wreaths. To Mr. Thos. Foster for a seedling *Athyrium*; to Mr. Jas. Tynan for a collection of cut annual *Chrysanthemums*; to Messrs. R. P. Ker & Son for stove and greenhouse plants and pot Vines; to Mr. John Webster, Wavertree, for garden frames; to Messrs. Frauklin & Hocking for a small heating apparatus; to Mr. J. Palmer for a Jubilee post-seat; to Messrs. Wade & Co. for a small greenhouse; and to Messrs. R. P. Ker & Son for the following new plants: *Aristolochia elegans*, *Croton Sunrise*, C. Gordoni, *Phyllanthus Chantrieri*, *Selaginella Emiliana*, S. amœna, *Davallia tenuifolia Veitchiana*, *Nephrolepis rufescens*, and *Iris pinnatifolia*. To Messrs. Cannell & Sons, Swanley, for a collection of cut *Pelargoniums*, *Verbenas*, *Begonias*, &c., also for *Pelargonium Goldfinder*; to Messrs. James Dickson & Sons for a collection of cut herbaceous flowers, also for new terra-cotta coloured *Carnation Gravetye Gem*; and to Mr. J. Gose for hardy Fern *Athyrium Filix-fœmina Holderianum*. Silver Medals were awarded to Messrs. F. & J. Mee, for their patent double-acting wrought-iron saddle boiler, with water-way front and back; to Mr. J. Brainham for wire-work, boilers, &c.; to Messrs. Bennett Bros. for boilers, wire-work, garden seats, &c. Mr. A. R. Cox was awarded a Cultural Certificate for *Ixora coccinea*.

The Royal Southampton Horticultural.

—The twenty-fifth annual summer show of this society was held in the society's grounds, Westwood Park, on Saturday, July 30th and Monday, August 1st. The weather on both days proved very fine, but there was a great falling off in the number of visitors on the first day, which, however, was compensated for on the Monday, and we trust the society will meet the reward that for so many years it has struggled to obtain. The arrangements were very satisfactory, and reflect great credit upon the management, especially upon Mr. C. S. Fridge, the energetic secretary. The show was a good one, though there was a slight falling off in some of the plant classes; the Cheltenham and Handcross specimens being especially missed; still, some very good plants were shown in the various classes, and cut flowers were fully up to the average. Fruit was excellent; and the vegetables particularly good considering the dry weather of the last few months.

The first of the Jubilee prizes, open, £18, £15, and £12, for twelve stove and greenhouse plants, six in bloom and six fine foliage, was easily taken by Mr. Lock, gardener to B. W. Cleave, Esq., Crediton, who showed *Lapageria alba* and *rosea*, two grand plants, the latter one of the best we have seen for some time magnificently flowered *Ixora Duffii*, *Erica æmula*, *E. Thompsoni*, *Clerodendron Balfourianum*, *Latania borbonica*, *Areca lutescens*, *Encephalartos villosus*, *Crotons Williamsi* and *Warneri*, and *Gleichenia rupestris*, a fine dozen. Mr. James, of Norwood, and Mr. Wills, gardener to Mrs. Pearce, Basset, were placed equal second. The latter was strong in foliage plants, but Mr. James equally balanced this by being stronger than his rival with flowering specimens.

In the gardeners' class for twelve stove and greenhouse plants, Mr. Amys, gardener to the Hon. Mrs. York, Hamble Cliffe, showed remarkably well, easily defeating his only rival, Mr. Reynolds, gardener to Col. the Hon. H. Crichton; and for six stove or greenhouse plants Mr. Blandford, gardener to Mrs. Hazelfoot, Bitterne, who showed well, defeated Mr. Wills. For six fine-foliaged plants Mr. Lock was again an easy first with magnificent specimens; second, Mr. Wills; and third, Mr. Curry, gardener to Col. Pepper, Salisbury. For nine miscellaneous plants, three to be in flower, Mr. Molyneux, gardener to W. H. Myers, Esq., Bishop's Waltham, was first, his foliage plants being very fine; second, Mr. Blandford; third, Mr. Peel, gardener to Miss Todd, Shirley.

The rewards offered for a group of plants arranged for effect, 16 ft. by 8 ft., brought out seven competitors, and the first prize was easily secured by Mr. James, his group being very light and graceful, and containing some excellent Orchids; the other groups were much too crowded and heavy. Mr. Wells was second, and Mr. Reynolds third. For a group of Orchids, 6 ft. by 4 ft., Mr. Osborne, gardener to H. J. Buehan, Esq., Southampton, came in first with about two dozen plants, well grown and nicely flowered; second, Mr. Blandford, whose collection was not so large, but very meritorious. For the best group of nursery stock, the prizes went to Mr. J. Windebank, Mr. Kingsbury, and Messrs. Ramsone Brothers, all of Southampton. With six stove and greenhouse Ferns, Mr. Lock was again a very easy first; second, Mr. Wills, closely followed by Mr. Amys. The best of seven collections of six dinner-table plants came from Mr. Molyneux; and the finest single specimen *Erica* was shown by Mr. Blandford. In other single specimen classes, Mr. Osborne, with a fine *Calanthe veratrifolia*, was first for an Orchid; Mr. Lock for a fine-foliaged plant; and Mr. Molyneux for a stove or greenhouse flowering plant, with a good, fine, fresh, well-flowered *Bougainvillea glabra*. *Fuchsias*, *Pelargoniums*, *Petunias*, &c., were only fairly shown, and call for no special comment.

Mr. Chard, Stoke Newington, was the only exhibitor of a table decoration, and well deserved the first prize awarded to him; and the same exhibitor was first for an epergne. For a ball-room bouquet, Mr. Drover, of Fareham, was first; and for a bridal bouquet, Messrs. Perkins & Son, Coventry, were first, and also for six button-hole bouquets. In other competitions:—Mr. James was first for twelve bunches of cut flowers; twelve bunches of hardy herbaceous flowers, first, Mr. Pope; twenty-four Roses, distinct, first, Messrs. Keynes, Williams & Co., Salisbury; for twelve, Mr. Warden, gardener to Sir F. Bathurst, Clarendon Park.

The display of fruit was very fine, excellent examples being shown in the various classes. The Grapes especially were highly finished and well coloured. For six distinct dishes, Mr. Evans, gardener to Lady Ashburton, Melchet Court, Romsey, was first with good Muscat and Madresfield Court Grapes, Figs, Peaches, Nectarines and Melons; second, Mr. Loch; third, Mr. Ward, gardener to Earl Radnor, Longford Castle. In the class for three bunches of black Grapes, very good Madresfield Court from Mr. Ward were first; and in the corresponding class for white Grapes, Mr. Stewart, gardener to Mrs. Lane Shrubbs, was first. For a single bunch, black, a good sample of Madresfield Court from Mr. Molyneux was the best in a strong competition; while Mr. Richards secured the same award for whites. Mr. Budd was first for a Pine Apple, also for six dishes of hardy fruits; and Mr. Curtis was first for Peaches and Nectarines.

Vegetables were shown in quantity, and quality was first class. For a collection of twelve distinct kinds, Mr. Pope, gardener to the Earl of Carnarvon, Highclere Castle, was first; and for nine distinct kinds, Mr. Molyneux secured the leading award. Onions, Tomatoes, and Potatoes were well shown both in quantity and quality. The cottagers also staged remarkably good examples, and competition all round was very keen.

In the miscellaneous class Mr. James showed a fine collection of *Nepenthes*, in good character; H. J. Buehan, Esq., *Spathoglottis angustina*; Mr. H. Rogers, a collection of hardy ornamental trees and shrubs, Japanese plants, &c.; Messrs. Elcombe & Sons, a collection of *Pelargoniums*; and Mrs. Smout, of Hastings, showed her lovely marine flowers, which were greatly admired, and for which a special award was given.

Northamptonshire Horticultural.—Aug. 1. —This was the sixth exhibition of this society, and it took place, as usual, in the grounds of Delapre Park, near the town—a very suitable place indeed, being easily reached and finely wooded. It was a large and imposing show, and other attractions were provided to entertain the million, which the committee appear to have succeeded in doing. The day was beautifully fine and everything propitious. The society has the advantage of a very active committee, under the able chairmanship of Mr. Alfred Cockerill, of Abington; the active and energetic secretary being Mr. W. B. Troup. Unlike some other shows we are in the habit of attending, the committee are active in their work, and devote themselves heartily to the requirements of the day.

Five tents were erected for the accommodation of the plants, &c., two long narrow ones being used for the groups of plants arranged for effect. As these were arranged in squares down the centre of the tent, the straight lines of groups and tents alike running parallel, the effect was by no means good; had the groups been arranged in circles or semi-circles, the effect would have been greatly heightened from a decorative point of view.

GROUPS.—In the open class good prizes were offered for groups to fill a space of 240 ft.; and here Mr. J. Cypher, nurseryman, Cheltenham, was a good first, having *Crotons*, *Dracænas*, *Palms*, &c., set down a bed of Fern, the arrangement being good; Mr. J. Parker, nurseryman, Rugby, taking the second prize. In the gardeners' division the same extent of space had to be filled, and here Mr. W. T. Miller, gardener to Sir R. Loder, Bart., Whittlebury, Towcester, was first; Mr. J. Holland, gardener to W. W. Jeffery, Esq., Billing Road, Northampton, being second. Too close packing was noticeable in all these exhibits, and they might have been made more effective than they were.

STOVE AND GREENHOUSE PLANTS.—These were arranged in a huge circular tent, and as this was of a considerable height, it was thought expedient to raise the plants upon beer-barrels and such-like, with the usual result, that the tops of the plants were scarcely seen, and a great deal of the pots visible. The plants in the two principal classes formed the centre in this tent, being arranged in wedge-like sections, with wide spaces between many of the specimens, so that all the defects in staging could be seen. Mr. Cypher was first with ten stove and greenhouse plants, five in flower, having of the latter *Erica Thompsonii*, *E. tricolor* major, *Ixora regina*, *Statice profusa*, *Stephanotis floribunda*, and *Phenocoma prolifera* Barnesii; Mr. W. Finch, gardener to J. Marriott, Esq., Queen's Road, Coventry, being second. In the gardeners' class for ten plants, one-half in flower, Mr. W. Finch was first, and Mr. W. L. Bird, gardener to A. Seymour, Esq., Norton Hall, Daventry, second; Mr. J. Holland, third.

Round the circumference of this tent was a single line of plants, including *Colens*. The best six nicely-grown specimens came from Mr. J. Underwood, gardener to Mr. J. A. S. Bonverie, Delapre Park; also the *Fuchsias*, Mr. J. Kightly, gardener to Sir Hereward Wake, Bart., Courteen Hall, Roade, having six very good specimens; also zonal *Pelargoniums*, generally well grown and flowered. Mr. W. L. Bird had the best six exotic Ferns; Mr. J. Holland, second.

Flowering *Begonias* were a good feature and illustrated their value as exhibition plants. The best six came from Mr. F. Dovey, gardener to F. B. Simpson, Esq., Broom Hall, Spratton, capitally grown and flowered; E. Edwards, Esq., Holmeside, Leighton Buzzard, being second. Other flowering plants included *Petunias*, *Cockscombs*, *Achimenes*, *Gloxinias*, &c.; and of foliaged plants there were *Caladiums*, *Begonias*, mosses, &c. In the amateurs', as also in the cottagers' and artisans' departments, some capital plants were shown; but time, unfortunately, prevented us from gathering up particulars.

CUT FLOWERS.—In the class for twenty-four single blooms of Roses, open to all comers, Messrs. R. Mack & Son, nurserymen, Catterick Bridge, were first with a nice fresh lot; second, Mr. R. Bonnett, gardener to the Rev. W. H. Jackson, Stagsden Vicarage, Bedford. Messrs. R. Mack & Son had the best twelve varieties also; Mr. Bonnett being second. The latter had the best twelve Tea-scented Roses, and though small, they were nice and fresh; second, Messrs. R. Mack & Son. Collections of twenty-four bunches of stove and greenhouse plants were finely shown, Mr. W. Finch having the best; second, Mr. J. Parker, Rugby. In the gardeners' classes Mr. Bonnett had the best twelve Roses; Mr. F. Ingram, gardener to F. Butlin, Esq., Dunston House, Northampton, being second.

FRUIT.—In the gardeners' class for nine distinct varieties, Mr. W. L. Bird was first, with Black Hamburgh and Muscat of Alexandria Grapes; Royal George Peaches, *Violette Hâtive* Nectarines, Melons, Figs, &c. In the class for six varieties, Mr. W. Fair, gardener to Sir Rainald Knightley, Bart., Fawsley, Daventry, was first, with Black Hamburgh and Dr. Hogg Grapes, Peaches, Melons, Cherries, and Figs; second, Mr. T. S. Garfith, gardener to P. Phipps, Esq., M.P., Collington Grange, Northampton. Mr. W. S. Miller had the best three dishes of black Grapes, staging superbly finished Black Hamburghs; Mr. H. Beech, The Gardens, Castle Ashby, was second. Mr. E. Huggard, gardener to Viscount Donne, Dingley, Market Harborough, who had fine bunches of Muscat of Alexandria; Mr. Fair being second, with Foster's seedling.

VEGETABLES.—These were in much better condition than could have been expected; but it is said that the Northampton soil is of a very holding character. There were six collections of fifteen varieties, the best coming from Mr. W. G. Robinson, gardener to J. Howard, Esq., Bedford; Mr. John Kightly being second. Mr. T. S. Garfith had the best eight varieties; Mr. S. Allen, gardener to H. S. Pritchard, Esq., Albrington Abbey, Northampton, being second. Potatoes were of good size and clean from the soil. Onions, Carrots, Peas, Beans, &c. were good throughout the show. We regret our report is somewhat curtailed, but time for taking notes was very limited indeed.

Reports of Exhibitions at Acton, Hounslow and Mosely are unavoidably held over till next week.

LAW NOTES.

Richardson v. Clarke.—My attention has been called to the report of this case in your issue of July 23rd, and in justice to my clients, Messrs. Henry Clarke & Sons, I wish to point out that after the plaintiff and his witnesses had given their evidence, by which it appeared that the non-guarantee clause was used by the plaintiff as a seedsman and the trade generally, my counsel submitted to His Honour the judge that no case had been made out by the plaintiff. His Honour thereupon decided that he had sufficient evidence before him that the non-guarantee clause was used universally in the trade, and the plaintiff was aware of the same, also the terms upon which the seed had been supplied to him, consequently he could not recover. If the case had proceeded I was prepared to prove that the seed with which Mr. Richardson had been supplied was perfectly good, had been tested, and was similar to that which he had had on previous occasions—in fact, the plaintiff had admitted by letter that the seed had yielded a heavy crop.—*Charles Butcher, Solicitor, 25, Old Jewry, E.C., July 28th.*

Obituary.

We regret to record the death of a warm supporter of horticulture, in the person of WILLIAM SHERWIN, Esq., of Farnborough Grange, Hauts. Gardening was the pleasure of his life. He possessed an extensive knowledge of plants, and obtained all good hardy plants, trees and shrubs as they came out. His collection at Farnborough Grange was large and varied, including something of everything from Orchids downwards, and he greatly enjoyed the pleasure of showing his treasures to friends.

QUESTIONS AND ANSWERS.

THISTLES.—*Omicron*: You do not say what Thistles, but if you mean the common ones, of course they grow from seed, as farmers know to their cost.

PUTTY.—*Omicron*: The best horticultural putty is the best quality of common putty, and is made of the best linseed oil and whitening.

NAMES OF PLANTS.—*W. P. M.*: *Zygopetalum Maxillare*, a fair variety.—*J. E. Looker*: 1, *Cattleya Gaskelliana*; 2, *Maxillaria venusta*; 3, an *Oncidium* which we cannot name without a better specimen, leaf and bulb; 4, *Oncidium dasytyle*.—*Omicron*: 1, *Lythrum salicaria*; 2, *Saponaria officinalis*; 3, *Linaria vulgaris*.—*J. Saunderson*: 1, probably the Golden Milkmaid, but we cannot tell from leaves only; 2, a seedling form of *Piulus austriaca* apparently; 3, Rose, not recognised; 4, *Pseudo-Larix Kämpferi*.—*W. Maggs*: The Wig Tree or Smoke Plant, *Rhus cotinus*, quite hardy.

COMMUNICATIONS RECEIVER.—*R. P.*—*W. E. B.*—*J. W.*—*H. M.*—*H. & S.*—*R. G. W.*—*W. P. R.*—*B. C. R.*—*J. D.*—*A. E. S.*

LONDON SEED TRADE.

August 3rd.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady sale for *Trifolium incarnatum* at rates current last week; the crop of English seed proves small. Mustard meets a steady sale at an advance of 6d. per bushel. New Rape and Rye are being offered at moderate prices. No change in value of Canary or other Bird Seeds.

COVENT GARDEN MARKET.

August 4th.

FRUIT.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Apples, ½ sieve	.....	Peaches, per dozen	2 0 8 0
Grapes, per lb.	1 0 2 6	Pine-apples, St. Michaels, each	3 0 8 0
Grapes, Chan. Islands, per lb.	0 9 1 6	Pine-apples, Eng., lb.	1 0 1 6
Kent Cobbs, 100 lbs.	.....	Strawberries, per lb.	0 3 1 0
Melons, each	1 6 3 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

s.d.	s.d.	s.d.	s.d.
Artichokes, Globe, doz.	2 0 3 0	Herbs, per bunch	0 2 0 4
Asparagus, per bble.	.....	Horse Radish, bundle	3 0 5 0
Beans, French, per lb.	0 9 1 0	Lettuces, per dozen	1 6 2 0
Beet, per dozen	2 0 3 0	Mushrooms, p. basket	1 0 2 0
Cabbages, per doz.	2 0 2 6	Onions, per bushel	4 0 5 0
New Carrots, per bun.	1 0	Parsley, per bunch	0 6
Cauliflowers, English, per dozen	4 0 6 0	Radishes, per dozen	1 6
Celery, per bundle	2 0	Small salading, punnet	0 4
Cucumbers, each	0 6 1 0	Spinach, per strike	2 0
Endive, French, doz.	2 6 3 6	Tomatoes, per lb.	1 0
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.		Turnips, per bun.	0 6

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Anemones, 12 bun.	.....	Narcissus double, 12 bunches	.....
Arum Lilies, 12 blms.	3 0 5 0	Narcissus, 12 bunches	.....
Bouvardias, per bun.	0 6 1 0	Pelargoniums, 12 spys.	0 6 1 0
Carnations, 12 blooms	0 6 1 0	Pelargoniums, scarlet, 12 bunches	.....
Carnations, 12 bunches	3 0 6 0	Pelargoniums, scarlet, 12 bunches	.....
Cornflower, 12 bun.	1 0 3 0	Pinks, colored & white, dozen bunches	2 0 4 0
Day Lily, 12 bunches	.....	Polyanthus, 12 bunches	.....
Eucharis, per dozen	3 0 6 0	Primula, double, bun.	0 9 1 6
Gardenias, 12 blooms	2 0 4 0	— single, 12 bun.	.....
Heliotropes, 12 bunches	0 6 1 0	Pyrethrum, 12 bun.	2 0 6 0
Iris, various, 12 bun.	.....	Roses (coloured), per dozen	1 0 4 0
Lilies, white 12 bunches	18 0 24 0	Roses, Tea, per dozen	0 6 1 6
— orange, 12 bunches	6 0 9 0	Roses, mixed, per doz.	0 6 2 0
Lilium longiflorum, 12 blooms	2 0 4 0	— Safrano, per doz.	0 6 0 9
Lilium speciosum, 12 blooms	1 0 2 0	Spiraea, per dozen	.....
Lilies of the Valley, 12 bunches	.....	Stephanotis, dozen sprays	2 0 4 0
Marguerites, 12 bun.	3 0 6 0	Tropaeolums, per dozen	1 0 2 0
Mignonette, 12 bun.	1 0 3 0	Tuberose, per dozen	0 6 1 0
Myosotis, 12 bunches	2 0 3 0	White Jasmine, bun.	0 4 0 6
Pansies, 12 bunches			

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s.d.	s.d.	s.d.	s.d.
Aralia Sieboldi, doz.	6 0 18 0	Lilium longiflorum, per doz.	12 0 24 0
Balsam, per doz.	3 0 6 0	Lilium speciosum doz.	9 0 18 0
Calceolarias, per doz.	4 0 9 0	Lobelia, per doz.	3 0 4 0
Cyperus, per dozen	4 0 12 0	Marguerites, per doz.	6 0 9 0
Dracena term., doz.	30 0 60 0	Mignonette, per doz.	3 0 4 0
— viridis, per dozen	12 0 24 0	Musk, per doz.	2 0 4 0
Evergreens, in var., per dozen	6 0 24 0	Palms in variety, each	2 6 21 0
Ferns, in var., do	4 0 18 0	Pelargoniums, doz.	6 0 12 0
Fiens elastica, each	1 6 7 6	Pelargoniums, scarlet, per dozen	3 0 6 0
Foliage Plants, vari-ous, each	2 0 10 6	Rhodanthe, per doz.	6 0 9 0
Fuchsia, per dozen	3 0 9 0	Scented Verbena, doz.	4 0 6 0
Heliotrope, per doz.	4 0 8 0	Spiraea, per dozen	6 0 9 0
Hydrangea, per doz.	9 0 12 0	Tulips, per doz. pots	

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Bull, William, Jun., King's Road, Chelsea	10 10 0	1 1 0
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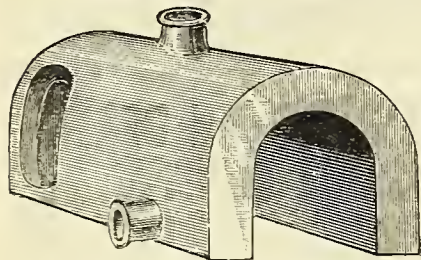
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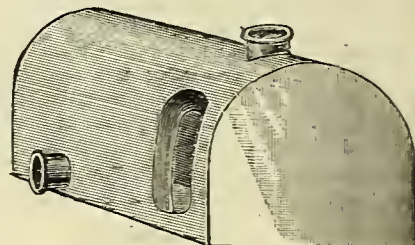
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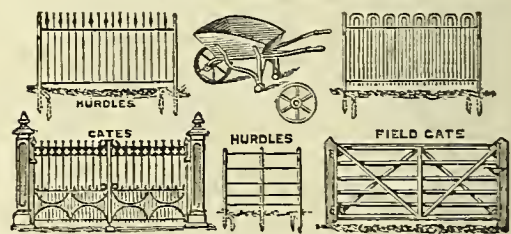
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MONDAY, August 15th.—Sale of Dutch Bulbs at Stevens' and Protheroe & Morris's Rooms.

TUESDAY, August 16th.—Clay Cross Floral and Horticultural Society's Exhibition.

WEDNESDAY, August 17th.—Shropshire Horticultural Society's Exhibition at Shrewsbury (two days). Royal Jersey Agricultural and Horticultural Society's Show. Sale of Orchids in flower, Bulbs, &c., at Stevens' Rooms.

THURSDAY, August 18th.—Flower Shows at Aberdare and Maidenhead (Bucks). Sale of Imported Orchids at Stevens' Rooms. Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, August 19th.—Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, August 20th.—Sale of Dutch Bulbs at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 13, 1887.

TOMATOS AT CHISWICK.—Owing to the great demand for Love-apples, which has sprung up within the last few years, and their increasing popularity with all classes due to their acknowledged wholesome character, it is not surprising that varieties innumerable should have been put into commerce with or without any particular merit to recommend them. This is always what happens when anything, whether floral or vegetable, becomes popular, and the glut of kinds put upon the market is the penalty we have to pay for calling popularity into play. Time is the great weeder-out of worthless things, but a speedier and more practical result is obtained, and all are benefited by a comparative trial, on a broad basis and under equal conditions, such as are the trials carried out in the Royal Horticultural Society's Gardens, at Chiswick. The labour involved in the conduct of a trial of such subjects as the one under notice is necessarily greater than in the case of such things as can be sown or planted out of doors, as, from the time the seeds are sown till the fruit is gathered, everything grown in pots requires unremitting attention, and it is only those who know the reduced financial condition of the society who can really appreciate the difficulties under which Mr. Barron labours, with his reduced staff in carrying on the usual routine, much less in devoting special attention to those subjects that urgently require it, such as a comparative trial of Tomatos in pots.

A low-roofed lean-to house contains the most complete collection of sorts, the central

bed and side stages being raised so that the plants have all the advantages of being near the glass, where a maximum of light is secured. A duplicate set is grown in pits, trained in an ascending manner under the lights, and so adds to the importance of the trial. The lights are removed during the day so that the plants may enjoy a much greater exposure than in the house already mentioned. In both cases the plants are grown in pots, but, as might be expected, those wholly under glass are the finest in colour, and would, therefore, have the advantage where that is a desideratum, otherwise the balances seem to be fairly well drawn.

In the following arrangement of sorts, it seemed convenient to classify the fruits into three sizes, and then to compare them according to their respective merits. The smallest size being solely—or almost so—grown for purely ornamental purposes, little value is attached to them, as compared with the larger and more economic kinds. The Red Currant Tomato is very prolific, bearing from eight to twenty fruits on a raceme, in size and colour resembling those of the well-known Ribes. A Continental form, named *Solanum rosarigerum*, seems a slight improvement as regards size, but that may simply be accidental on the specimen or two grown. The Cherry and Yellow Cherry varieties have red and yellow fruits respectively, similar in shape and size to those of a Cherry, and are both prolific and ornamental, the red one being somewhat the larger.

The medium-sized varieties are more numerous, and, besides being ornamental, have a certain economic value. As far as productiveness is concerned, Little Gem bears the palm, one plant bearing eighty-five fruits which vary in size from that of a Gooseberry to that of a large Plum; the fruit is red, round, and even or somewhat flattened and ribbed. Nisbet's Victoria is an oblong or pear-shaped fruit, about the size of a Lancashire Lad Gooseberry, being very prolific, and carrying from ten to fifteen on a raceme. Another red sort, named Pear-shaped, is larger and generally more oblong, but neither are extensively cultivated. Orangefield Improved is a prolific variety, the largest of the fruit being about the size of a Green Gage Plum, and might prove useful where space is limited. A reddish scarlet variety, named Horseford's Prelude, judging from general appearances has a future before it, being very prolific, one plant bearing eight racemes of fruit the size of a large Plum, round or slightly flattened, and even or somewhat ribbed at the base. Paragon is a beautiful deep red, even-fruited variety, and fairly well cropped; it is about the medium size, and something in the way of Hathaway's Excelsior. The latter is also a fine red fruit, above the medium size, and is an old and well-recognised variety; the fruit is even or slightly ribbed at the base, and ripens its foliage somewhat earlier than the last mentioned, or than Keye's Prolific. All the three are very much allied, and bear well, Paragon being, perhaps, the least fruitful sort. Most distinct in its way, in this class, is the oblong-fruited variety, above the medium size, named King Humbert; one plant bore six racemes, and each carrying from eight to nine fruits of even size, scarlet, and neither ribbed nor lobed. It is equally as true to character in the pit.

Green Gage is still one of the best and most ornamental yellow sorts; the fruit is smooth, about the size of a Green Gage Plum, of a fine citron-yellow colour, plentifully produced, and each raceme carrying from four to twelve usable fruits. A very much flattened, ribbed and clear yellow fruit is that named Large Yellow, which is further

characterised by its free-bearing nature and distinct appearance, but whether it would beget many admirers is questionable. Golden Queen is a bright yellow sort, above the medium size, flattened, ribbed at the base only, and a fairly good cropper. If distinctness goes for anything amongst cultivators, then most assuredly would White Apple be grown; the fruit is round and even, about the size of a Green Gage Plum, white, or more or less of a pale lemon colour, according to the incident rays of the light, for it is so thin-skinned as to be semi-transparent, and certainly pretty. A selection of red or scarlet varieties of this class might include Hathaway's Excelsior, Keye's Prolific, King Humbert, Horseford's Prelude, Little Gem, Pear-shaped or Nisbet's Victoria. Green Gage, and Golden Queen are good yellows, and White Apple should also be included.

Good large varieties are more generally the desideratum, and are most numerous represented in the Chiswick collection, as might be expected. The marks of distinction are found in size, colour, shape, whether round, flattened, ribbed, lobed or the reverse, whether the sorts are good croppers and suited for indoor or outdoor cultivation, good for exhibition purposes, and last, but not least, the flavour. Reading Perfection is a popular exhibition variety, and withal a fine fruit, being very large, flattened, smooth, except at the very base, bright scarlet, and a fairly good cropper. Another old and well-recognised sort is Trophy, a large, even, deep red, fine-looking, good-cropping sort, and ribbed at the base only. Livingstone's Perfection is similar in shape to the last-named, a beautiful bright scarlet, fair-sized fruit, evenly and tolerably plentifully produced. A deeper scarlet and fine-looking fruit is Livingstone's Favourite, but it is apparently inclined to split. A good and even crop is produced by Veitch's Perfection, a fruit of fair size and ribbed at the base only; it is a brighter scarlet than the Reading Perfection.

A number of varieties of a purplish crimson, or red with a purple tint varying to a soft red, seem to constitute a distinct race, as far as colour is concerned, and we here class them together for convenience of comparison. Acme is the leading variety, an old favourite, and one of the best; the fruit is large, flattened, even, except at the base, a heavy cropper and very distinct. The Mikado is a beautiful soft red fruit, much more ribbed than Acme, but the plant is a good bearer. A heavy cropper with a smaller and deeper red fruit than Acme is Farquhar's Early Essex, but it is apparently inclined to split just as it reaches maturity. The Pomegranate is a distinct red fruit, slightly flattened and ribbed at the base, but not very large; the plant is a good cropper, and bears from four to six fruits on a raceme. The fruit of Vick's Criterion is rather polymorphic, being round, oblong, or flattened on the same plant; but the latter is an abundant bearer, one plant carrying seven racemes of medium-sized fruit of a red colour deepening to reddish crimson.

Amongst ribbed, lobed and scarlet-fruited varieties there is a considerable range in size, and Hepper's Goliath would be difficult to excel in that respect; but, although the fruits are of immense size, an individual plant bears but few. Trentham Fillbasket is somewhat smaller, but a prodigious cropper, and deeply lobed like the last-named. An old sort, named Conqueror, has large lobed vermilion-red fruit, very freely produced, and as it proves rather an early sort, it is one of the best for outdoor purposes. The same might be said of Large Red, which, however, is not so large as Conqueror. Another sort, dwarfier than either, and apparently adapted for the

same purpose, is Cooper's Dwarf Prolific; five racemes are borne by an unusually dwarf plant. Yellows are few amongst the large-fruited varieties, and Blenheim Orange seems the only one that calls for comment; the fruit is of a bright yellow, even, except at the base, generally rather small but distinct; the plant is prolific, and one of them is carrying seven racemes. It is a beautiful Tomato, but apparently might be improved as to size. The above seem to include all or most of those calling for special mention at this time, although we may have overlooked some later-ripening and meritorious kinds. A selection of large kinds might include the following, namely, Reading Perfection, Trophy, Livingstone's Perfection, Acme, The Pomegranate, Vick's Criterion, The Mikado, Large Red, Cooper's Dwarf Prolific, Conqueror, Trentham Fillbasket, Hepper's Goliath, and Blenheim Orange. This will give ample variety, both as to size, shape, colour, and for outdoor culture.

MR. WHELLAN, of Balham, has been engaged by the Duke of Marlborough as gardener, at Blenheim, in succession to Mr. Bethell.

WE understand that a GRAND EXHIBITION OF FRUITS AND AUTUMNAL FLOWERS will be held at Manchester on the 16th and 17th of next month in the Royal Jubilee Exhibition buildings. Schedules will shortly be issued and may be had from Mr. Bruce Findlay.

THE fourth annual exhibition of the RAMSBOTTOM FLORAL AND HORTICULTURAL SOCIETY will be held on November 19th.

THE Jubilee celebrations are accountable for a marked falling off this season in the number of paying visitors to flower shows. At the SOUTHAMPTON SHOW on Bank Holiday the number who paid for admission is reported to have been 12,000 or 10,000 less than last year, and 5,000 under the average of the last five years.

AN error appears in our report of the show of the OXFORD CARNATION AND PICOTEE UNION on p. 774, which we hasten to rectify. The best flower in the class for crimson bizzarres should be Hewitt's Master Fred, not Dodwell's Fred, which is a scarlet bizzarre.

Nature states that a new botanical periodical, to be called *The Annals of Botany*, is about to be issued by the delegates of the Clarendon Press. It will be edited by Professor Bayley Balfour, of Oxford, Dr. Vines, of Cambridge, and Professor W. G. Farlow, of Harvard University, Massachusetts, U.S.A.

THE BRIGHTON AND SUSSEX FLORICULTURAL ASSOCIATION will hold their thirty-fifth exhibition on September 14th and 15th.

THERE is in the Children's Hospital at Sheffield a cot called the ROSE GROWERS' COT, and which is supported entirely by the sale of Roses. At the Nether Edge Horticultural show held on Monday and Tuesday last, the whole of the Roses in one marquee were supplied from the Rose nurseries of Mr. Gilmour, at Sandygate, and they were all for sale. The tent was under the care of Mr. Duncan Gilmour, jun., who hoped to obtain as much as he did at the last year's show—£21.

MR. LUCIEN LINDEN, managing director of the Société Anonyme L'Horticulture Internationale, Brussels, informs us that we were in error in attributing the introduction of the beautiful ARALIA REGINÆ to Mr. B. S. Williams in our number for July 23rd, and we hasten to "render unto Cæsar that which is Cæsar's", by stating that the plant is one of the many novelties introduced from New Caledonia and put into commerce through the Linden establishment. We had overlooked the fact that the plant was figured and described in the *Illustration Horticole* for 1879.

"DURING a recent visit to Guernsey," writes "T. C. W.," "I was shown, among other objects of horticultural interest, a Fig tree under glass, which the owner informed me was over fifty years old. Its branches cover a space 80 ft. long and 45 ft. wide, and until within two years ago it regularly bore its two crops a year. Since then the house has been heated, and three crops are now gathered: the first about February, the second in May, and the third in September, when the fruits realise 12s., 5s. and 2s. per dozen respectively."

ARTIFICIAL v. NATURAL MANURES.

THIS formed the subject of an exceptionally well-written paper by Mr. Samuel Heaton, gardener to R. Smith, Esq., of Longridge, read to the members of the Preston and Fulwood Horticultural Society on Saturday evening. There was a fair attendance. Mr. Edward Payne, in the absence of the president, E. Garlick, Esq., was voted to the chair. After the chairman had made a few introductory remarks, Mr. Heaton gave his paper.

At the outset he remarked that the grand distinction of the present century from its predecessors was the triumph of mind over matter, of the intellect of man over the forces of nature. The subject for discussion was one claiming the attention of all ranks of horticulturists—the window, cottage, amateur, and professional gardeners alike. Proceeding, he dealt with the definition of terms, and showed that manures were a compound material, which when added to the soil increased its fertility, either directly or indirectly, after its application, and underwent certain chemical or mechanical changes. Artificial manures were the outcome of rapid strides of science, and although they were strongly condemned by some, when applied with humus they were an invaluable addition to the gardens, containing in a nutshell the entire wants of plants. Natural manures were simply the residue of animal and vegetable matter. Before knowing what to give a plant for its growth and development, they should first ascertain its composition. He defined these, and showed that three-fourths of the nourishment of a plant were absorbed by the leaves. Continuing, he examined the analyses of manures, and explained that the compositions varied greatly—so much so, that they met the wants of all plants. He alluded to soot, and said that its efficiency as a manure was the quantity of nitrogen it contained. Blood, bones and night-soil were mentioned, and he urged that the latter should be deodorised, which could readily be done by the addition of charcoal, quicklime and sulphate of iron. An examination of various artificial manures followed, after which reference was made to the uses of both kinds.

Natural manures were especially valuable as fertilizers; they could be utilised for the making of hot-beds, which were indispensable to successful plant culture. In small places and in dry weather they could be spread on the ground, which would prevent excess of evaporation and the ground from becoming hard, cracked, and dried up, which caused injuries to plants that could not be remedied. Then they acted as insecticides or destroyers of vermin. In the application of manures there were two forms, namely, in a solid and a liquid form; in the latter they should be careful that they were free from fibrous matter, as these tended to clog up the pores of the soil, and thereby exclude air as well as become a nidus of animalculæ. Sir J. Paxton told them that manure applied in a liquid form was appropriated to use at once with little or no loss; whereas if applied in a solid form, either on the surface or dug in, it was dependent on various subsequent agencies or circumstances before it could be utilized by the plant or receive any benefit by its application; by that time a good many of its most valuable properties were probably lost. Land manured by a liquid was said to retain its fertility with greater permanency than if manured with a solid, and would yield heavier and quicker crops.

In referring to how manures act for the benefit of the plants, Mr. Heaton said they stimulated the vital forces. When a proper manure was applied it encouraged and produced root growth, which was the outcome of a suitable compost, and the matter absorbed was sent to all parts of the plant. Manures also acted for the benefit of plants by absorbing and holding in solution nourishment drawn from the atmosphere and surrounding mediums. When applying it they should consider both its fertilising power and absorbing properties; the greater proportion of plant-food was not absorbed through the roots, but by the leaves. With regard to the results obtained by the application of natural and artificial manures, the lecturer remarked that it was not always necessary to have them for successful plant culture, as the soil might contain in a soluble form, and in suitable proportions, the necessary constituents required by the plants. Having given the results of experiments made by Messrs. Lawes & Gilbert, reference was made to the value of chemistry,

by a knowledge of which they could analyse soils, manures and plants, and could make for themselves, from the materials at hand, a compost suitable to the requirements of any plant.

Analyses showed that plants varied quite as much in their composition as manures, and it ought to be their object to have within reach all variety of substances required, for if there was a lack or deficiency of any the plant suffered; whereas, if all the substances were present, the plant could absorb sufficient for its work and leave the surplus. This statement raised the question of the selection of food by plants. He believed that they had the power to select food for themselves; but if the materials present in the soil were too strong and powerful for the life which existed at the tips of the roots, they were injurious, and entirely destroyed some plants.

It having been decided to postpone the discussion of the paper until the next meeting, a hearty vote of thanks was accorded to Mr. Heaton.

The meeting was made the more attractive by members bringing interesting and beautiful specimens of plant and fruit culture, which were closely examined. The exhibits included a grand bunch of Gaillardias, brought by Mr. Frisby, gardener to the Misses Ffarington, Leyland; a number of double Hollyhocks, Carnations, and Niphetos Roses, by Mr. E. Payne, Fulwood; spikes of Eucomis regia and Aloe albospinus, also Tea Roses, by the secretary, Mr. John Atherton; beautiful cuttings of *Pancratium fragrans*, *Allamanda grandiflora*, *Lapageria rosea* and *L. alba*, by Alderman Forshaw, Fulwood; and two fine Peaches, as well as several kinds of vegetables, from R. Smith, Esq., Longridge. A vote of thanks to these gentlemen and the chairman having been accorded, the meeting closed.

VIOLAS.

I HAVE become acquainted with some of the more recently introduced Violas, and there can be no doubt that the newer kinds present some charming shades of colours not hitherto seen in these flowers; as early decorative plants they are of great beauty and usefulness. Some flowers received recently from Mr. John Downie, florist, Edinburgh, contain some lovely varieties, and amongst them the following are most noticeable:—

Archie Grant, an old but excellent variety of sturdy habit, with large blue-violet flowers.

Arthery.—White tinted with lilac, with a large distinct rosy purple centre; a beautiful variety.

Bullion.—A most valuable yellow, good-sized flowers of a bright yellow colour, and almost free from any dark markings.

Countess of Hopetoun.—A very fine white, quite free from any dark markings, an abundant bloomer, and of close sturdy habit; a valuable decorative variety.

Countess of Kintore.—Light rosy purple with large white blotches; a handsome variety, growing in popularity.

Duke of Albany.—Violet-purple under petals, with lilac-tinted upper petals; a charming variety.

Evelyn.—A pale-shaded lilac, with deeper-coloured centre, closely resembling *Duchess of Albany*, but brighter and of fine form.

Garland.—A light yellow self with rayed centre, but inferior to *Bullion* and others.

Lady Amery.—Rich violet lower petals, with the same colour in the base of the top petals, and a broad margin of silvery lilac; a beautiful variety of very fine form.

Mrs. J. Brodie.—Rich violet-purple, the under petals bordered with blue-purple, the top petals bordered with pale lilac; fine form.

Meta.—Light shaded rosy purple, with small blue-purple blotch.

Mrs. Tosh.—Rosy purple lower petals, lighter at the margin, shaded lilac and light purple top petals; good form.

Owen Cameron.—A Holyrood style of flower, with lip bronze-colour in the centre; large and showy.

Oracle.—Blue-purple under petals, with small dark blotch, top petals deep lilac veined with purple; fine form and a distinct variety.

Pytho.—Rich violet under petals, with a slight margin of blue-lilac, top petals blue-purple with a light blue margin; very fine form, distinct and handsome.

Rimini Donaldson.—Resembling *Pilgrig Park* in colour and marking, and not an acquisition.

Skylark.—White, with a narrow margin of bright cerulean blue; a charming and distinct variety.

Spark.—Resembling *Duchess of Albany* in style, but with a deeper-coloured centre and of good form; very pretty.

Scotia.—There is a strong shade of blue in this flower, with a dark blotch. This variety possesses a good deal of the *Pansy* breed, and is large and showy.

The Mearns.—Rich shaded purple under petals, with brighter-coloured margin, darker centre, and *Countess of Kintore* top petals; a very fine flower in every respect.

Topsy.—Almost black, quite a self, of fine form, and a very promising acquisition.

Virginale.—Snowy white, a decided self, and an excellent variety.

Of older valuable varieties, which are cheap, I may mention *Ardwell Gem*, as a sulphur-yellow; *Mrs. Gray*, white, and very fragrant; *Queen of Lilacs*, blue-lilac; *Lady Diana*, light purple; *Queen of Spring*, beautiful light yellow; *Golden Queen of Spring*, deep yellow; *Queen of Violets*, deep purple; *True Blue*, the best blue; *Spotted Gem*, rich purple, with large white blotches; and *Ethel Baxter*, a most lovely shaded rosy lilac.

Violas ought to be planted in the autumn. It is a great mistake to plant late in the spring, and even when done at that season it should not be after the first week in April; but I strongly recommend early autumn planting, so that the plants may become firmly established before winter, and mulching with leaf-soil or very rotten manure throughout the latter season, not removing it. — *W. D.*

HERBACEOUS PLANTS AT BURFORD LODGE.

BURFORD LODGE, Dorking, the seat of Sir Trevor Lawrence, Bart., M.P., &c., is beautifully situated at the foot of Box Hill, a considerable elevation forming part of the far-famed Surrey Downs, sloping abruptly towards this interesting residence, and beautifully wooded at this part with Yews, Beeches, Pines, and the Box, the latter being indigenous. After inspecting the herbaceous plants we visited the various plant houses, including the magnificent collection of Orchids under the charge of Mr. Bickerstaff, but forbear from making anything but a passing reference to them at present, although greatly tempted to go farther.

Under the guidance of Mr. Baines, the courteous gardener, we made a survey of the outdoor department, which proved an interesting and enjoyable floral treat; for, notwithstanding the thirsty nature of the soil, its calcareous character, and the prolonged drought to which it has been subjected, everything showed a remarkable freshness under the conditions—due to the combined skill and attention bestowed on their culture.

Almost the first thing to rivet our attention upon entering the garden was a large bed of *Salpiglossis sinuata*, in all shades of purple, yellow, and straw-colour, some exhibiting intensely dark crimson or maroon tints, and all more or less conspicuously veined and reticulated with a different tint from the other parts of the flowers, giving the latter a variegated appearance. The dry weather has suited them admirably, causing them to bloom most profusely. Mr. Baines finds them highly useful for cut-flower purposes, and for this reason their culture should be more generally adopted. In the same breath, we might mention the fact that *Petunias* are equally profuse this year in the open air, and both are closely-allied, irregular-flowered members of the *Solanum* family.

Many of the most useful garden subjects are grown in quantity—generally in beds, which gives us a good estimate of what hardy flowers are capable of producing in a mass, besides the economising of space where the latter is limited, and quantities of bloom for decorative purposes are required. A bed of the numerous hybrid varieties of *Phlox maculata*—better known in gardens as *P. decussata*—and *P. paniculata*, sometimes described as autumn *Phloxes*, are now in the height of their beauty, having made growths about 3 ft. to 3½ ft. in height. They are more adapted to the English climate than *P. glaberrima suffruticosa* and its varieties, which flower earlier, and are more suitable for the northern part of the island, where they are known as summer *Phloxes*; the beautiful *P. Drummondii* is also grown. *Spiræa venusta*, a grand old plant, now past its best, has been fine, its rosy flowers being almost equal to

those of *S. palmata*. For a mass of scarlet flowers, few can equal, far less excel, *Lychnis chalcidonica plena*; and whether the season is wet or dry, it never seems disappointing. A bed of plants, ranging from 2 ft. to 3 ft. in height, is now both brilliant and pleasing.

Blue colours were represented by a variety of subjects; but we were especially charmed with a bed of *Platycodon grandiflorum pumilum*, large-flowered, intensely blue in colour, and remarkably dwarf, being only from 6 ins. to 9 ins. high, whereas it usually grows double that height. It is rather impatient of root disturbance, some of the plants having died through recent transplanting. A bed of comparatively new varieties of *Delphinium* was also noteworthy, as furnishing shades of blue of a charming kind, often harmoniously blending with purple and white. Of this character is a semi-double large-flowered variety, named *Copernic*, with blue sepals, and large, flattened, nearly regular, purple petals, while a few of the latter were white, and nearly of the normal small size. *L'Etoile* was equally large, semi-double, and even more attractive, being wholly of a brilliant blue, with the exception of the central small white petals. In this category may be classed a bed of seedling *Iris Kæmpferi*, in vigorous health, although at the time of our visit they had finished flowering with the exception of a white form. Mr. Baines finds they do best in his soil when raised from English-grown seeds. Charming bits of blue were dotted about the borders in the form of *Gentiana septemfida*, *G. s. cordifolia* (widely disseminated in gardens under the name of *G. gelida*), and *G. asclepiadea*, an inhabitant of British gardens since 1629, withal a fine thing, and elegant, but inferior in point of beauty to the wider-mouthed flowers of *G. septemfida*. An unusually dark-flowered form of *G. cruciata* also merits the attention it receives. The *Blue Globe Thistle*, *Echinops ritro*, is too conspicuous and decided in tone to be overlooked wherever it occurs in a collection.

Yellow flowers are generally over-plentifully supplied by Composites, especially in autumn, but this is not the case at Burford Lodge, for with the exception of *Helianthus (Harpalum) rigidus*, one of the best of Sunflowers, most of the yellow-flowered subjects belonged to a great variety of other natural orders. Two beds of *Alstroemeria aurantiaca* exhibited a considerable range of colouring, the occupants of one being seedlings. The latter attain a flowering condition the same year as they are sown—a noteworthy fact among perennials. For cut-flower purposes they are elegant and useful. Strictly speaking, *Celsia cretica* is a biennial, but here it is treated as an annual and flowered the same year from seed, and the large yellow flowers are very handsome. Notwithstanding the perishable nature of its flowers, as of all other Poppies, *Papaver nudicaule* is now receiving a share of that attention it well merits in gardens. The yellow, white and orange flowers, that seem to spring indifferently from seeds collected off either of these forms, are charming for indoor work, whether used by themselves or in combination with those of another kind. *Tropæolum polyphyllum* is both a curious and ornamental plant, that loves to trail on the ground, and refuses to grow at all if tied to a stake, or suffers much root disturbance. The glaucous deeply-lobed leaves doubtless resent interference in regard to their arrangement to catch or shun the incident rays of light. Its yellow flowers are both plentiful and pretty, showing themselves above the foliage of the procumbent stems.

A varied assortment of other subjects, some of considerable value and indispensable from various points of view, are scattered about the garden promiscuously. *Sturt's Glory Pea*, *Clanthus Dampieri*, is notorious for the difficulty some experience in its cultivation, and will always command admiration from the magnificence of its crimson-scarlet flowers, furnished with a black blotch on the standard. Mr. Baines succeeds admirably in its cultivation, both in and out of doors, where an old plant is now flowering. Other specimens in various stages of advancement may be seen in the greenhouse, where they pass the winter safely. More serviceable in its way, perhaps, for the quantity of useful flowers it produces, is *Lathyrus latifolius*, the so-called *Everlasting Pea*, which surely would be more appropriately designated the *Perennial Pea*. The Lily-like flowers of *Yucca filamentosa*, the drooping white bells of *Galtonia candicans*, the elegant spikes of *Liatris spicata*, the myriad-flowered *Gypsophila paniculata*, and the beds of *Carnations* and *Picotees*, all have their uses and

history. A great quantity of a variety of the common Colt's-foot is grown for the sake of its broad creamy white margined foliage, used in decorative work.

Amongst the bulbous plants, we noticed *Crinum Macowani*, a species from Natal, usually considered only half-hardy, but which is now throwing up a vigorous flower-stem, after having braved the English climate for the last two years in the open air. More praise must be accorded to C. Powell, a fine hybrid between *C. capense* (*Amaryllis longifolia*) and *C. Moorei*, which originated with C. B. Powell, Esq., of Southborough, near Tunbridge Wells. A line of bulbs in an open border has been blooming profusely for some time, and will continue to do so until late in the autumn, when the flowers assume a much deeper colour than they do in warm weather. At present they vary from blush to warm rose, and are conspicuous both for their size and number. For the history of this hardy *Crinum*, see *THE GARDENING WORLD*, Vol. II., p. 184, and for illustration, see p. 185. *Tritonia crocosmæflora* and *T. c. aurea*, although, strictly speaking, not bulbs, may be noticed here on account of their beauty and hardiness. Named seedlings of *Gladioli*—some of the Continental productions of Lemoine—are grown in quantity, and show, by their vigour, that they receive congenial treatment. Great variety of colouring and remarkably large flowers may be seen amongst them, such as Sir Trevor Lawrence, crimson, flaked with a darker colour; G. A. Thiers, carmine and yellow in the throat, conspicuously blotched on the lower segments; and Lamartine, with very large rose and yellow flowers, also handsomely blotched. Grand hybrids, evidently of the *Gladiolus purpureo-anratus* types, are also very conspicuous and showy.

NEW PLANTS CERTIFICATED

By the Floral Committee of the R.H.S.

August 9th.

CATASETUM BUNGEROTHIL.

This is the grandest of all the *Catasetums*. The oblong-lanceolate sepals are white with a tint of straw-colour; but the broader oblong-elliptic petals are erect and ivory-white. The huge labellum is roundly cordate or spoon-shaped, sharply toothed or serrated at the margin, ivory-white, orange at the opening of the shortly-conical spur, and measuring 3 ins. to 4 ins. across. The arching raceme bore ten of these noble flowers, and the lanceolate plaited leaves are numerous and two-ranked. The old pseudo-bulbs are oblong-elliptic, somewhat compressed, and marked transversely with the scars of the fallen leaves. The odour of the flowers is delicious, smelling like Aniseed—some say Caraway. Exhibited by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham.

SACCOLABIUM HEATHIL.

This is something in the way of *Rhyncostylis* (*Saccolabium*) *Blumei majus* with regard to structure; but the flowers are wholly of the purest white, with the exception of the small anther-cap, which is a pale creamy yellow. The raceme was closely furnished with bloom for a length of 10 ins. and was undoubtedly a glorious sight for Orchid-lovers. Such unstained purity is of rare occurrence in this or most other genera of Orchids. Exhibited by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham.

CYPRIPEDIUM ORPHANUM.

The name here given was owing to the parentage of this fine hybrid being unknown. Most, however, are agreed that *C. Druryi* was one of them. The standard is short and broad, marked with green lines in the centre, and suffused with purple towards the margin on a white ground; the oblong, blunt, slightly declining petals are brown, suffused with rose at the tip, and dilated on the upper margins. The short, but large lip is a fine rose colour, and the most striking and distinct organ of the flower. The foliage is an intense green, with a few darker markings. Exhibited by F. G. Tantz, Esq. (Mr. Cowley, gardener), Studley House, Hammersmith.

GLADIOLI.

WILLIAM ROUPELL.—The flowers of this new variety are very open, and measure 4 ins. in diameter. They are of a striking bright scarlet colour, with a crimson mid-rib on two or three of the lower segments of the perianth. The whole spike has a bold and attractive appearance.

PRINCESS ROYAL.—The flowers of this variety are equally as large if not larger than those of the last, and of a pleasing soft blush colour, strikingly flaked, and irregularly suffused with rosy carmine. The lower segment of the inner series of the perianth is small and rose-coloured at the base. Six flowers were fully expanded on the spike, and eleven more were in various stages of development. Exhibited by Messrs. Kelway & Son, Langport, Somerset.

AFRICAN MARIGOLDS.

LEMON QUEEN.—Fine flower-heads of a soft lemon-yellow, a variety of *Tagetes erecta*, were shown, dense semi-globular masses $4\frac{1}{2}$ ins. in diameter. The florets are somewhat undulated, and on the whole present a fine appearance, the *beau idéal* of the florist.

PRINCE OF ORANGE.—The specimens exhibited under this name were equally as fine as the last, orange-coloured, and, if anything, the flower-heads of the best samples were a trifle larger. Exhibited by Messrs. Dobbie & Co., Rothesay, N.B.

ROSE, SINGLE WHITE PERPETUAL.

The foliage of this new single Rose is ample, with deep green, ovate, serrated leaflets. The sepals are slightly pinnatifid or almost entire and globular, supporting five petals that are white, or frequently of a faint blush colour; and the flowers have the further recommendation of being freely produced and sweet-scented. Exhibited by Messrs. Paul & Son, Cheshunt.

GAILLARDIA, WILLIAM KELWAY.

The flower-heads of this fine variety are 4 ins. to $4\frac{1}{2}$ ins. in diameter, and look very distinct. The wedge-shaped, trifid florets of the ray are so intensely reddish crimson as almost to appear blood-red, and have small yellow tips. The disk florets are of a fine chestnut-brown colour. Exhibited by Messrs. Kelway & Son, Langport, Somerset.

VIOLA, LUCY ASHTON.

The ground colour of this pretty new bedding variety is white, with several violet lines radiating from the small yellow eye on the three lower petals, and the margins, broadest on the two upper petals, are purple, somewhat shaded with mauve. It was also certificated at Glasgow in July last. Exhibited by Messrs. Dobbie & Co., Rothesay, N.B.

HOLLYHOCKS.

SCARLET GEM.—The blooms of this seedling are of great size, fully double, semi-globular, and of an intense reddish crimson. The central petals are undulated, while the outside ones are larger and flat, forming a sort of decorative background, which shows off the rest of the flower to advantage.

WILLIAM ARCHER.—The flowers in this case were similar in structure to the last, but the primary or guard petals are nearly hidden by the central mass. They are, however, very different in colour, being of a deep maroon-red, and, from a florist's point of view, equally as good. Exhibited by Messrs. Webb & Brand, The Nurseries, Saffron Waldon.

By the Fruit Committee.

APPLE, BEAUTY OF BATH.

The fruits of this seedling prove it to be an early Apple, of small size and great beauty. It is somewhat flattened at each end, perfectly even on the surface, with the stalk set in an even cup-shaped depression, and having a small closed eye. With the exception of the shaded side, which is green, the rest is of a lively crimson-red, conspicuously spotted with green. The flesh is firm and pale yellow. Exhibited by Messrs. G. Cooling & Sons, Bath.

CHERRY, EMPEROR FRANCIS.

This is a large red Cherry, shortly and bluntly conical in outline, with a shallow depression at the base and apex, and a faint indication of furrow on one side. It is a deep red, becoming crimson ultimately, faintly streaked with a paler colour, and of fine flavour when perfectly mature. Exhibited by Messrs. T. Rivers & Son, Sawbridgeworth, Herts.

PEAR, MADAMOISELLE DE SOLANGE.

The fruit of this variety is very small, but very early and distinct. It is shortly Pear-shaped, with a small shallow open eye, and the stalk, which is moderately strong and about $\frac{3}{4}$ in. in length, is set on obliquely in a very shallow depression. The skin is even, deep green and marked with a few russet spots, especially on one side. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

A HEAVY CROP OF CUCUMBERS.

At the trial grounds of Messrs. J. Veitch & Sons at Chiswick, a fine crop of the Telegraph Cucumber may now be seen fast approaching maturity, as they are grown solely for seed. The plants are grown in a small span-roofed house or pit solely devoted to their culture. The structure, measured from the outside, is only 40 ft. in length, in two divisions, each accommodating ten plants, which are trained within a short distance of the glass on strong diagonal meshed wire netting. As a snail pathway goes down the middle between the two beds, it follows that there is no available space for the Cucumbers, except the area of glass, which is of no great extent, as the pit is low and narrow.

No other support is required than the tying of the stems firmly to the wires, and the Cucumbers hang suspended into the body of the house, showing themselves in the most conspicuous manner to the eye of the beholder, as the leaves are all above the wires, thus excluding direct sunshine from the fruit. The twenty plants bear, in the aggregate, from 480 to 500 good fruits, making an average of twenty-five to each; and although the crop is tolerably even, some of the plants carry a much greater number than this. The fruits are generally quite straight, with a smooth or even surface, and measure from 20 ins. to 25 ins. in length, with girth in proportion, the average length being 22 ins. The house was planted in May, and commenced fruiting on June 2nd. Most of the fruits still hang on the plants, though the greater part are now turning yellow and fast reaching maturity. Besides the tying, training, and all other cultural matters, some idea of the attention they require may be gleaned from the fact that every flower which is to develop into seed-bearing fruit has to be carefully fertilised with pollen from other flowers.

THE MILDEW OF ROSES.

THERE are two forms of this—namely, rust and brand, both identical but different stages in the life cycle of *Phragmidium mucronatum*, or *P. subcorticium* of another author. Amongst gardeners, however, mildew is simply mildew, and they have been accused of only recognising two kinds of fungi—namely, mildew and Mushrooms. A little acquaintance with the microscope would soon dispel this illusion, and show that Rose mildew is differently constructed according to the progress of its development. The two stages above mentioned are, moreover, so different in general appearance that they were formerly regarded as distinct species.

When the spores germinate, they develop a whitish but extremely fine thready material, that ramifies in the tissue of the leaf, destroying and appropriating its substance, causing the Rose-leaves to become crumpled and otherwise deformed, and greatly affecting their health, as is well known. Later on, reddish or rust-coloured spots appear, due to the formation of single-celled spores. This is the so-called rust—the *Uredo rosæ* of old authors. These are easily blown about by the wind, and propagate the disease with alarming rapidity if not checked. This continues for some time during the early stages of the parasite; but later on black spots appear, known as brand (the *Puccinia rosæ* of the old school), which is merely the ultimate stage in the life history of *Phragmidium mucronatum*. These can be detected with an ordinary lens as clusters of stalked spores of a black colour, and are the resting or hibernating spores of the fungus. With the aid of a microscope they are seen to consist of a short string of cells, dark-coloured, and thick-walled, seated on a colourless stalk. Each of these cells constitutes a resting spore that lies dormant during winter, and renews the life of the parasite and its work of destruction next year.

If attacked in the early stages by a dusting of flowers of sulphur the disease is arrested, and a cure effected; but after it has reached the brand stage, the same application is found to be ineffectual. The explanation is that sulphur is powerless to kill the thick-walled spores, and the only remedy lies in picking the leaves if the affected ones are not so numerous as to make this impracticable; otherwise collecting them after they fall in autumn, and burning or burying them deeply, preferably the former, is the only course left open for the Rose grower to pursue.—*Cryptogam*.

NOTES FROM PARK HALL, STIRLINGSHIRE.

SINCE we briefly reported some of the sights of striking character at Park Hall two years ago, it was not to be supposed that the liberal proprietor, Mr. Learmouth, and his successful gardener, Mr. W. Murray, while at the advanced stage of fruit growing—which we indicated on the former occasion of our visit—they had attained, were contented to rest and be thankful. The work of erecting glass has not ceased, and, as may be noted, is not gone into in a half-hearted manner. At a little distance from the large ranges of imposing houses formerly described, may be seen an extensive block of span-roofed houses. After treading along pathways, through large brakes of heavily cropped Strawberries (not much crippled by drought), we enter these houses, which are in three divisions, about 270 ft. or more each, and there one, who can eat Tomatos or choice dessert fruit, may satisfy vision and palate alike. This popular fruit is largely cultivated, and as well as one may find in any establishment in the kingdom—20 lbs. to 30 lbs. on the strong plants is not thought much of. The plants were in bearing during the early part of the year, and have been continuous; close attention to feeding with such food as the plants seem readily to consume, is the speciality in connection with such fine results; and kicking over the surface of the soil, we noticed that Thomsons' Vine and Plant Manure was playing an important part. This great fertiliser washed down with plenty of soft water may sum up the whole substance of the high-class culture which Tomatos, Cucumbers, and other items in the extensive ranges of glass, receive. The Cucumbers were, in many parts of the ranges, being cleared out in order to make room for the successions. We called at this portion of the forcing grounds last autumn, and the crops of Telegraph, Tender and True, and other Cucumbers, were as near perfection in quantity and quality as one can well imagine. Narrow beds, where the roots are under command and can receive frequent additions to their food supply, is Mr. Murray's system of combining economy with success—absence of gross unfruitful wood and short fruitful growth is thus insured. The other structures are full of excellent fruit: Figs in great abundance, grown in pots rooting into the soil under the pots, give large supplies; White Marseilles and Brown Turkey are yet two of the best. Grapes are a great sight, all the leading kinds being represented as formerly described. Muscats are, perhaps, the leading feature at the present time, showing fine handsome bunches; all Vines are heavily cropped, on some rods about eighteen or twenty bunches hung in fine form.—*M. T.*

CULTIVATED WILD FLOWERS.

REFERENCE has been made to the large-flowered form of the yellow Cornflower, named *Chrysanthemum segetum grandiflorum*. This affords evidence of the capacity some wild flowers possess of improving appreciably while under garden culture, especially when intelligent selection is shown in the production of seed. The flowers of the larger kind conspicuously excel in size and beauty those of the ordinary form of *C. segetum*. When we turn to that other well-known Cornflower, the blue *Centaurea*, we find here that garden culture seems to have done nothing in the matter of improvement. If we obtain seed from some plant in a Corn-field and sow it, we shall find, if at all decently cultivated, that the floral product will be fully equal to what results from garden saved seed. Of plants long cultivated, then, there is the common scarlet Poppy, which may be made to prove, in gardens, as intolerable a nuisance as it is in fields; but even with the best of cultivation a scarlet Poppy it remains. Fertilise flowers with pollen from some other garden species and we get a varied and beautiful progeny. Were it, in common with many of our gayer wild flowers, capable of improvement without external fertilisation, it would have developed greater size long ago. We do not care to cultivate many of our wild flowers, even if very beautiful, because there is danger that they may, in gardens, become ineradicable weeds. Still, some do merit attention, the blue and yellow Cornflowers being specially useful. It is just possible, that if one half the care and attention bestowed through long series of years upon exotic flowers, had been given to our indigenous flowers, our British flora might have given more favoured denizens to our gardens than it has done.

YELLOW SEA LAVENDER.

YELLOW blooms are so uncommon in this genus, that a well-flowered plant of the yellow Sea Lavender forms a conspicuous object amidst a collection of pink and blue ones. *Statice Bonduelli* is a North African species, and very dissimilar in habit to the wildings of our own coasts. The sinuated or scalloped radical leaves lay along the ground: while the rigid, erect, much-branched flower-stems rise clear of it to the height of from 9 ins. to 14 ins., bearing a profusion of flowers that push from their encasement of rigid scale-like bracts. The corolla is a clear bright yellow, and the calyx pale lemon. Some idea of its distinctness may be gleaned by comparing this to our native species, which have entire leaves, a blue calyx, and a white corolla. *S. Bonduelli* may be seen in the herbaceous ground at Kew, where the bees—chiefly wild ones—and the white Cabbage butterfly frequent the flowers in numbers as great as they do the blue and white-flowered species.

GARDENING NOTES FROM SCOTLAND.

Colouring of Muscat Grapes.—When Muscat Grapes are well exposed to light, with a fair amount of sun, they will assume a golden tinge of colour weeks before that kind grown in the same house with the foliage entirely shielding the bunches from the action of sunlight; but notwithstanding all that has been said and written on the subject of flavour and golden colour being closely allied to each other, I am not certain that the intense Muscat flavour, so desirable in that Grape, is always more distinctly present in the bright yellow fruit than in that of a greenish yellow tinge. At three exhibition tables we have noted this and compared the fruit, the latter being, in two cases out of the three, by far the most palatable, and their maturity more advanced. Recently we tasted some Duchess of Buccleuch, which were as green as grass; but the flavour was as near perfection in that kind as we have ever known it to be. Some time ago, a friend sent us Muscats for comparison with our own. The latter were unusually large in the berry, deeply coloured, and very sugary in flavour; but those of our friend were greenish in colour, more juicy, and the Muscat flavour intensely rich, and we, in this sense, much preferred them to our own. Some lay much stress on colour in Grapes, and we value it greatly; but it is often present in dark and light kinds when the fruit is far from being ripe and quite unfit to eat.—*Caledonian.*

Potatos and Turnips.—Notwithstanding the intense drought and continuous absence of rain, it is pleasing to notice the splendid fields of Potatos and Turnips in some parts of the country. In some districts, however, where the land is heavy, and of a clayey nature, Turnips are almost a complete failure; but, notably, in West Lothian the two crops (so much valued in the north) are of the most promising description—immense fields being almost without a single vacant space. In our district—further west—the Potatos look well, but in many cases are small. To-day, August 2nd, a cottager told me he found indications of disease in his garden plot. American Rose is blackened, and showing symptoms of the dreaded enemy. It is curious to observe that while one may pass several fields of green crops and corn in a high state of perfection, others are stunted and poor. On asking our driver, who was describing the county, state of the land, &c., as we passed along, the cause of such wide difference in appearance, his blunt answer was “plenty o’ muck or starvation.” It is evident where land is good and cultivation of high character, drought is in a great measure defied.—*Caledonian.*

Dumfries Horticultural Improvement Association.—The usual monthly meeting of this association was held in Greyfriars' Hall on Aug. 4th. Mr. Rowe, Nunfield Gardens, read a very interesting paper on decorative flowering plants, specially dealing with *Rhodanthe Manglesii* alba, *Crassula* or *Kalosanthes*, *Pelargonium*, soft-wooded Heaths, &c. At the conclusion of the paper, Mr. Rowe was awarded a hearty vote of thanks. The judging of the coat-bouquets and other flowers sent in for competition brought the meeting to a close.

THE AMATEURS' GARDEN.

WINTER VEGETABLES.—The unusually dry character of the season has caused the calendar of ordinary garden operations—as far as outdoor planting is concerned, at least—to be greatly behind date, so that work of that kind is considerably in arrears, notwithstanding the determined efforts of many cultivators to meet the exigencies of the case. The plants of Brussels Sprouts, Savoy, Borecole or Greens, and other things are still, in many cases, in the seed-beds awaiting rain, a cooler and moister atmosphere, or some favourable occasion. In several gardens, where the patience of the cultivator had become exhausted, planting was proceeded with at all hazards; and where the roots of the plants had been puddled before insertion in the ground, they have now become established, although growth has been very limited indeed. A little extra labour would be incurred; but where not already done, planting should no longer be delayed if a tolerably fair supply of winter vegetables is to be expected.

Besides puddling, another rather more tedious operation may be adopted with even better results. The ground to be planted should be dug over and otherwise prepared, having previously well manured it if necessary. Take out a trench several inches in depth, and give it a thorough soaking of water, and after puddling the roots of the subjects to be planted in a pasty mixture of soil and soot, planting may be effected an hour or so after the heavy watering has sufficiently subsided to leave the ground in a workable condition. Owing to the dry condition of the atmosphere, little growth may be expected for a week or two, but when the days become shorter with copious dews at night, or after the first heavy fall of rain, growth will proceed rapidly, making amends for the long delay. In cold, late, but especially northern districts, various kinds of Cabbages may be sown for planting out in autumn to stand the winter, and give the first supply next spring.

AURICULAS.—These fine old flowers are still favourites with many amateurs, and the zest given to their cultivation is greatly encouraged by annually raising seedlings in quantities proportionate to the means at command. Seeds should be saved from the best varieties that have been crossed artificially or simply left to natural causes. The seeds may be sown in January or February in heat, and thus grown on quickly; but more satisfactory results will be secured to the amateur by sowing them now, or as soon as ripe, in pots or, preferably, in shallow pans in a compost of rich light sandy loam and leaf-soil sifted fine. Place the pans in a cool frame or greenhouse, and cover with a square of glass to retain the moisture, shading from bright sun till the seedlings are well established. By this method the amateur can raise any quantity without the aid of fire-heat, and clean healthy growth will result.

Re-potting of old established plants may be effected during the first and second week of this month, and propagation by division may also be successfully performed at this time if necessary. The off-sets should be carefully removed, studiously avoiding disturbance of the roots; and after cutting off the base with a sharp knife, leaving as little as possible to be healed over, dust it with finely-powdered charcoal, which will prevent decay. Formerly, excessively rich composts were used, which were greatly productive of disease and ill health in various forms. A very suitable and satisfactory one would consist of two-parts good fibrous loam that has been stacked for a year or more, one-part of well-rotted cow-manure, a quantity of clean sharp sand, and a small portion of leaf-soil. After re-potting, place them in a frame with a northern aspect and shade till re-established.

HARDY FRUIT.—The gathering of all the smaller kinds of fruit, such as Gooseberries and Currants, should be done in the morning or the earlier hours of the day, before the sun becomes powerful, as they keep and carry best when gathered in a cool condition. They should also be dry, but this will occasion no difficulty this year. If they are to be retained for any length of time on the bushes and trees, netting must be resorted to, especially where birds are troublesome. The same applies to Morello Cherries, which are soon destroyed if not protected.

THE VINERY AT CHISWICK.

OUR illustrations serve to give an idea of what was formerly used as a conservatory by the Royal Horticultural Society for the cultivation of large specimens of New Holland and greenhouse plants generally. In 1857, the then superintendent, Mr. G. McEwen, suggested that it might be utilised for the cultivation of Vines, and this was accordingly done. An outside border, about 5 ft. in width, was constructed, and a shallow one inside on the top of the pavement. The Vines were planted alternately inside and out, but succeeded rather indifferently. Two years later, Mr. Barron got charge of the vinery, which improved remarkably under his skilful management. The Vines planted inside were uprooted, and the outside border, on a raised terrace, extended to a width of 15 ft. Since then heavy crops have annually been obtained.

The house runs east and west, one of our illustrations showing the west end, the other being a view from the inside, showing the ladder used in thinning the Grapes, and on which from ten to twenty men can conveniently work at the same time. The crop is heavy but rather late this season, owing to its having received but little assistance from fire-heat. This is

Mr. Barron for the interior view, which forms one of the illustrations in his admirable work on *Vines and Vine Culture*, of which, we are pleased to hear, a new and cheaper edition is being prepared for early publication.

MIDSUMMER FLORAL FASHIONS.

WE must look to the leading summer resorts for floral styles now that the patrons of our fashionable florists are out of town. Natural flowers have never been worn in such profusion as at Newport, Saratoga, Long Branch—in fact, at all the great hotels, where every evening the drawing-rooms are filled with persons in full dress.

I have been about considerably among the suburban villas of representative New Yorkers, and I have never before seen such elaborate decorations in the cottages with flowers, which are apparently the order every day. As every season the garden show is more extensive, displaying a higher style of landscaping, so interiors evidence admirable taste in the distribution of the quantities of flowers and foliage brought indoors every morning.

skirts and corsage are trimmed. The ladies' maids at the watering-places are evincing nice taste in their work of garnishing their mistresses' gowns. Florists will have to look to their laurels.

An exceedingly pretty device is the floral pocket, which is a pouch suspended from the belt, in which to carry the handkerchief. These are made of silk or net, and are covered with natural flowers. A young belle at Saratoga has a different one every day. Pea-blossoms of white, pink, and pale lilac are exquisite for covering these pockets. Another delightful addition to the female toilet is a wide illusion or tulle scarf, which is worn around the shoulders, crossed over the breast, and tied with long ends behind. It is lined with flowers through the centre, and is finished at the breast and in the knot at the back by clusters of bloom with trailing foliage.

Hand-bouquets are made very large, loose, and flat one side. Field Daisies and Roses are very fashionable, the former flowers predominating. Considerable trailing foliage, such as Asparagus and Vinca, is placed at the top, and among this Pelargonium leaves are disposed in a cluster. The Daisies follow, and below near the stems are pink Roses. Souvenir d'un Ami is used with good



INTERIOR VIEW OF THE VINERY AT CHISWICK.

rather a misfortune, seeing the great demand for Grapes at present. The bunches have just commenced colouring on the south side and the west end, and number upwards of four thousand, with an average weight of 1 lb.; but on the younger rods, especially between two and four years old, the bunches are both numerous and large. The best, however, are those on the south side, which is always the case, showing positively that Vines should never be planted on a north aspect, even when the house is a span-roofed one. The Vines here are less vigorous, the bunches smaller, and ripen later than on the south side of the house; but, curiously enough, a rod of Black Hamburgh planted on the north side, taken across the roof, and a little way down the sunny side has its fruit as well coloured as those planted on the south side, although quite green on the other part of the rod. Black Hamburgh, Frankenthal, which Mr. Barron considers to be synonymous with the last; Foster's Seedling, Black Monukka, the seedless Grape; Gros Guillaume, Mrs. Pince's Black Muscat, and Royal Muscadine are bearing heavy crops on the south side of the house; while the first two, together with Oldaker's West's St. Peter's, and Lady Downes, are also very fine on the opposite side. There is scarcely sufficient heat to finish Muscat of Alexandria and Gros Colmar, the best samples of the latter being grown in the long vinery. Madresfield Court is heavily cropped and does not crack here. We are indebted to

Not satisfied with garden growth and wild flowers and wood Ferns, boxes of choice bloom are ordered from this city. Stephanotis, Gardenias and the choicest cullings from the stock of the wholesale dealers are again packed and sent to country seats. The fashion of trimming gowns with natural flowers is so universal at the large resorts, that it has doubled the amount of bloom demanded. The wearing of fresh flowers on the drapery of dresses is not confined to full dress. Some of the most charming effects I have seen have been made on satin and linen lawn dresses. Dainty clusters of field Daisies and grasses are tacked as finish to side trimmings of morning dresses. Bunches of yellow ox-eyed Daisies garnish the sash of an ecru pongee silk matinee frock. Moss Rose buds and grasses are placed in several positions on mull dresses, and Water Lilies are gracefully adjusted upon cambric suits.

The Puritan Rose is a favourite flower, and brings a good price. It is very beautiful, providing a strong white Rose that will not throw its petals out loosely after being worn an hour. It trims the white silks, satins, and grenadines in vogue for full dress very handsomely. A costume that was greatly admired at Long Branch, last week, was a white glacé silk, with grenadine drapery disposed in sashes, which were held in place by Puritan Roses. Married women are wearing Gardenias and Stephanotis on their gowns; both the

effect just now in hand-bouquets. The choicest hand bunches are made of Gardenias and Stephanotis, with a few Puritan Roses. The white bouquet is very stylish for full dress occasions; in fact, there is a prevalence of white bloom in all the best designs and arrangements, excepting for funerals, when high-coloured flowers are more demanded than any other.

Longiflorum Lilies and Yucca blossoms are very fashionable for table decoration and for room embellishment. Table centres are all high, a pyramid of Lilies surmounted by a spike of Yucca bloom being popular. High silver dishes and tall rush vases and baskets are built up with large flowers in a very conspicuous way. —*American Florist.*

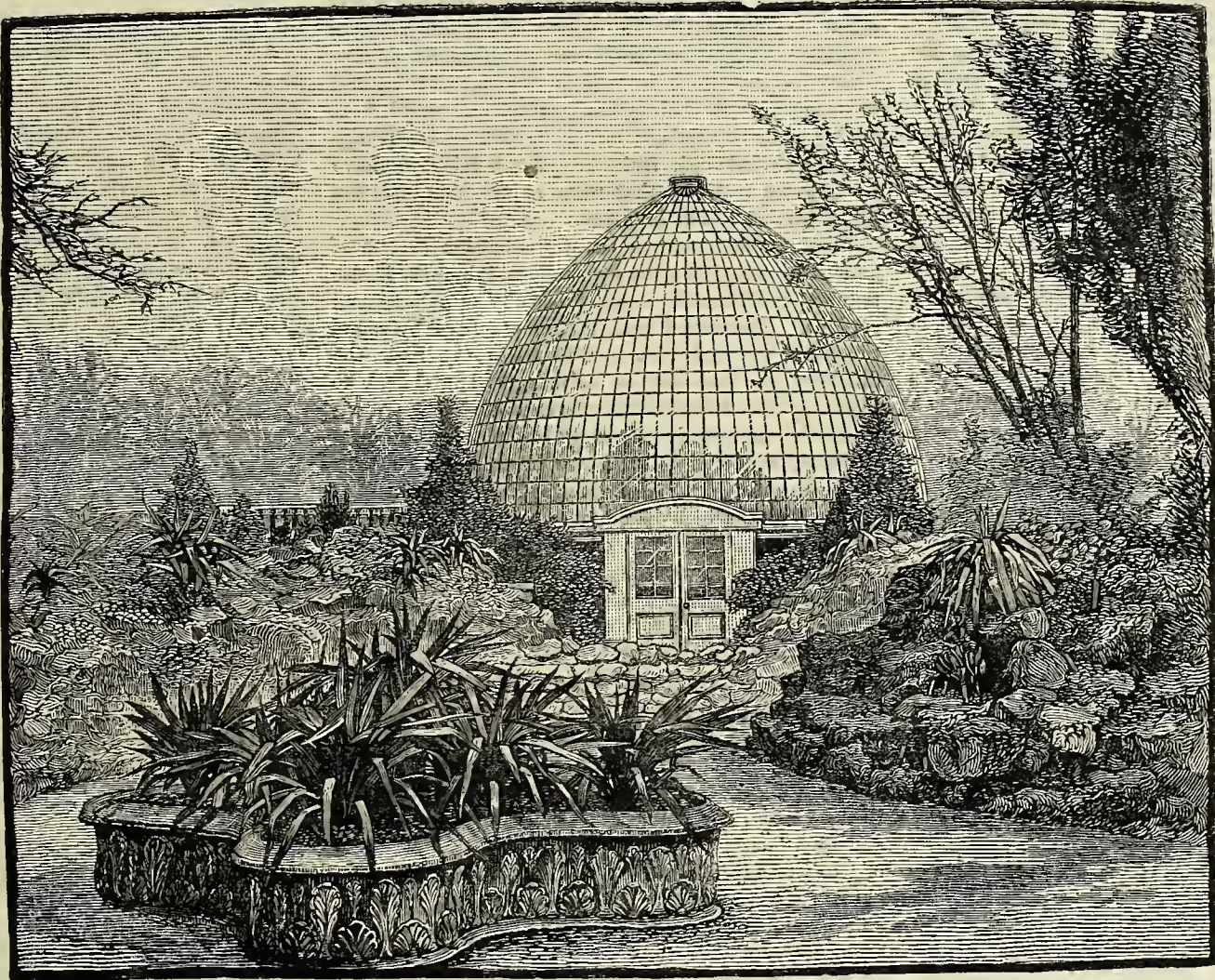
PROTEA CYNAROIDES.—A flowering specimen of this species was shown at Kensington, last year, under the name of P. Hubbardi. The same thing has now flowered at Kew, and may, or was to be, seen recently in the Cactus-house. The large elliptic or oval leathery leaves are very distinct from other species we see in gardens, and the huge inflorescence bears out the application of the specific name admirably in being like a Globe Artichoke. The flowers are white, with pink-tipped styles bristling from amongst the flowers, and the whole forms a semi-globular mass, surrounded by a closely-imbricating series of grey pink-tipped bracts, measuring about 10 ins. across the head.

COOLHURST, HORSHAM.

Now we are in the Weald of Sussex, and find the names exceedingly appropriate. A weald is a wood or forest, which was, doubtless, more applicable to this part of Sussex as a whole in ancient times than it is at present, the continuity of the forest being broken up into detached portions more appropriately called woods. We have ample evidence of this in the frequency of the word *hurst*, used either as the prefix or affix to the names of places. Coolhurst is an instance, and it would be an easy matter to find twenty or thirty places in the county in the naming of which the same word is used. We recently had the pleasure of inspecting the gardens and some of the venerable old trees in the immediate vicinity of the mansion of Scrase Dickens, Esq., Coolhurst, Horsham, and were very much struck with the evident antiquity of the place, around which we were conducted by Mr. Dickens' able and genial gardener, Mr. Kemp.

symmetry, and the beauty of its drooping tipped branches. *Picea Smithiana*, its companion on the Himalayas at elevations of 8,000 ft. to 12,000 ft, stood not far off, conspicuous by its long-leaved drooping branches, but less stately appearance. The Californian Red-wood, or Bastard Cedar, *Sequoia sempervirens*, is always a curious tree from its coarse spongy red bark, and from the fact that the leaves assume a purplish brown colour in winter, as if the tree were dying. A magnificent specimen of *Cryptomeria japonica*, popularly termed the Japan Cedar, is a perfect picture of beauty, far excelling anything of the kind we have yet seen. It was planted in 1850, which would be about six years after its introduction to this country by the late Robert Fortune. As it measured at the time of planting 5 ft. 8 ins. in height, there can be little question that it is one of, if not the oldest specimen of its kind in the country. The tree is now about 50 ft. in height, perfectly feathered to the ground, and tapering pyra-

is one of the true *Cupressus*. We generally see it doing best in the neighbourhood of the sea in this country, and it is very characteristic by its pyramidal habit when raised from seed and its bright green aspect. *Thuya* (*Chamaecyparis*) *Lawsoniana*, generally known as *Cupressus Lawsonianus*, also thrives well here, and a specimen we noted about 50 ft. to 60 ft. in height, was so heavily laden with fruit that the branches in the upper part of the tree were weighted down as if they were pendulous, and the cones imparted their colour to that part of the tree. An equally ornamental tree is *Thuya* (*Chamaecyparis*) *nutkensis*, the Nootka Sound Cypress, about the same height and beautifully pyramidal. Amongst Junipers there were tall specimens of *Juniperus virginiana*, *J. chinensis*, and *J. excelsa*. In its native country the Spanish Silver Fir, *Abies pinsapo*, grows to the height of 60 ft. to 70 ft., and a fine specimen here cannot be far short of that elevation; it bears a considerable number of its characteristic



EXTERIOR VIEW OF THE VINERY AT CHISWICK.

Of the giant and aged Oaks, Beeches, Chestnuts, Pines, and Spruces we have no intention to speak at length; but there is no denying the impression this kind of vegetation has upon the mind of visitors who see them for the first time. A history is theirs, of which their general appearance is the expression, and all "who run may read." The effects of the disastrous storm of last Christmas are still visible where huge limbs were wrenched off by the weight of snow, and in some of the smaller coniferæ that have not yet regained their customary straightness. A smoothly cut lawn lies in front of the mansion, seemingly continuous with but separated by a hawthorn from a field beyond that slopes gently down to the edge of a pond or lake, in which Water Lilies revel and bloom in profusion, and beyond which the ascending ground is again heavily and beautifully wooded. On this lawn and westward from the mansion are some of the finer and more select trees which we noted.

Hoary old giants of the Cedar of Lebanon are scattered about the place in various directions; but a specimen of the Deodar, *Cedrus deodara*, about 70 ft. in height, and straight as a mast from base to apex, elicited our warmest admiration on account of its

midally from base to apex. We have frequently seen tolerably fair specimens, but they have been very much smaller, and generally more or less ragged, straggling, or thinly furnished with branches from a little above the base. In its native country, the Islands of Japan, about forty or fifty years ago it constituted about a tenth part of the forest vegetation, and ranged from 60 ft. to 100 ft. in height. The foliage in this country retains its natural colour in winter much better than *C. elegans*, and is altogether hardier than the latter.

An avenue of *Cupressus macrocarpa* planted alternately with other kinds would have been a fine sight by this time if the avenue had been wider, and the other trees removed so as to show off the individual peculiarities of this noble and graceful erect-growing species. Their effect as a whole is impaired, however, by the interference of the other and generally less valuable trees that conceal them, unless the visitor inspects them separately. The defect, however, is due to the original designer or planter, and cannot now be remedied. Several specimens planted singly on the lawn are in themselves pictures of beauty, about 30 ft. to 35 ft. in height, and many of them are carrying fruit, which shows from its great size that this species

erect cones, resembling birds or other animals perched in the top of the tree. A fine specimen of *Araucaria imbricata* also bears cones abundantly, and ripens seeds.

Large-flowering shrubs or small trees are also a special feature at Coolhurst; but to see such things as Rhododendrons and Azaleas in the height of their glory, one must visit the place in June or early in July. The remains of the blossom bore evidence in itself of a magnificent and imposing display. And such huge masses they were, too! not tiny dwarf scrubs, hugging the ground, as we see too frequently now-a-days, but giants, 10 ft. to 12 ft. or more in height. Seedlings in unlimited numbers spring up where left undisturbed. Snowy Medlars, *Rhus cotinus*, *R. typhinus*, *Gaultheria Shallon*, *Spiræa japonica*, with fine red flowers; *Prunus Lauro-cerasus variegata*, 20 ft. to 25 ft. in height; and *Kalmia latifolia*, all swell the list of useful free-flowering shrubs or small trees. The Calico Bush, *Kalmia latifolia*, is 8 ft. in height, and had flowered finely. *Rhus cotinus*, the Smoke Plant, or Wig Plant, was an interesting feature in itself. The old trunk, now about 6 ins. in diameter, is prostrate; but the branches erecting themselves to the height of 9 ft., are rendered un-

usually showy by the hairy barren pedicels of the inflorescence, which assumes a beautiful rosy red tint. The *Stuartias* are rare and beautiful shrubs belonging to the Tea family, and two out of the three known species are grown with much pride at Coolhurst. They are both North American species, one of which, *S. virginica*, forms a large spreading bush with ascending or erect branches, bearing large white blossoms somewhat like a Rose, with a profusion of purple filaments. *S. pentagyna* is a smaller but healthier and more vigorous-looking bush, with larger, wholly white flowers, and larger and finer foliage. It is sometimes called *Malachodendron ovatum*, but differs from the true *Stuartias* merely in the fine styles, being free to the base instead of connate, and in the seeds being slightly winged.

We regret that time did not admit of a more detailed and more extensive survey of the rarer and more interesting trees about the place, and which are all the more deserving of notice from their comparative old age.

ESPALIER FRUIT TREES.

SINCE dwarf fruit trees have been so much in fashion, the old espaliers have had to make room for their more modern rivals. It is not often that one sees fruit trees trained round the borders of kitchen gardens, and the greater portion of those now in existence are poor representations of well-managed espaliers. Where the kitchen garden has to play the part also of a pleasure garden in forming a resort for promenading, fruit trees well managed in the manner indicated do good service in shutting out the vegetable quarters, which cannot always be kept in the most sightly condition, and the small space which these dwarf-trained trees occupy is an argument in their favour. Economy of space is often of much moment, and the large quantity of finely-ripened Apples and some kinds of Pears, even in the north, which can be grown on espalier trees render them most serviceable adjuncts in places of limited extent. Cordou-trained fruit trees—single, double, or triple—are only espaliers of a more diminutive class, and without a doubt the finest of fruit has been grown on this system. We could refer to several gardens where Apples are grown to such a size, and attain such excellence of colour, as to render them as kinds scarcely recognisable.

One of the greatest of evils attending the cultivation of espaliers is their tendency to go off by canker. It is more particularly to this disease we specially refer as being one by which many of the finest kinds of fruit trees are destroyed, and none are more liable than espaliers and trees which are curtailed in growth. We know that some say the remedy is in our own hands—allow the trees to grow on the extension system, and attain their natural dimensions and habit. These large trees, however, often become diseased, and fall, piecemeal, victims to canker, &c. Then there are many positions where trees over a certain size cannot be grown; space and other circumstances do not allow trees over certain dimensions. Yet apart from these considerations, how interesting it is to have handsome and productive subjects under one's entire control! But then there is this formidable canker, which too often defies the ardent lover of such dwarf-tree culture. Now, are we to let disease rob us of the pleasure of growing handsome fruit trees, which are so profitable and conducive to real enjoyment?

Notwithstanding all that has been said and written as to the cause of canker (ulcerated wounds, which eat through the bark and into the wood of trees), we believe it emanates chiefly from one or two causes—viz., vigorous, unripened growth, produced by the roots absorbing food and moisture which cannot be assimilated by the wood and foliage because of the orthodox annual or biennial pruning which the trees are subjected to. The overgorged tissues are then attacked by disease. Another cause is that the roots sometimes get into poisonous or inert subsoil, rendered unhealthy by the accumulation of stagnant moisture, which encases the roots and causes their death; or the absence of moisture, which engenders fungi and other diseases. If the trees are inclined to become gross by excessive nourishment, the simple remedy is to cut off the supplies, and the luxuriance will become modified; reciprocity between roots and branches will become equal and healthy. We never could see the force of allowing any fruiting plants to make a quantity of growth not required, only to be cut away. A healthy tree on the dwarf

system of culture should make abundance of healthy foliage, and have a strong tendency to form every bud into fruit-bearing ones. A tree whose roots are a mass of fibre, which cannot get downwards into bad sub-soil, and prevented by the firmness of the soil from sending out long thong-like branches, will invariably be in robust health and in thorough fruitful condition; and when such is the case nutriment may be given freely from the surface, which will encourage young rootlets to come upwards and be benefited by warmth and air. In certain healthy soils, roots may be found going down to a great depth, and not suffering in any form by being so far from the surface. These cases are exceptional soils, and positions being alike favourable to health.

Where dwarf trees have been planted in loose soils, with no obstruction to the descent of roots, and making much growth without fruiting, we would not hesitate a moment in stopping top growth by pinching, and when about to break out again, would cut all bottom roots clean away, ramming plenty of lime rubbish in the bottom. If that did not check the undesirable growth a second cutting might be made at one or two sides of the tree, till its behaviour indicated a less vigorous activity of the roots. Examination of a number of large trees and many small ones on the dwarf system, which have been served as above, and have got rid of their gross growth and freed from canker and rusty foliage, but, instead, have fine foliage and are loaded with fruit, supports a faith we have many years retained, that roots require manipulation in proportion to the branches.

What applies to trees on the extension system of growth by reciprocity between root and branch, is also natural to dwarfed ones, especially espaliers and cordons. Continued pinching, as practised by some, to check top and root growth, does not meet the difficulty so effectually as reducing straggling shoots, so that they may emit fibres a hundredfold. The present being the time to do the more important pruning of the trees, we would relate a case in point rather than advise an orthodox system. A garden of finely-trained espalier trees, which had been carefully tended by a painstaking old gardener, only had a yearly pruning. One of the reasons was that they produced fine growths, which were valued for stakes to pot plants. In course of time they began to resist the annual cutting by signs of canker and bareness; but no help was given. They fell into the hands of a second practitioner, who pulled off every growth as it appeared, and this did not improve them; but the soil and climate being of the best in England, the trees fruited fairly well, and maintained their vigour. A third cultivator had them in hand, whose practice was to moderately prune and thin during summer, doing the work about three or four times in the course of the season, and giving no check. The gross roots going downwards were cut off and mulching given. After the foliage had fallen in autumn a careful pruning was given, thinning out the crowded fruit-buds, and leaving nothing to die back, so that "snags" could not form. Healthy short growth followed, and abundance of fruit was annually gathered from these beautiful espaliers. It is many years since we saw these trees, but their appearance indicated a long life of great productiveness. These handsome espaliers, mostly choice Apples, impressed us so favourably, that we have always had much leaning towards this method of cultivating Apples and Pears where the latter ripen, as we know the system is profitable and ornamental.—*Caledonian*.

GARDEN PLANTS ILLUSTRATED.

DISPORUM LESCHENAUTIANUM.

The bell-shaped flowers of this curious Lilywort are six-parted, white, and borne in two to five-flowered clusters in the axils of elliptic six to nine-ribbed leaves on erect stems, usually 15 ins. to 18 ins. in height when grown in pots. The flowers are succeeded by deep bluish black globular berries. It inhabits some parts of India, and again crops up in Ceylon at elevations of from 4,000 ft. to 7,000 ft.—*Botanical Magazine*, t. 6935.

XANTHORRHÆA PREISSII.

The Grass Gum Trees, as they are familiarly called, number about eleven species, all of which are peculiar to Australia. The one here noted is the fourth that has flowered at Kew, and all have been figured in the *Botanical Magazine*. The *Xanthorrhæas* are members

of the Rush family, nearly allied to the Lilies, an *X. Preissii* has a tree-like stem, densely clothed at the apex with slender linear three or four-angled leaves. The robust flower-stem attains a height of 3 ft. to 8 ft., half of which is covered with a dense arrangement of its interesting though not very conspicuous flowers. The plant was received from the Australian Commissioners of the Indo-Colonial Exhibition.—*Botanical Magazine*, t. 6933.

ARISTOLOCHIA RIDICULA.

The curious-looking two-lobed limb of the perianth which is furnished with glandular hairs resembling the head-gear of a clown, has suggested the specific name of this Birthwort. It is a climbing shrub, belonging to the same section as the more familiar garden plant, *A. trilobata*, and sometimes doing duty for *A. Kämpferi*. The leaves are roundly kidney-shaped, reticulated and hairy. The flowers are solitary in the axils of the leaves, of a yellow ground colour, with brownish purple veins, and spotted on the limb; the lower part is inflated, and the tube curved. Being a native of Brazil, it requires stove treatment. Introduced by Mr. W. Bull.—*Botanical Magazine*, t. 6934.

PLEUROTHALLIS INSIGNIS.

Allied species of this genus are natives of Venezuela, at an altitude of 7,000 ft., and the present species, which appears like a giant form of *P. glossopogon*, is believed, but not definitely known, to come from Caraccas. The sepals are ovate at the base, yellow, with brownish purple spots, and produced in long tails resembling a *Masdevallia*; the petals are similarly elongated, but much narrower and paler in colour. The three-lobed labellum is furnished with hairs on the terminal lobe, from which it was first concluded to be *P. glossopogon*. For garden purposes it is far more conspicuous than the majority of the species.—*Botanical Magazine*, t. 6936.

HYBRID CANNAS.

Some Cannas have been obtained as a result of hybridising *C. Ehmannii* with *C. glauca*. A reciprocal cross could not be obtained, on account, it would seem, of the imperfection of the pollen of *C. Ehmannii*. The flowers of *C. Raphaëlis*, one of these hybrids, are variously suffused with reddish crimson on a yellow ground with a rose margin; while those of *C. Thomasæ* are much paler, buff-yellow marked with red, and deep crimson at the base. Those of *C. Clementis* are dark crimson somewhat suffused with purple. The leaves of all are green banded with a darker colour, and the flowers erect, not drooping, as in *C. Ehmannii*.—*Bulletino della R. Società Toscana di Orticultura*, April, 1887.

GARDENING MISCELLANY.

Notes on Early Peaches.—I have already referred, on more than one occasion, to the Waterloo Peach as being a first-rate early variety. This season, from trees planted outside on a south wall, we gathered our first ripe fruits on July 28th. It generally matures with us a few days earlier than the Alexander and the Amsden June, and grows larger. This year—undoubtedly owing to the long-continued spell of hot dry weather we have experienced, and which, at present, seems likely to continue—the fruits have not swelled up to their usual size; but, notwithstanding, are good in colour, juicy, and sweet. The trees, both outside and under glass, grow vigorously, and set plenty of fruit. We have again this year been gathering some capital fruits of it indoors, the heaviest turning the scale at half a pound. It ripens about five weeks earlier than Royal George and Grosse Mignonne, planted in the same house. Alexander is now (August 3rd) ripe; this variety, although, with us, not growing quite so large, nor ripening so early as the Waterloo, is, nevertheless, a grand early Peach. I have also this year grown it in pots indoors. The trees, being small, were only allowed to carry six fruits each; these, however, swelled up to a good passable size, and were remarkably sweet, ripening over a fortnight before Hale's Early. Amsden June, planted on the same wall as the Alexander, ripens with it, the fruit greatly resembling that of the latter. If there is any difference between the two, I believe the Amsden is slightly inferior, both in size and quality. Two other Peaches that we find succeed well under glass, and cannot well

be spoken too highly of, are Stirling Castle and Bellegarde.—*H. Markham, Mereworth Castle, Kent, Aug. 3rd.*

A Trimorphic Laburnum.—Rarely do we find *Cytisus Adami*, a graft-hybrid, remaining true to its hybrid character after being planted for a few years. Shoots are produced on the tree identical with one or other of the parents from which the hybrid originated. *Laburnum vulgare* would seem to be by far the commonest parent to dissolve the union; and, accordingly, it is no rare sight to see a specimen ordinarily bearing pale purple, buff-tinted flowers throwing out more vigorous shoots furnished with larger yellow flowers. An instance of a rarer and more interesting kind may be seen on the side of the private approach to Wood-hatch, Reigate, and which never fails to arrest the attention of visitors when in flower. It is equally noteworthy at the present time when in fruit, although less conspicuous. In addition to the well-known character of the hybrid, which is perfectly sterile, fruiting branches of *Laburnum vulgare* and *Cytisus purpureus* may all be noticed on the same tree. The leaves are perfectly distinct in all three cases, the hybrid being intermediate, so that a great gap is noticeable between the two parents, both in the characters of the fruit and foliage.—*J. F.*

Pansy, Countess of Kintore.—For bedding purposes this variety would be difficult to excel in dry seasons—a fact that can be noted in many gardens where a collection of this class of plants is grown. They all delight in moist, somewhat shaded positions and a rich soil, if good blooms are expected. For this reason the dry sunny climate of the south eastern counties generally are unsuited, naturally, for the cultivation of a class of plants universally esteemed for their beauty, rich and varied colours, and their hardy, accommodating character. The variety under notice is somewhat in the way of the old-fashioned Magpie; but the colours are more confined to particular regions of the flower, the two upper petals being white, and the three lower ones plum-purple or violet, except at the margins, where they become paler. The profusion of bloom has been continuous from spring till now, and the flowers individually do not degenerate in size to the same extent as those of many other varieties in dry weather.

Two Attractive Petunias.—At the trial grounds of Messrs. J. Veitch & Sons at Chiswick, in a bed of numerous varieties of *Petunia*, are two that make themselves conspicuous, not for size, but by their lively and novel colours. Countess of Ellesmere has small bright rose flowers with a white tube, that seem better adapted to rough or generally more variable summers than this has been. The large-flowered sorts are, probably, more esteemed by the million, and the warm dry summer they are enjoying suits their constitution admirably, but they seem altogether unfitted for wet or sunless seasons. We also noticed this form in the Royal Horticultural Society's garden at Chiswick. The other form is rightly named *Compacta elegantissima*, from its low or procumbent compact habit, and very elegant medium-sized flowers, beautifully striped longitudinally with broad bands of rosy purple. Altogether we considered them very attractive.

Clitoria ternatea.—Originally introduced in 1739, this is one of those things that come and go, as it were, by haphazard, as it does not belong to that class of plants termed popular. The beauty of the flowers individually, however, is unquestionable and singularly curious from a structural point of view. The standard usually uppermost is, in this instance, reversed, forming the landing stage for insect visitors; and it is, moreover, by far the largest and showiest organ of the flower. There are several varieties in cultivation, and two of them are now flowering in the Water Lily house at Pendell Court, one of which is pure white with paler foliage than the type, showing the correlation of homologous parts. The other form, named *C. cœlestis*, is nearer the type and has beautiful sky-blue wings and standard, the latter having darker radiating veins, with a white blotch near the base.

The Cannibal's Tomato.—It would be interesting to know whether this species is still in cultivation. Strictly speaking, it is not a Tomato botanically, but something closely allied—namely, *Solanum anthropophagorum*, which means “man-eating.” The cannibals of Fiji formerly ate it with human flesh, and if “Sauce for the goose is also sauce

for the gander,” then it might—forgetting or ignoring the terrors in connection with its former use—be utilised to advantage with English beef. It requires stove temperature to grow it properly; but the common Tomato also gets that treatment as often as otherwise, and the only other questions that arise are whether it is prolific enough to pay for its cultivation, and whether it would prove acceptable to the English palate. This is a secondary matter, seeing how repugnant we were generally to the flavour of the Tomato when first eaten. If the plant is sufficiently prolific, the other objections would sink into matters of minor importance. The fruit is large, red, slightly two-lobed at the apex, and resembles the Tomato to a certain extent.

The Lattice-leaf Plant.—A fine piece of this remarkable plant is now about to flower in one of the stoves at Burford Lodge, Dorking, where it is very successfully cultivated. It is simply submerged in a tub of clear water, a condition which is necessary to maintain the membranous and skeleton-like leaves in healthy condition. A small but continuous supply of water by means of a siphon is all that is necessary to keep that in the tub pure, and the foliage should not be much below the level of the water. A moderately shaded position accords best with the likings of the plant. Increase is secured by dividing the old plant, or by sowing seeds, which it will do spontaneously if left alone. Curiously enough, the foliage of the seedlings has no perforations till the plant attains some size, when they gradually assume the characters of the parent. *Ouvirandra fenestralis* is the most generally recognised name, but the species are sometimes classed under *Aponogeton*, from which they differ merely in the latticed or window-like leaves.

Oenothera biennis.—This species is better known and more commonly grown under the designation of Evening Primrose, and, as the specific name implies, is of biennial duration only. Why the term “Primrose” should be so generally applied to it I am at a loss to understand, except, perhaps, in reference to the colour of the flowers, which are of the purest pale yellow. Otherwise the plant bears no relation to the genus of favourite spring bloomers. The special interest attaching to the subject under consideration lies in its propensity to expand its blooms at sunset, at which time most other garden flowers—not excepting double Marigolds, Carnations, Dahlias, &c.—have a tendency to close. It is of the easiest possible culture, and may be grown, even satisfactorily, under the most adverse conditions. A neighbour of mine possesses some plants which are, at the present time, giving, I may say, an almost undue amount of satisfaction. They are growing in sandy soil of the poorest description, and are fully exposed to the direct rays of the sun the whole day long. He states that he “stuck them in” last spring, giving them little further thought until they forced a recognition from him on account of their luxuriant growth, which set in on the subsidence of the cold weather. Their proportions now average 3 ft., both in height and through, and all night long they are literally covered with large bright yellow blossoms, which are delicately scented, and range in size from 2 ins. to 3 ins. in diameter. The stem is stout and much branched—hence their floriferousness. This species also admirably illustrates some of the latent forces of nature, for, on a close inspection, the sepals which form the floral envelope may be observed to gradually give way before the mysterious internal pressure of the expanding flowers, which last one night only, the beams of the morning sun destroying their beauty, to be succeeded, however, by a fresh host as Sol's departing influence wanes.—*C. B. G., Aeton, W.*

Clematis for Arches and Beds.—Some fine examples of these are now in bloom in the neat little garden of Mr. Sargent Hutton, at Harrow-on-the-Hill, the flowers on the arches being as dense as they can well be. One of them has a brilliant display of the crimson *C. viticella rubra grandiflora* on one side, and the favourite purple *C. Jackmanii* on the other. *C. Jackmanii grandiflora*, and other good varieties, equally well furnish the other arches, while the centre has a tree stump with branches covered with *C. Jackmanii*, intermingled with the white *C. Henryi* and *C. Otto Freebel*, and the pale blue *C. Lady Caroline Neville*, the whole having a charming effect. Every year the merits of the *Clematis*, generally and particularly the *Jackmanii* section, become more evident in our gardens, and they seem to luxuriate on a stiff clay soil where many other things refuse to grow kindly.—*J. B.*

Catalpa syriaca.—There is a fine tree of this species in the gardens at Vintner's Park, near Maidstone, under the care of Mr. McLean. The specimen in question is about 30 ft. in height, and 36 ft. in the spread of the branches, which is a fair average of the best trees of the kind in this country, although in its native clime, the more favoured parts of N. America, a height of 40 ft. to 60 ft. is recorded. Growth is very rapid in the earlier stages of the tree, which will attain a height of 20 ft. in ten years. After this, it develops a broad spreading head, conspicuous by its handsome foliage and Bignonia-like flowers, which are white, with two medium longitudinal orange bands, and numerous attractive purple spots and markings. These showy flowers are borne in large terminal panicles, which render the tree an object of great beauty at this season. The glands at the junction of the veins on the under sides of the leaves are very curious, but their object in the economy of nature is not very obvious. Some authorities prefer the other recognised name for this tree, namely, *C. bigonioides*, which is, doubtless, very appropriate.

Martynias.—In one of the beds of the herbaceous ground at Kew may be seen three species of this curious genus, exemplifying a kind of vegetation not often seen in gardens. *Martynia fragrans* is, perhaps, the commonest and most popular species, the fragrance of which, being decidedly agreeable, may account for its popularity. The flowers are deep rich purple, spotted in the throat, on a paler ground, with a rich orange band along the lower side. Those of *M. craniolaria* are soft pink, with two purple blotches on the upper lip, amply spotted with red in the throat on a yellow ground, and having the customary orange band. The flowers of *M. lutea* being well borne above the foliage in a close raceme, are the most conspicuous, of a bright orange-yellow, richly spotted with orange-scarlet on the inside. It is certainly very handsome, but its odour, like that of the preceding, is by no means agreeable, as it is in *M. fragrans*. The foliage of all is densely covered with viscid glands, and catches flies in great numbers, but whether any direct advantage is secured thereby is questionable. That of *M. lutea* is by far the largest, giving the plant quite a tropical appearance, and the flowers may not inaptly be compared to those of a yellow and spotted *Gloxinia*. *M. proboscidea*, having a curiously beaked and curved fruit like an elephant's proboscis or trunk, is also sometimes grown here.

Trichinium Manglesi.—Although so strangely different from the *Celosias* and *Cockscombs* of our stoves and greenhouses, this Australian plant nevertheless belongs to the same natural order. It, however, comes from a region where the soil is so dry, sandy and fine, that it could all be passed through an hour-glass. The oblong or linear leaves form a loose rosette, from which the flower-scapes proceed in an ascending direction, bearing at their apex a dense oblong spike of flowers. These are densely woolly, with spreading white hairs, giving the whole spike a curious appearance, while the lively pink tips of the protruding perianth form a pretty and striking combination. Mr. Baines grows it well at Burford Lodge, Dorking, in a compost consisting of sand, cow-manure and a little loam, standing them in a cool airy greenhouse.

Smoke Plant.—In the beautiful grounds of Miss Chumley, Hurley House, Great Marlow, Berks, is a magnificent specimen of *Rhus cotinus*, variously known as the Smoke Plant, Wig Plant, and Venetian Sumach. It is about 9 ft. or 10 ft. high, and at the present time is covered with a mass of its elegant and singular-looking inflorescence that almost completely hides the foliage. The specimen in question is planted on the lawn, and being thus individualised, shows off its peculiar beauty to the best advantage. The general hue of the inflorescence for some time after flowering is a dusky grey, probably suggesting the name Smoke Plant; but it is now giving place to a reddish crimson hue that is particularly charming. This effect is produced by fine hairs that develop from and enshroud the slender barren pedicels of the inflorescence now so conspicuous and handsome. The shrub is perfectly hardy, and retains its foliage till severe frost causes the leaves to change to a reddish yellow and drop.

A Monster Sunflower.—In a garden in Guernsey, I recently measured a Sunflower which was over 8 ft. high, and the flower-heads 20 ins. across.—*T. C. W.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.—Now is the time to see that all the heating apparatus is in perfect order, and the boilers sound and clean, or to make any alterations which former experience may suggest. Where any of the piping has sunk out of the level, the dipping joints should be carefully raised and blocked up. The valves for regulating the temperature should be oiled and put into proper working order, and all defective points made good. When all is right, a coating of lampblack and oil will tend to preserve the pipes from rusting, and give a tidy appearance; but, above all things, I wish to caution growers against any of the varnishes sometimes recommended by painters, which do serious and lasting injury to the plants. I have even known gas-tar recommended and used; but its destructive influence on the plants was immediately visible, and of such a decided character, that nothing would thrive for years in the houses where the piping was so blacked.

Where any doubts as to boiler power is felt, it is desirable to immediately call in an experienced person, to advise as to the desirability of at once putting in a new one. Painting the houses is an abomination to the Orchid grower, and a certain amount of injury is always done to the stock whilst in progress; but it is very necessary, and should now be pushed on briskly. Where possible it is best to clear one house at a time, and when painted and sweetened by being thrown open, to empty another into it, and so on, freely ventilating the newly painted house after refilling.—*James O'Brien.*

Orchids from Dumfries.—Specimens of Orchids from Captain Maxwell, Terregles, display some good features. A prettily spotted *Odontoglossum crispum* has a peculiarly elongated, pandurate lip. *Cattleya Gaskelliana delicata* is a lovely pale lilac variety with yellow throat, *C. G. superba* has a very bright crimson labellum and white ray in the two lower sepals. The *Cattleya Gaskelliana* marked No. 12 is also a very bright variety, and two forms of *Cattleya Eldorado* are marked advances on *C. E. splendens*, both in size and colour. To crown all Captain Maxwell sends a splendid flower of a fine variety of *Cattleya Mossiae* imported many years ago, but which is equal to the best even among recent importations; its colour is very bright, and the marbled and veined crimson and yellow labellum very handsomely fringed.

Disa cornuta.—From F. W. Moore, Esq., Curator of the Royal Botanic Gardens, Glasnevin, Dublin, comes a fine spike of this pretty and delightfully fragrant terrestrial Orchid. The flowers, which are an inch across, are pale yellow, and look as though frosted over; the hood is tinted with blue on the outside, and the trowel-shaped labellum in the centre is black, which forms a distinct contrast. The flowers are larger than those we have seen before, but not so densely set on the spike.

Bartholina pectinata.—This singular terrestrial Orchid also comes from Glasnevin. Its flowers are singularly lacerated, and at a glance somewhat resemble the large *Soldanellas*; the colour being blue and white. The fine *Catasetum discolor* also accompanies it.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

BRINGING UP ARREARS.—During such a season as the present, arrears of work are hard indeed to recover, and we find it extremely difficult to keep all straight. The state of the atmosphere renders frequent dampings necessary, and plants that are at all pot-bound require looking over and watering at least twice a-day, all of which entails an extra amount of labour not generally required or desired. We have cut back the stock of

SHOW AND FANCY PELARGONIUMS, and placed them in a close frame, so as to encourage the stools to break as freely as possible; but little water must be given them until growth is made, and unless very dry at the roots, the syringe is generally sufficient to start them, when they should be encouraged to grow freely. As soon as the roots are in action, the plants must be shook out, and subjected to partial root-pruning and re-potting, using pots a size or two smaller than they previously occupied, so as to permit of a shift later on.

Over-potting of these plants is always a source of anxiety; for if, through over-watering, the soil should become soured, the stool is spoiled for the season, so far as a specimen plant is concerned. We have put in a batch of cuttings from the best autumn and winter-flowering varieties. These will be encouraged to grow on, and as soon as ready, will be shifted into 48's and prepared to take the place of those which have been doing duty through the spring and summer. Young plants grown on in this way give much better trusses of bloom than older stock, the colour also being more intense, which is particularly desirable in the autumn months.

EUPATORIUMS.—Our last season's batch of Eupatoriums were cut back after flowering, and later on given a shift into 8-in. pots; they have made good stuff, and have now been transferred to the greenhouse stages, where we find them extremely useful for cutting from, as they flower so very freely. As an edging to the stages, we are this season using a quantity of double Portulacas, and with their great diversity of colouring, they look extremely pretty; many of the blooms, too, come in very useful for button-hole work. *Hedychiums* are now throwing up some splendid heads of bloom, and are much admired when cut, but the odour emitted is too powerful to allow of more than one spike in any room.

THE INTERMEDIATE HOUSE is quite gay with *Achimenes*, tuberous *Begonias* and other kindred subjects. We have potted on our seedling *Cyclamen*, and also the best of last year's batch; they occupy shelves in this structure, which suits them admirably, being near to the glass, and the temperature maintained sufficiently to keep them always growing. *Bouvardias* we have placed in a heated pit; they do not succeed thoroughly unless specially treated—that is, by growing the plants first, and then gradually hardening them off and ripening the wood. In the autumn they bear a greenhouse temperature well, and flower freely. *Gesnerias* and *Tydeas* are making a capital growth, and we have been obliged to give them a part of the stage to themselves; if cramped early in the season the foliage does not fully develop, and in this point, generally speaking, lies much of their beauty.

THE FRUIT HOUSES.

THE EXCESSIVE DROUGHT will not admit of the cutting of turf for the preparation of soil for the lifting of Vines or Peach trees, but should rain come (which, at the time of writing, appears as far off as ever), lose no time in securing the requisite quantity. Bear in mind that the frequent transplanting of Peach trees subject to forcing is an absolute necessity; if allowed to remain too long without being lifted, a strong watery growth is the outcome, producing little or no fruit and always of inferior quality; should such growth make its appearance, do not fail to lift the trees as soon as the crop of fruit is gathered; by carefully treating the trees after the operation, the next season's crop is not interfered with as regards quantity, so amenable to treatment are they. Should the weather be very bright and dry keep the house rather close throughout the day and shade the roof with mats; also keep the trees frequently syringed, the interference with the roots will then be but little felt and they will quickly root into the new soil.

VINERIES.—As the crops are removed from the vineries they must be attended to; old Vines, which naturally become exhausted, can be kept in good condition for many years by careful treatment; and now is the time for it to be done so that next season's crop may receive the full benefit. Go carefully over the whole of the border, forking it up until plenty of roots are found; let all surface soil be removed and replaced with a coating of specially prepared rich compost, using, according to fancy, artificial manures, but being very careful not to omit giving plenty of fine bones and bone dust. Clay's, Beeson's, and such manures are much more effectual if used when the Vines are in active growth.

THE KITCHEN GARDEN.

WATERING.—Affairs in this department remain in much the same trying condition as before, watering of all crops being an absolute necessity. The thick mulchings and copious waterings which we gave to Peas and Beans have been of much service, as we are now getting an abundant supply of the latter. Celery makes but little progress, although well attended to.

Cauliflowers are also anything but satisfactory, many of them having prematurely turned in. All those so inclined have been removed, and the square made good with younger plants.

POTATOS, as a rule, must be small and very light in the yield; from a square of Cosmopolitan we are digging quite a good sample, which are of extra quality. As soon as time can be found we must lift the second-early kinds, for should rain come it would only cause them to start into growth, and so spoil the crop. Turnips are well up; but as food is scarce we find the birds rather troublesome, and have to protect the bed.

SEED SOWING.—If not already done, no time must be lost in preparing the ground for the sowing of Winter Spinach, Cauliflower, Lettuce, and Tripoli Onions. It will be far better not to use a freshly dug square or border, on account of the drought. Rather select a portion in good heart, subjecting it to a deep scuffling, so that a proper surface to receive the seed may be secured, and if very dry after the drills are drawn, let them be well watered, covering the seed with old soil from the potting-bench. We have pricked out a good bed of Neapolitan Lettuce, which we find to be excellent; but the very best we have yet grown is one new to us this season—White Chavigny.—*Walter Child, Croome Court, Worcester.*

FLORICULTURE.

THE NATIONAL CARNATION AND PICOTEE SOCIETY, NORTHERN SECTION.—This exhibition took place at Manchester on Friday the 5th inst., and was held in the new annexe of the Exhibition Palace, the various exhibits being arranged on tables placed along the centre. Compared with London and Oxford it was a small show, and it lacked the splendid quality seen at the latter. But the hot and dry weather had seriously affected the flowers, and some who had entered found themselves unable to exhibit. With the solitary exception of Mr. C. Turner, of Slough, no southern or midland grower put in an appearance, and the northern men had it to themselves. Mr. R. Lord was in fine form, as at Oxford, and Messrs. B. Simonite and J. Whitham came up well also; but purity was wanting in many blossoms. There was a good deal of what the growers term "fogginess," as the flowers do not bleach well in a hot and dry season.

In the open to all division the leading class was for twelve dissimilar Carnations, and five prizes were offered. There were five competitors, and Mr. Robert Lord, florist, Hole Bottom, Todmorden, was first, with blooms showing the fine quality seen in the Todmorden flowers at Oxford: he had C.B. Master Fred, P.P.B. William Skirving, S.B. Fred, C.B. Thomas Moore, S.B. Robert Lord, R.F. Rob Roy, C.B. Shirley Hibberd, S.F. Henry Cannell, P.P.B. Squire Llewellyn, P.F. James Douglas, S.F. Tom Lord and S.B. Admiral Curzon. Mr. B. Simonite, Rough Bank, Sheffield, came in a good second; third, Mr. J. Beswick, Middleton; fourth, Mr. F. Law, Carnation Gardens Rochdale; fifth, Mr. George Geggie, Waterloo Nursery, Bury.

There were also five stands of twelve Picotees, and here also Mr. R. Lord was first with an excellent stand, having good blooms of H. Red E. Morna, H. Rose E. Mrs. Payne, L. Red E. Thomas Williams, R.H. Rose E. Lady Louisa, H. Rose E. Mr. Sharpe, L. Purple E. Ann Lord, L. Rose E. Mrs. Aldcroft, H. Red E. John Smith, H. Purple E. Mrs. A. Chancellor, L. Purple E. Cynthia, L. Purple E. Clara Penson, and H. Purple E. Zerlina; second, Mr. J. Beswick, Middleton; third, Mr. B. Simonite; fourth, Mr. F. Law; fifth, Mr. George Geggie.

Then followed two classes, one for twelve Carnations and the other for twelve Picotees, nine at least to be dissimilar in each case, open only for growers of five hundred pans or less. Mr. John Whitham, Hebden Bridge, Yorkshire, was first, with C.B. Master Fred, S.B. Admiral Curzon, P.P.B. William Skirving, S.B. Fred, S.B. Thomas Storer, P.F. Florence Nightingale, R.F. Crista-galli, P.P.B. Thomas Anstiss, S.B. Robert Lord, P.P.B. William Skirving, S.B. Thomas Storer, and S.F. Tom Lord; second, Mr. F. Law; third, Mr. W. Taylor, Middleton; fourth, Mr. John Whittaker, Royton; fifth, Mr. J. Thorniley, Middleton. There were nine competitors in this class, but six only in that for twelve Picotees, Mr. J. Whitham again taking first honour, with H. Red E. Brunnette, H.P.E. Zerlina

H. Rose E. Lady Louisa, L. Red E. Thomas William, H.P.E. Mr. A. Chancellor, L. Rose E. Favourite, H. Rose E. Fanny Helen, H.P.E. Mr. A. Chancellor, L.P.E. Ann Lord, H. Scarlet E. Mrs. Sharpe, L.P.E. Mary, and H. Rose E. Mrs. Payne; second, Mr. W. Taylor; third, Mr. R. Sydenham, Birmingham; fourth, Mr. E. Shaw; fifth, Mr. J. Thorniley.

Then came two classes each for six Carnations and six Picotees (dissimilar), five prizes being offered in each, open only to growers of 250 pairs or less, and there were seven stands competing in each class. Mr. T. Helliwell, The Hollins, Todmorden, was first with six Carnations, having C.B. Master Fred, P.P.B. William Skirving, P.F. James Douglas, S.F. Tom Chapman, S.B. Admiral Curzon, and R.F. Crista-galli. Second Mr. Maddocks, Lofthouse Hall, near Wakefield; third, S. Barlow, Esq., J.P., Stakehill House, Manchester; fourth, Mr. W. Bleackley, Whitefield; fifth, Mr. Thomas Howard. In the class for six Picotees Mr. T. Helliwell was first with H.P.E. Mrs. Niven, L. Red E. Thomas William, H. Rose E. Mrs. Lord, H. Rose E. Mrs. Payne, H. Red E. John Smith, and H. Rose E. Constance Heron. Second, Mr. Bleackley; third, Mr. Maddocks; fourth, Mr. Edwards; fifth, S. Barlow, Esq., J.P.

There was also a class for twelve self Carnations, open to all, and here Mr. F. Law was first with some promising seedlings, and also Mrs. Hyde, white; George Henry, pink; Squire Meynell, purple; Pride of Peshurst, yellow; and Henry Cannell, scarlet. Second, Mr. George Geggie, who had some fine flowers, but they were unnamed; third, Mr. W. Prescott.

Next came a class for twelve miscellaneous Carnations and Picotees of any variety, eight Jubilee prizes being awarded, and there were twelve competitors. This class was open to all, and Mr. R. Lord was placed first with a very good lot, consisting of C.B. Master Fred, L. Rose E. Favourite, C.B. J. D. Hextall, H. Rose E. Mrs. Payne, H. Rose E. Lady Louisa, Scarlet Self John Whitham, R.F. Rob Roy, Self King of Yellows, H. Red E. Dr. Epps, White Self The Bride, H. Rose E. Royal Visit, and S.B. Admiral Curzon. Second, Mr. C. Turner, Royal Nursery, Slough; third, Mr. J. Beswick; fourth, S. Barlow, Esq.; and fifth, Mr. F. Law.

The premier Carnation selected from the whole show was a superb bloom of C. B. Master Fred, shown by Mr. R. Lord. The premier Picotee was light purple edge Baroness Burdett Coutts, shown by Mr. C. Turner.

First Class Certificates of Merit were awarded to Mr. C. Turner for yellow Picotees—Almina, Annie Douglas, and Terra Cotta, and to Rose Celestial, a fine pink self. Mr. S. Barlow had a stand of twelve blooms of his new S. B. Robert Houlgrave that were very showy and striking; it is regarded as a fine addition to its class. Mr. F. Law had a large number of cut blooms of Carnations and Picotees of different types, and also a stand of twenty-four blooms of Dahlias, all of which were highly commended. They were much admired by the visitors.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—August 9th.—The exhibits at this meeting were not very numerous, but generally of an interesting and attractive kind. The most conspicuous feature was an extensive and fine display of Gladioli, exhibited by Messrs. Kelway & Son, Langport, Somerset. A large and miscellaneous group of herbaceous plants, of a useful and attractive kind, was staged by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. Hollyhocks were also largely represented, tuberous-rooted Begonias, while Orchids continue to be sent up to the floral committee. Nothing finer in its way than the new and wonderful *Catasetum Bungerothii*, shown by Baron Schroder, has been exhibited for a long time.

A Silver Gilt Banksian Medal was awarded to Messrs. Kelway & Son for their display of seedling and old hybrid varieties of Gladioli. Great variety, brilliancy and delicacy of colouring pervaded the collection, and, besides those certificated, we noticed the following seedling new forms that well deserve attention; but where all are so showy and useful for garden or other decoration, selection is difficult:—Merry Hampton is a delicate soft pink variety, and richly flaked with carmine; Mr. Gladstone is a large, brilliant

scarlet form, with large soft yellow blotches on two or three of the lower segments of the perianth; William Kelway is an intense scarlet, with a crimson throat; and H. M. Pollett is scarlet, with more or less conspicuous white midribs, and marked with purple at the base. They also exhibited some boxes of Gaillardias, of which one variety was certificated.

Mr. T. S. Ware was awarded a Silver Banksian Medal for his group of herbaceous plants, which contained some fine Liliiums, such as *L. tigrinum chinensis*, and *L. elegans venustum*, the latter a deep Apricot-coloured variety. *Eremurus Bungei*, *Zauschneria californica*, *Echinops ritro*, Iceland Poppies, *Asclepias tuberosa*, *Erigeron glaucus*, and Gaillardias, were very showy. Amongst the latter *G. maxima*, *sanguinea*, *Attraction*, *aurea*, *Venus*, *cornuta*, and *Admiration*, were distinct and attractive forms. The largest group of Hollyhocks was that of Mr. James Blundell, The Nurseries, West Dulwich, which obtained the first prize, a Silver Cup, one of the Jubilee prizes offered by W. Roupell, Esq. Most of them were old varieties, but some were seedlings of this year's raising, one of which was a large double fine blush-coloured flower. Others were *Venus*, pure white; *Princess of Wales*, soft rosy pink; *A. F. Barron*, crimson; *Shirley Hibberd*, red, with rose-coloured outer petals; *Henry Irving*, intense red; *Aurea*, *Princess Beatrice*, and a seedling, were fine pale yellow forms. A vote of thanks was accorded to Mr. F. T. Smith, The Nurseries, West Dulwich, for a collection of sixteen varieties of Hollyhock blooms. Messrs. Webb & Brand, The Nurseries, Saffron Waldon, exhibited four seedling Hollyhocks, of which two were certificated, and a collection of blooms of all sorts, for which a vote of thanks was given.

F. G. Tautz, Esq., Studley House, Hammersmith (gardener, Mr. Cowley), exhibited *Cattleya Warneri rubra*, *Cypripedium leucorhodon*, *C. concolor*, *C. Ashburtonianum expansum*, *C. orphanum*, the latter being certificated; *Miltonia spectabilis bicolor* and *M. Petersi concolor*. The latter is a hybrid apparently between *M. spectabilis Moreliana* and *M. Clowesii*. Messrs. H. Cannell & Sons, Swanley, Kent, staged a varied assortment of tuberous-rooted *Begonia* blooms, and a few plants, showing a great variety of hues, such as scarlet, rose, orange, yellow, white, Picotee-edged, and some new shades of colouring difficult to describe. They also exhibited *Capsicum Mango Pepper*, some seedling *Gloxinias*, and a striking new zonal *Pelargonium* striped with scarlet and rose. Votes of thanks were given for the two last exhibits. Mr. W. P. Palmer, The Gardens, Thames Ditton House, Thames Ditton, exhibited a box of sprays of *Magnolia grandiflora* and two new *Coleus*, for both of which exhibits votes of thanks were given. Messrs. J. Carter & Co., High Holborn, London, were accorded a vote of thanks for a box of *Iris Kämpferi* blooms. They also showed a double quilled *Pyrethrum* of the Golden Feather type, named *Snowball*. Messrs. Dobbie & Co., Rothsay, N.B., showed besides those things certificated a stand of very attractive bedding *Violas*. Of these, *Victoria*, a pure white with a small yellow eye, and *Admiration*, dark purple and crimson blended, with a rose and white margin, were very distinct. W. Roupell, Esq., Harvey Lodge, Roupell Park, exhibited the late-flowering *Funkia sub-cordata grandiflora* and *Diplacus glutinosus*. Two bunches of a Carnation, *Bride of Ketton*, were forwarded by Mr. W. H. Divers, Ketton Hall, Stamford; Picotee, *Orlando*, by Mr. R. Maher, Yatendon Court, Newbury; and a *Petunia* named *Dorothy*, by Mr. Patrick McKenzie McKie, Teddington.

At a meeting of the Fruit Committee, seedling Melons were shown by Messrs. C. Ross, Welford Park, Newbury, H. Divers, and W. Palmer. A Cultural Commendation was awarded to Messrs. T. Rivers & Sons, Sawbridgeworth, for several varieties of large well-grown Cherries. Messrs. J. Veitch & Sons, Chelsea, made a fine display of fruit, consisting of sixty dishes of Gooseberries, besides a considerable number of fruiting plants, in pots, trained to single stems, a rather novel feature in Gooseberry culture. They also showed Plums, Apples, Pears, and Peaches. A Silver Banksian Medal was awarded for the interesting exhibit. W. Roupell, Esq., brought under the notice of the committee a basket of Muscat Hamburg Grapes, taken from Vines grafted on the Black Hamburg, some Peaches, and a large basket of Purple Constantia, a Frontignan Grape, which he grows for its fine flavour. The caues

are cultivated in 13-in. pots, stood over hot-water pipes kept slightly warm. This variety is grown at the Cape for making the Liqueur wine. Two dishes of an unnamed Cherry were forwarded by Mr. Denne, Gore Court Park, Sittingbourne.

Mr. C. Fidler, Reading, offered special prizes for a collection of vegetables; Mr. C. J. Waite, Glenhurst, Esher, won the premier award, while Mr. T. A. Beckett, Cole Hatch Farm, Penn, Amersham, was second. For Fidler's New Reading Conqueror Pea, Mr. T. A. Beckett secured the first award; Mr. C. J. Waite won the second; and the third prize went to Mr. H. Marriott, Skirbeck, Boston. Mr. C. Ross, Newbury, had the best flavoured specimen of Fidler's Defiance Melon; Mr. J. G. Dean, Titsey Gardens, Limsfield, was the second prize winner; and Mr. W. Woolford, gardener at Little Missenden Abbey, Great Missenden, had the third award. Messrs. Webb & Sons offered special prizes for a collection of vegetables, and Mr. C. J. Waite was again awarded the first prize.

Wellingborough Horticultural Fête.—Aug. 4th & 5th.—This took place in a large field adjoining the grounds of the Northamptonshire Agricultural Society's Show, in the Wilby Road, and it was arranged as a part of the programme of the festivities consequent thereupon. Several large tents were provided, and there was on the whole a good display of horticultural produce.

OPEN CLASSES.—As is usual, certain classes were provided open to all comers. The leading class was for twelve stove and greenhouse plants, in or out of bloom, and Mr. James Cypher, nurseryman, Cheltenham, was first with a fine collection, consisting of *Cycas revoluta*, *C. circinalis*, *Latania borbonica*, *Croton majesticum*, *Queen Victoria*, *Ixora regina*, *Ericas Thompsoni* and *tricolor major*, *Stephanotis floribunda*, *Statice profusa*, &c.; second, Mr. J. Parker, Victoria Nursery, Rugby, with smaller but very good plants, having *Latania borbonica*, *Croton majesticum*, *C. Weismannii*, *Allamanda grandiflora*, *Ixora Williamsi*, &c., in good form. In the class for the best group of plants for conservatory decoration, occupying a space of over 200 ft., Messrs. J. Cypher and J. Parker were placed equal first, with arrangements showing a great deal of taste; a third prize was awarded to a group having no exhibitor's name attached to it; and an extra prize was awarded to Messrs. H. E. & W. Lack, nurserymen, Wellingborough. Mr. Hillburn, gardener to C. J. W. Woolston, Esq., Wellingborough, was first with six Ferns, having a very nice lot, consisting of *Microlepia hirta cristata*, *Adiantums gracillimum*, *Farleyense* and *cuneatum*, and a fine-crested *Pteris serrulata* and *Dicksonia antarctica*; second, Mr. W. L. Bird, gardener to A. Seymour, Esq., Norton Hall, Daventry. Mr. J. Parker was the only exhibitor of six ornamental foliage plants, staging fine specimens of *Areca Baueri*, *Latania borbonica*, *Crotons Sunset*, *Youngii* and *majesticum*, and *Cordylina indivisa*.

CUT FLOWERS.—Messrs. J. Burrell & Co., nurserymen, Cambridge, were first with twenty-four varieties of Roses, staging very fine blooms of *Marie Rady*, *Horace Vernet*, *Emile Hausberg*, *Franciscea Kruger*, *Duchess of Albany*, *Souvenir de Etoile d'Or*, *Eclair*, *Innocente Pirola*, *Princess Beatrice*, &c.; second, Messrs. G. & W. H. Burch, nurserymen, Peterborough; third, the Rev. W. H. Jackson, Stagsden Vicarage, Bedford. Messrs. J. Burrell & Co. also had the best twelve Tea Roses, *Catherine Mermet*, *David Pradel*, *Caroline Kuster*, *Souv. d'un Ami*, *Franciscea Kruger*, *Madame Margotten*, *Innocente Pirola*, and *Madame Berard* being good; second, the Rev. W. H. Jackson; third, Messrs. G. & W. H. Burch. But all the cut Roses showed the effects of the continued great heat and drought. In the class for twenty-four bunches of cut flowers, Mr. J. Parker was placed first with a collection of stove and greenhouse varieties, such as *Allamandas*, *Dipladenia*, *Eucharis*, *Kalosantes*, *Lapageria*, &c. Messrs. J. Burrell & Co. were second with some superb bunches of hardy flowers that really deserved, and should have had the first prize. Mr. G. Watts, Barton Seagrave, was third. Mr. J. Parker had the best hand bouquet; Mr. W. Toseland, Kettering, taking the second prize.

FRUIT.—The best collection of six dishes came from Mr. T. Hare, gardener to R. Neville, Esq., Grantham, who had Black Hamburg and Muscat of Alexandria Grapes, Lord Napier Nectarines, *Violette Hâtive* Peaches, Melons, &c.; second, Mr. W. L. Bird.

GARDENERS' CLASSES.—In this division, one of the principal classes was for eight stove and greenhouse plants, in or out of bloom, Mr. W. Lauchburry, gardener to C. Watkin, Esq., Wellingborough, being first with a good lot, unnamed; second, Mr. W. L. Bird; third, Mr. G. Hillburu. Mr. Lauchburry also had the best group arranged for effect, Mr. Hillburn coming in second. Foliage plants formed a very good feature, Mr. Lauchburry having the best six, staging capital specimens of *Cycas revoluta*, *Alocasia metallica*, *Phyllanthus nivosus*, *Zamia Vroomii*, *Theophrasta imperialis*, and *Caladium esculentum*. No address was on the collection awarded the second prize. Mr. D. Percival, gardener to W. Blott, Esq., Wellingborough, had the best specimen plant, staging a good *Latania borbonica*; Mr. W. Lauchburry coming second with a fine *Nepenthes Rafflesiana*; third, Mr. W. L. Bird with *Thamnopteris nidus*. Mr. D. Percival had some good *Gloxinias*. The best six *Fuchsias* came from Mr. Hillburn; while Mr. Percival had the best six Ferns, setting up good specimens of *Asplenium formosum*, *Thamnopteris nidus*, *Blechnum occidentale*, *Adiantum formosum*, *A. cuneatum*, and *A. gracillimum*; second, Mr. W. L. Bird. Messrs. Percival and T. G. Butler, gardener to N. P. Sharman, Esq., Wellingborough, had the best collection of six *Coleus*. Messrs. Hillburn and J. Knightley, gardener to Sir Henry Wake, Bart., Courteen Hall, Roade, were first, the former with six single, and the latter with six double, zonal *Pelargoniums*. Mr. Butler had the best six foliage *Begonias*; but none produced the flowering types, though two classes were devoted to them. Mr. W. L. Bird had the best six plants for table decoration.

CUT FLOWERS.—The Rev. W. Jackson had the best twelve *Roses*, Mr. G. Watt being second. Mr. J. Knightly was first with twelve bunches of cut stove and greenhouse subjects, Mr. Watt being second and Mr. Lauchburry third. Messrs. Knightly and Watt were severally first and second in the two classes for cut flowers of double and single *Zonal Pelargoniums*. The Rev. W. H. Jackson had the best twelve bunches of garden flowers, Mr. Knightly being second. Mr. W. Toseland had the best wreath; and Mr. E. Lewin, Wellingborough, the best bouquet.

FRUIT.—Of this there was rather a poor show, if we except *Grapes*. Mr. Beach, of Castle Abbey Gardens, had the best three bunches of *Black Hamburgh*; Mr. D. Percival being second; and Mr. T. Hare third. Mr. Hare had the best three bunches of *White Grapes*, staging *Muscat of Alexandria*; Mr. W. L. Bird being second with the same. *Melons*, *Peaches*, *Apples*, dessert and culinary *Pears*, *Strawberries*, *Apricots* and *Raspberries* were sparingly represented. Mr. H. Beach had the best basket of fruit; Mr. T. Hare being second. Mr. W. Farr had the best six dishes; Mr. Giles Watt being second.

VEGETABLES.—There was a very brisk competition in the class for eight varieties of vegetables: Mr. John Abbott, of Wellingborough, being placed first with *Cauliflowers*, *Marrows*, *Tomatos*, *Potatos*, *Peas*, *French Beans*, *Celery* and *Artichokes*; second, Mr. Giles Watt, Mr. W. L. Bird had the best tray of salad in six varieties; Mr. T. G. Garfirth, Allington, Northampton, being second.

AMATEURS' AND COTTAGERS' CLASSES.—We regret that the limit of space prevents some extended notice of the exhibits in these classes. Plants, cut-flowers and vegetables were especially fine, and made a good exhibition in themselves. *Potatos* especially were clean and good, much better than we could have expected to have seen them after such a hot dry season.

Acton Horticultural.—The twentieth annual exhibition of this society took place, on July 27th, in the grounds of the Manor House, East Acton; and seeing that the operations of the society are of a purely local description, the members are to be congratulated on the fine form and splendid condition of many of the subjects staged for competition, the judges specially remarking the excellence of the cottagers' productions, the fine-foliaged plants, table decorations, *Petunias*, and *Balsams*. The latter plants were exhibited in grand condition—fine, well-flowered, stocky subjects, the premier award going to Mr. W. Jennings, the secondary place being occupied by Mr. S. Parnell, who followed closely upon the heels of his rival, Mr. T. Foster coming in third. *Petunias* were in excellent form, and in the class for six the prizes went to Mr.

H. Davis, gardener to H. Lake, Esq., and to the Rev. A. H. Dunn. Other soft-wooded plants were well represented in the form of *Fuchsias*, *Coleus*, zonal *Pelargoniums*, and *Begonias*. The awards for *Fuchsias* were made to Mr. S. Beech, Mr. Davis, and Mr. S. Parnell, in the principal classes. *Coleus* were largely shown, and evinced great skill in their manipulation, as the specimens staged were well-coloured and highly satisfactory. Mr. W. Ford, gardener to E. H. Pollard, Esq.; Mr. J. Fidler, gardener to Mrs. Sibson; and Mr. S. Parnell, gardener to Mrs. Walker, were the successful competitors in the order named. *Begonias*, both of the tuberous and ornamental-leaved section, were fairly good, the first place in each section being occupied by Mr. W. Polley, gardener to A. Hubbard, Esq. Other winners were Mr. T. Wheeler and Mr. S. Parnell. The latter exhibitor was also very successful with six *Gloxinias*, although he had to take the second place, Mr. W. Polley receiving the highest award.

Groups of plants arranged for effect were not so largely represented this year as last, but the quality was first class, and the arrangement remarkably good. Mr. J. A. Morris, Chnreh Road, was the only competitor in the florists' department, but his exhibits were of a high order, and his selection of plants was characterised by much good taste. In the matter of bouquets, wreaths, and table decorations he was well to the fore, especially with a bouquet of yellow flowers and maidenhair Fern. Other groups were well displayed and tastefully arranged, and prizes were awarded to Mr. W. Ford, Mr. W. Davis, and Mr. H. Aylward, respectively. Large specimen plants of different descriptions were well shown, and in the class for a single specimen plant of ornamental foliage equal first prizes were obtained by Mr. Ford and Mr. Aylward, so difficult was it to decide their respective merits. The former exhibited a beautiful example of *Gymnogramma Parsonsii*, and the latter a fine *Chamærops humilis*. In the amateurs' and cottagers' classes, for which the society nominally exists, there was an extremely interesting display of fruit, flowers, plants, and vegetables. Mr. W. Swale carried off nearly all the first prizes in the class for specimen plants and Ferns; his examples of *Adiantum cuneatum* being particularly good. His *Agapanthus umbellatus* was very fine, and also his *Agave americana variegata*. A very spirited contest amongst the amateurs was observable in the cut-flower, vase, and basket departments. In the class for a vase or epergne of cut-flowers artistically arranged, Mrs. C. B. Green was first, closely followed by Mrs. Athawes; and for the best arranged basket of flowers suitable for the table, Mrs. Athawes took the first place, Mrs. Holland being second, both ladies having a tastefully disposed array. In hanging-baskets the interest was keen, Mr. Holland being first and Mr. Green second. Cottagers' productions were—the season considered—exceptionally good, the main prizes going to Messrs. Jennings, Roberts, Matthews, Venn, Haggis, and Lovell. Fruit was plentiful and good both in the cottagers' and gardeners' classes—in fact, the show was most successful, from a horticultural point of view; the financial aspect only according the officers any degree of unrest.—C. B. G.

Hounslow Horticultural.—July 27th.—The second summer show of this newly-formed suburban society was held in the grounds of G. H. Barber, Esq., Bath Road, on the above date, in fine but blustering weather. The plants were numerous, but as exhibition specimens they were weak, and a lot of education in the production of show samples is needed. Some very good *Begonias* and *Gloxinias* were staged. The decorative groups were of a somewhat elementary order, and, though gay with flowers, were merely flat masses in arrangement—there was ample material, but grouping for effect needs development. In this way the two wonderfully fine groups of hardy trees and shrubs, interspersed with *Roses*, *Yuccas* and other hardy-flowering plants from Messrs. C. Lee & Sons, Wood Lane Nurseries, and arranged by Mr. Webb with much taste, were really admirable models. A group of a new double white-fringed *Petunia*, named *White Beauty*, from Mr. W. Cole, Feltham, set in some maidenhair Ferns, attracted much attention and fitly received a Certificate of Merit. Mr. W. D. Clarke, Hounslow, staged a pretty arrangement of *White Lilies* in Ferns, which was much admired. Mr. C. Turner, of Slough, sent flowers of his grand

Carnations and *Picotees*, which received the highest commendation; as also did a fine collection of cut *Gloxinias*, a grand spotted strain, from Messrs. Hooper & Co., Twickenham. Mr. W. Tayler, Hampton, had fruit trees in pots, and carrying good crops; also some boxes of cut *Roses*. Local flowers were chiefly represented in the ladies' table and basket arrangements, which were all very pretty in their way, and secured the usual amount of attention.

Fruit generally was excellent, especially from the market-growers. Messrs. W. and E. Wells, through their excellent gardener, Mr. Thompson, were strong in *Grapes*, showing fine *Madresfield Court* and *Black Hamburgh*, also good *Peaches*, *Nectarines*, &c.; Mr. John Graham, of Cranford, taking second place with a collection. A curious competition was that for six dishes of the old red-ribbed *Tomato*, grown only in Heston parish, Messrs. Wells and Mr. John Graham, the donors of the prize, being the only competitors; but Messrs. Wells were an easy first with grand samples, showing the high-class culture of these fruits. Those gentlemen were also placed first with a fine lot of *Sutton's Perfection Tomato* in the single dish class; Mr. Graham took his own prize for six *Melons*. Some very fine *Black Hamburgh Grapes* came from Mr. Walton, gardener to A. Richards, Esq., Hounslow, but these did not compete; other fruits, especially *Currants*, *Gooseberries* and *Cherries*, were excellent. Vegetables were also very good for the season, cottagers' especially, although not numerous, showing admirably. The show will, no doubt under good management, grow into a large one, as the neighbourhood is extensive and only needs well working. That the townspeople closed their shops at 2 p.m. on the show day, is evidence that the society is held in popular esteem.

Moseley and King's Heath Horticultural.—August 1st.—Bank Holiday is a great day for flower shows about Birmingham, and the above-named society held its annual meeting on that day in the grounds of The Henburys, Moseley. In the groups Mr. Cooper, gardener to the Right Hon. Joseph Chamberlain, was first with an excellent group, and throughout the exhibition was a most successful exhibitor in fruits, bouquets, plants, &c, winning a handsome Silver Cup, given by a lady, as the exhibitor who staged the greatest number of winning exhibits. Excellent *Colenses* were exhibited, large well-formed and superbly-coloured plants, which would be hard to beat anywhere. *Caladiums* also were very fine, and some good stove and greenhouse plants and Ferns were exhibited. Mr. Evans, gardener to F. Evrett, Esq., and the gardener to J. Cartland, Esq., were most successful exhibitors. A few very fine *black Grapes* were staged, Mr. Robinson, gardener to J. Cartland, Esq., being first, each for three and two bunches of *Black Hamburgs*, and equal first with two well-coloured bunches of *Buckland Sweetwater*. The fruit department was fairly well filled, with some good *Melons*, collections of fruits, and well-coloured *Peaches* and *Nectarines*. The vegetable department of the three divisions of the schedule was well represented, but a want of size was apparent, and no wonder; what with burnt-up lawns, &c., the want of rain is so terribly apparent about Birmingham.

Taking the exhibition all round, it was a good one, and on Bank Holiday there are other exhibitions in the district. The local nurserymen helped the exhibition also by groups of plants and flowers. Mr. Hans Niemand sent a fine stand of good standard varieties of *Picotees* and *Carnations* in good form; Mr. Spinks, the manager, having taken these flowers well in hand. Messrs. Pope & Son contributed a handsome group of *Cattleyas* and other plants, and the lovely bright rose-coloured double *Ivy-leaf Pelargonium Madame Crousse No. 2*. Messrs. Thomson, a very large handsome funeral cross of *Water Lilies* and other flowers; Mr. R. H. Vertegaus, cut herbaceous plants. The amateurs of the district who do not employ a gardener exhibited well.

We repeatedly meet with garden implements and appliances at these exhibitions, and it is refreshing to get hold of something new and really useful. Mr. George Johns, Moseley, near Birmingham, exhibited a neat, light, and most useful hand-barrow on wheels with spriggs, which a lady could easily work, and he named a very moderate price for it; and his collection of garden barrows were considered by the judges and others to be some of the best they had seen.

QUESTIONS & ANSWERS.

CATTELEYA WALKERIANA.—*W. R.*: This is perfectly distinct from another plant of the *C. labiata* type which some people call *Cattleya Walkeriana*, but this has evidently been mistaken for *C. labiata* Warneri, that is, the two names have been confused. The true *C. Walkeriana* has a synonym in *C. bulbosa*, a dwarf Brazilian species, not exceeding 4 ins. to 6 ins. in height, and producing two large rose-coloured flowers from the young growths. The labellum is furnished with a yellow blotch, and the flowers are fragrant. No leaves are produced on the flowering pseudo-bulbs of this species, but on a separate growth made by the plant.

RED-SPIDER ON VINES.—*J. Baird*: The maintenance of a moist atmosphere in vineries is the best preventative against red-spider. Some continue syringing the Vines till the berries begin to colour, especially where there is a danger of the pest spreading; but in your case, seeing that the Grapes are ripe, the best plan would be to cut the bunches and place them with their stalks in bottles of water in a dark room, where they should keep till required for use; then you can apply clean water with considerable force to the leaves and rods by means of the syringe or garden engine. Shut the house up early in the afternoon, and keep the atmosphere thoroughly saturated. *Amateur*: You cannot do better in the present state of the crops than paint the hot-water pipes with a mixture of fresh lime and equal parts of flowers of sulphur, with sufficient water to make the mixture about the same consistency as ordinary paint. Choose a mild and cloudy afternoon if possible for the operation, and should the next day be cloudy also so much the better, as you could still keep the house close so as to ensure a humid atmosphere.

BUDDING ROSES.—*Amateur*: Now is the time to perform the operation; but whether the shoots are in the best possible condition can only be determined by direct experiment. Owing to the continued drought of this season budding will be less successfully performed than when greater moisture prevails. There are two necessary conditions that apply in the case besides the skill and accuracy of the operator; these are, that the bark should rise freely and readily for the insertion of the bud, and a moist atmosphere till the union has been effected is very desirable although not absolutely essential.

ODONTOGLOSSUM CITROSUM.—*J. Drew*: The white form is less common than the normal one, but still it is frequently met with in collections.

NAMES OF PLANTS.—*W. Craik*: 1, *Eucomis punctata*; 2, *Canarina campanula*; 3, *Achillea Ptarmica flore pleno*; 4, *Aspidium (Cytotomium) caryotideum*. *H. Marshall*: *Salpiglossis sinuata*.

COMMUNICATIONS RECEIVED.—*L. L.*—*R. W.*—*G. F.* (many thanks).—*A. F. B.*—*W. P.*—*G. C. S.*—*W. W. N.*—*J. H. N.*—*B. F.*—*W. E. B.*—*J. Lye*.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, King's Road, Chelsea.—Hyacinths and other Bulbous Roots.

WM. DRUMMOND & SONS, Stirling, N.B.—Dutch and other Bulbs, &c.

AUGUSTE VAN GEERT, Ghent, Belgium.—General Collection of Stove and Greenhouse Plants.

LONDON SEED TRADE.

August 10th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance at to-day's market, with a steady demand for *Trifolium incarnatum*. New Rape seed is in shorter supply and has advanced in value 1s. per quarter since Monday last. New Rye and Winter Tares are in moderate request at unchanged rates. Rye Grasses and Red Clovers attract some attention. Bird Seeds unaltered.

COVENT GARDEN MARKET.

August 11th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.			
Apples, $\frac{1}{2}$ sieve	1	6	3	Peaches....per dozen	2	0	8	0
Grapes	1	0	2	Pine-apples, St.				
Grapes, Chan. Islands,				Michaels, each	3	0	8	0
per lb.	0	9	1	Pine-apples, Eng., lb.	1	0	1	6
Kent Cobbs.. 100 lbs.				Strawberries, per lb.	0	3	1	0
Melons	1	6	3					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.			
Artichokes, Globe, doz.	2	0	3	Herbs, per bunch...	0	2	0	4
Asparagus, per bdle.				Horse Radish, bundle	3	0	5	0
Beans, French, per lb.	0	9	1	Lettuces .. per dozen	1	6	2	0
Beet, per dozen.....	2	0	3	Mushrooms, p. basket	1	0	2	0
Cabbages....per doz.	2	0	2	Onions, per bushel ..	4	0	5	0
New Carrots, per bun.	1	0		Parsley, per bunch ..	0	6		
Cauliflowers, English,				Radishes, per dozen..	1	6		
per dozen	4	0	6	Small salading, punnet	0	4		
Celery, per bundle ..	2	0		Spinach, per strike ..	2	0		
Cucumbers, each	0	6	1	Tomatos, per lb.	1	0		
Endive, French, doz.	2	6	3	Turnips.... per bnn.	0	6		
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys								
80s. to 100s. per ton; Champions, 70s. per ton.								

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CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.	
Anemones...12 bun.			Pansies, 12 bunches..			
Arum Lilies, 12 blms.	3	0	5	Narcissus double,		
Asters	3	0	4	12 bunches		
Aster, French per bun.	1	0	2	Narcissus, 12 bunches		
Bouvardias, per bun.	0	6	1	Pelargoniums, 12 spys.	0	
Carnations, 12 blooms	0	6	1	Pelargoniums, scarlet,	0	
Carnations ..12 buns.	3	0	6	12 sprays..	0	
Corndflower ..12 bun.	1	0	3	Pinks, colored & white,	0	
Day Lily..12 bunches				dozen bunches ..	2	
Eucharis, per dozen..	3	0	6	Polyanthus, 12 buns.	0	
Gardenias, 12 blooms.	2	0	4	Primula, double, bun.	0	
Heliotropes, 12 sprays	0	6	1	— single 12 bun.	9	
Iris, various..12 bun.				Pyrethrum ..12 bun.	1	
Lavender 12 bun.	4	0	5	Roses (coloured)	0	
Lilium longiflorum,				Roses, Tea, per dozen	6	
12 blooms	2	0	4	Roses, mixed, per doz.	0	
Lilium speciosum,				— Saffrano ..per doz.	6	
12 blooms	1	0	2	Spiræa	0	
Lilies of the Valley				Stephanotis,		
12 sprays				dozen sprays	2	
Marguerites, 12 bun...	3	0	6	0	Tropæolums	1
Mignonette, 12 bun...	1	0	3	0	Tuberose, per dozen.	0
Myosotis, 12 bunches	2	0	3	0	White Jasmine, bun.	0
						4

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.			
Aralia Sieboldi, doz.	6	0	18	Hydrangea ..per doz.	9	0	12	0
Asters dozen pots	4	0	6	Lilium longiflorum,				
Balsam per doz.	3	0	6	per doz.	12	0	24	0
Calceolarias..per doz.	4	0	9	Liliumspeciosumdoz.	9	0	18	0
Cyperus, per dozen ..	4	0	12	Lobelia.....per doz.	3	0	4	0
Dracæna term., doz.	30	0	60	Mignonette..per doz.	3	0	6	0
— viridis, per dozen	12	0	24	Musk.....per doz.	2	0	4	0
Evergreens, in var.,				Palms in variety, each	2	6	21	0
per dozen	6	0	24	Pelargoniums....doz.	6	0	12	0
Ferns, in var., do ..	4	0	18	Pelargoniums,scarlet,				
Ficus elastica, each..	1	6	7	per dozen	3	0	6	0
Foliage Plants, vari-				Rhodanthe ..per doz.	6	0	9	0
ous, each.....	2	0	10	Scented Verbena	4	0	6	0
Fuchsia.....per dozen	3	0	9	Spiræa per dozen				
Heliotrope	4	0	8	Tulips ...per doz. pots				

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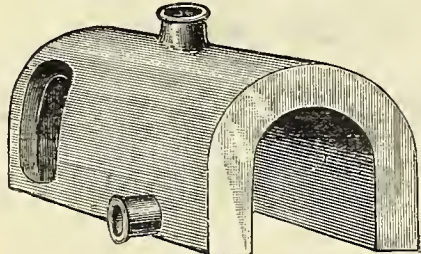
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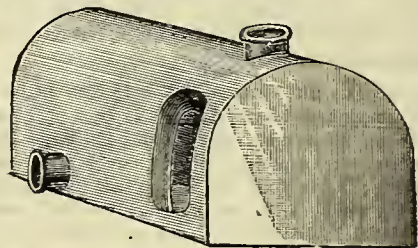
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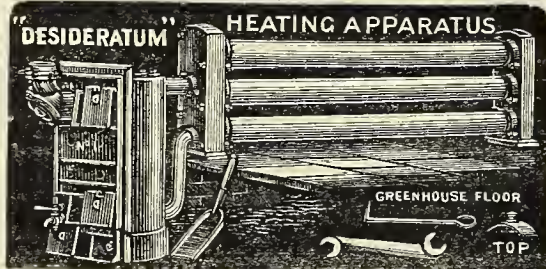
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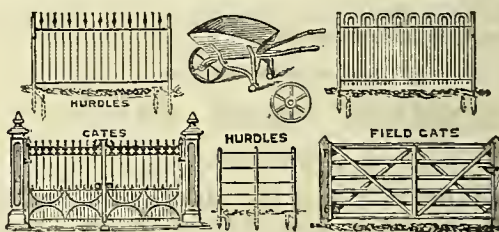
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National Co-operative Flower Show.

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Schedules and entry forms of all Co-operative Societies, and of WILLIAM BROOMHALL, Secretary, 1, Norfolk Street, Strand, W.C.

Next Week's Engagements.

MONDAY, August 22nd.—Sale of Dutch Bulbs at Stevens' Rooms. Special Trade Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

TUESDAY, August 23rd.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Second National Co-operative Flower Show at South Kensington.

WEDNESDAY, August 24th.—Sale of Dutch Bulbs at Stevens' Rooms.

THURSDAY, August 25th.—Wilts Horticultural Society's Show at Salisbury.—Ludlow Horticultural Society's Exhibition. Sale of Imported Orchids at Stevens' Rooms. Special Trade Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, August 26th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, August 27th.—Sale of Dutch Bulbs at Stevens' Rooms. Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 20, 1887.

MORE ABOUT TOMATOS.—Reverting again to the subject of Tomatos, we may remark that that indefatigable fungologist, Mr. Worthington G. Smith, has discovered for us a new fungus, the peculiar business of which seems to be to prey upon and destroy the Tomato plant. Somehow, although the name of various vegetable fungoid parasites is legion, we give them scanty consideration. Their bark seems to be worse than their bite, and although through the microscope these parasites are painted to us in terrible colours, the world of gardening moves on heedlessly. The fungologist, with his illustrations and warnings, is but another John crying in the Wilderness—few, perhaps none, heeding. Of course, in the natural order of things, and to make prophecies come true, races of plants ought to be swept from off the face of the earth, whilst parasitic bands of music should render, in mimic harmony over the destroying agencies, "See the Conquering Hero Comes"; but the agencies, destructive as they may be painted, fail in their mission, and man and nature presently come out of the strife triumphant.

We had a long and tough battle with that fungoid army—Peronospora infestans, and, judging by the terribly destructive powers given to this enemy, the Potato plant should have been exterminated. The Potato plant

lives—indeed, thrives—healthily in greater abundance than ever, and the Peronospora seems to have given up the ghost. The fungus used also to attack the Tomato; but after a few years battling it seems to have been worsted, and Tomatos are now as robust and as healthy as at any time since they were introduced to us. The new fungus is doubtless, from a microscopical aspect, very interesting, but growers regard it with infinite unconcern; indeed, the present season seems peculiarly favourable to Tomato culture, and warmth, whilst encouraging robust healthy growth, is driving pests and parasites into premature graves.

Few fruits have come into popularity so rapidly as have Tomatos. It seems but a few years since they were regarded with doubt and distrust; now they are held to be almost as essential to our dinner tables as Potatos. We used to grow Tomatos in the open air, and against such patches of a south wall or fence as fruit trees left unoccupied; but we seldom grew them well, because it is only during such seasons as the present that really well-ripened fruits can be obtained from plants in the open air. Then came the era of cheap glasshouses, and under their shelter Tomatos suddenly leaped up to the position of a most important article of trade and consumption. Now we have literally acres of glasshouses devoted to their culture, and tons upon tons are sent into the markets weekly—not of half-ripe imperfect fruit, but of capital thoroughly-ripened and well-coloured samples, which are as pleasing to see as to taste. Happy is the man who has plenty of good home-grown Tomatos; but happier still is he who, having such, is also endowed with a love for the fruits in their natural state, for he has a new pleasure added to life—not the pleasure of the wine-bibber or the gourmand, but a healthy natural pleasure, which the possession of plenty of growing Tomatos enables him to gratify.

In the matter of variety or, at all events, nomenclature, as we remarked last week, Tomatos almost rival Potatos; and that there is great dissimilarity among them, as regards form, colour and productiveness, there can be no doubt, but there is very little difference in the matter of flavour. Indeed, it is just here that we find the weak spot in Tomatos—not a fungoid spot, but a defect in taste. We want Tomatos which possess a brisker flavour, and are naturally palatable and pleasant eating in a ripe state. Now and then some new kind is put forth as being especially high flavoured, and if the taster is blessed with boundless faith, that special flavour can be found. Unfortunately, faith of that character is usually lacking, hence we look still further for the *ne plus ultra* of our aspirations. Possibly that specially piquant and pleasant flavour, which shall render a ripe Tomato as acceptable as a Bon Chrétien Pear or a Royal George Peach, will come some day, and it cannot arrive too soon for the present generation of Tomato consumers.

AT a meeting of the BELGIAN CHAMBER OF HORTICULTURE held at Ghent on the 10th inst., Certificates of Merit were awarded to Mr. Auguste Van Geert for Stanhopea Legeriana; to Mr. Jules Hye for Cattleya Eldorado splendens (by acclamation); and to Messrs. Vervaeke & Co. for Cirrhopetalum species.

A HEAVY RAIN passed over a considerable part of London on Saturday night last, varying in duration from half an hour to two hours. As might naturally be expected, little or no visible effect was apparent on vegetation. Next morning was clear and very warm from an early hour, and no trace of the previous night's rain was to be seen, owing to the parched and dusty condition of the soil.

WE understand that the Metropolitan Board of Works has accepted the tender of Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, N., for the supply of Hyacinths, Tulips, Narcissus, &c., for Finsbury Park, Victoria Embankment, Southwark Park, Leicester Square, and other gardens under the jurisdiction of the Board.

WE are led to believe that there is a desire in many quarters to inspect the TOBACCO EXPERIMENTS now being conducted by Messrs J. Carter & Co., Forest Hill, and can inform those wishing to see the crop that they can obtain an order to do so from the firm.

ON Tuesday next, the 23rd inst., the Fruit and Floral Committees of the Royal Horticultural Society will meet at 11 a.m. in the Conservatory, South Kensington. The National Co-operative Flower Show, to be held that day under the auspices of this society, will be open to the public at 1 p.m., at the reduced charge of 6d. There will be a conference at 3 p.m. in the upper West Quadrant, when the subject for discussion will be "Possibilities of Co-operative Allotments and Associated Gardens," by Edward Owen Greening.

IN the event of the LABOURERS' ALLOTMENTS BILL becoming law, as it seems likely to be in a short time, we may surely expect a greater supply of home-grown fruits, being at present greatly indebted to continental and other sources for our supplies. At all events, we should encourage such a thing by advising our fellow workers to plant fruit trees against the walls of rural buildings and other structures wherever possible, as Mr. Charles Joly has recently been advising his fellow countrymen in a note upon the importation and exportation of horticultural products in France from 1884 to 1886. Labour of this kind would assist in keeping back our countrymen from the already overcrowded towns and cities.

IT is stated that the largest and most important SALE OF ORCHIDS in America, since that of the Morgan collection, took place at Messrs. Young & Elliott's on July 26th last. Three hundred species of unique Australian Orchids were sold.

OUR American cousins have begun to feel the ravages of the HOLLYHOCK DISEASE in some quarters, such as at Beverly, Massachusetts, and in the Boston Public Garden. Hollyhocks and Malope are the subjects affected, and it is stated that the disease has been introduced to the United States from Europe on the seeds of the latter. Happily, by a judicious system of culture, the pest has been greatly subdued or almost eradicated in many districts in Britain.

THE CERCLE HORTICOLE VAN HOUTTE OF LEDEBERG, GHENT, BELGIUM, will hold their first exhibition of Plants and Flowers, in the Town Hall of Ledeborg, on the 28th of this month.

A VISIT TO SWANLEY.

A FEW days ago I had the pleasure of a visit to the Home of Flowers, at Swanley, where are to be seen plants in countless numbers, so many, in fact, that one would think that no demand for the class of plants grown could be made without being met. The houses are about 100 ft. in length, and built mainly to grow plants in at as cheap a rate as they can be consistent with quality. The first house I entered was devoted to zonal Pelargoniums, and a more dazzling and glorious display of floral beauty can scarcely be imagined. Before making notes of particular varieties, there are three things that at once arrest attention—firstly, the extraordinary health and vigour of the plants, combined with dwarf bushy growth and freeness of flowering; secondly, the method of heating, for to this much of Mr. Cannell's success in flowering these so well during the dark damp days of winter must be attributed; and thirdly, the beautiful *Othonna crassifolia*, which is used here as an edging plant. Being arranged along and creeping down the front of the walls which form the staging, this is admirably adapted for all purposes to which the *Lycopodiums*, *Panicums*, and *Tradescantias* are generally used, and forms a pleasing contrast to them.

As to the zonal Pelargoniums, among so many fine varieties it is difficult to single out any for especial notice; still, a trained eye will always rest upon some few which commend themselves for their intrinsic

merits as being distinct and in advance of the rest—it may be in colour, size or freedom of flowering. I made a note of a few, thinking them worthy of special mention. A yellow one from the time of Donald Beaton's Indian Yellow has been much sought after, and in *Aurea perfecta* I think we are brought somewhat nearer the goal of our ambition. Queen of the Belgians still holds its title to be queen of the whites, for there is no better white at present. Miranda, deep magenta, has a good, free, dwarf habit, and extra fine truss; Gabrielle Host is one of the salmon-centred varieties, truss very large; Lady Reed is white, with scarlet centre, very fine pip, free, and effective; Gloire Lyonnaise, this robust and free-flowering hybrid nosegay is a decided acquisition for large conservatories, baskets or walls, the individual flowers being very large, and the truss enormous, while the foot-stalks are stiff and not too long; Queen Matilda, soft pink, with a white eye, has flowers large and flat; Ferdinand Kauffer, magenta-purple, with orange-scarlet in top petals, is very bright, and one of the very best in this shade of colour; Mrs. Barriff, deep rosy salmon, intense orange-scarlet centre, fine shaped flower, large truss, distinct; Swanley Gem is a good winter-flowering variety, rosy salmon, with white centre, fine shaped flower, and large truss; Jean III, very deeply shaded purplish pink hybrid nosegay, with extra large truss; Constance, deep rose-pink, free flowering; Lord Churchill, deep crimson-scarlet, with a rich purple shade, and good in all respects. Years ago, when these extra dark colours first made their appearance among zonals, there was a difficulty with them on account of their burning in bright sunny weather. This seems to be overcome, and now they stand the hottest weather with impunity. C. H. Swinstead is bright scarlet, with a very large truss; Lady Chesterfield, salmon, is a splendid flower; Her Majesty is an improvement on *Vesuvius* as a bedder, and a good one for winter blooming; Henry Jacoby, well known as the best of the dark bedding varieties, has a rival in his brother—William Jacoby, who inherits all the good family qualities of Henry, but is still darker; Mrs. Joynson, white, with red-pink centre, large flower and truss, an improvement on *Sophie Birkin*; Mrs. Miller, dwarf, reddish crimson, large flower, and fine truss; Niphetos, a white hybrid nosegay, of dwarf and free good habit, and fine bedder; Madame Colson, deep salmon, shading off to a lighter colour, extra fine flower and truss; Mrs. Strutt, pink, shaded purple, with well-formed flowers and truss; and Atala, orange-scarlet, a good winter variety.

Among the doubles, to which a similar house is devoted, I noted *Robus*, reddish scarlet; F. V. Raspail, deep scarlet, fine large pips, good form, compact habit; Mrs. Garden, rosy cerise, full flowers of good form, free, a good winter kind; Lord Derby, rich pink, fine large truss and pips; General Millot, bright crimson; Rosa Bonheur, soft rose, pink, dwarf; *Romulus*, rich shaded purple; Maggie Hallock, soft salmon, a fine variety; Madame Leon Dalloy, blush-white, very fine flowers and truss, a good winter flower; James Vick, deep salmon, shaded pink, enormous truss; Black Knight, intense dark crimson, very distinct; Erl King, bright orange-scarlet; Surpasse le Nain, deep pink suffused with purple, dwarf and good; Gloire de France, white with salmon centre, very beautiful and distinct flower, and truss very large, too much cannot be said in praise of this, one truss measuring 7 ins. across; Goldfinder, a First Class Certificate was awarded to this recently at Liverpool, bright orange-scarlet shaded with gold. In this unique collection, where all are good, it is difficult to make a selection, but I have done my best.

The next house of the same size is devoted to Ivy-leaf Pelargoniums, and when it is remembered the comparatively short space of time since double flowers first made their appearance in this section, it is a surprise on entering the house to find it filled principally with doubles, some of which will make good bedding plants, notably, *Madame Thibaut*. Too much cannot be said in praise of this unique flower, which is deep pink, very double, and excellent for all purposes. *Fursten J. Von Hohenzollern*, deep scarlet, large pips and truss; *Le Printemps*, rosy pink; *Jeanne de Arc*, white, suffused with light lavender; *Lilliput*, lilac, dwarf, very pretty; *Lang-Son*, orange-scarlet, full fine flowers; *Souvenir de Charles Turner*, deep rose-pink, large pip and truss, an acquisition; *Gloire de Orleans*, crimson-magenta, a good bedder; *Isidore Feral*, light rose, one of the very best; *Alice Crousse*, deep magenta,

very good; General Negrier, magenta-pink, distinctly feathered. The French and show Pelargoniums were mostly past their best, but a batch of *Madame C. Konig*, which had been cut back, arrested attention, for it seemed determined to flower. This is pure white, and probably the best white in its class for cutting and general decorative purposes.

I found, in another house, some of the summer-flowering *Chrysanthemums* in bloom. These are among the most useful plants for late summer and early autumn, either in the conservatory or planted out in the herbaceous borders, where they seem to thrive best, and yield a harvest of flowers unequalled by any other subject. They have withstood the excessive drought of this season better than anything else. *Golden Fleece*, *St. Mary*, *Mrs. J. R. Pitcher*, *Toreador*, *Blushing Bride*, and *Pompon Toulousain* are among the best.

Mr. Cannell still devotes one of his long houses to the *Coleus*, and the collection—or, rather, selection—it would be difficult to surpass. Among the very best are *Jules Chrétien*, *La Tête d'Or*, *Marquis de Nadaillac*, *Matterhorn*, *Resplendent*, and *Triomphe de St. Donatien*. This has produced a sport which bids fair to become one of the most popular and beautifully-coloured foliage plants we have. The leaves are long and narrow, and very unlike any other kind; the colour is deep rich plum, variously shaded with crimson, and quite unique. One growing under the name of *C. Verschaffeltii splendens robusta* is all that its name implies, being much larger in foliage and stronger in growth than the original type, and of the same colour. Among other things once common, but which have become rare and almost unknown to the rising generation of gardeners, are *Verbenas*. From thirty to forty years back, about one-half of the bedding out was done with these, and now we seldom find much beyond the old *Purple King* used for that purpose. When well done they are good things for pot-work. The size of numbers of the individual flowers here would astonish many, as I found a shilling-piece too small to cover some of them. These have a house devoted to them; so have *Petunias*, many of the double varieties of which are beautifully scented, and when well managed make a splendid addition to the occupants of the conservatory during the early spring and summer months. There are large houses full of *Bouvardias* for autumn and winter blooming. For bouquet and button-hole flowers, nothing excels these in their season.

The tuberous *Begonias* next came under notice, and so much has been written respecting these by abler pens than mine that it needs some amount of assurance to say any more, and nothing short of the glorious exhibition of them at Swanley would induce me to pen a line on the subject. Here is a sight of dazzling splendour; anywhere the plants are in the rudest health, and covered with bloom, which for size, form, and brilliancy of colouring is truly remarkable. Any lover of flowers who may visit Swanley, would be well recompensed for his journey if there were nothing else to see. A few of the best among the singles are *Miss Malcolmson*, white; *Mr. Cockburn*, orange-scarlet; *Mrs. Bellew*, pink; *Mrs. Edwards*, light pink; *Our Leader*, soft red; *C. Fellowes*, red, suffused crimson; *Lady Kirk*, soft salmon; *Countess of Bessborough*; yellow. The flowers of many are immense, the shape of the flowers are much improved, and they are getting to have shorter and stiffer foot-stalks, so that the flowers are better seen; this remark applies to both double and single varieties. There is getting to be as great a diversity of colour among the doubles as the singles, and some of the flowers remind one very forcibly of *Camellias*; so large and perfect are they becoming.

In the *Fuchsia* house I could not but admire the beautiful varieties of *Canna* which were arranged among them, producing a most pleasing effect, as, in addition to their handsome foliage, the greater part of the collection has very beautiful flowers, for which alone they are well worth cultivating. Time failed us to go through the collection of *Fuchsias*, but I noted *President*, *Alphonso*, *Improvement*, *Mr. King*, *Gaiety*, *Phenomenal*, *Lady Heytesbury Improved*, and *Venus Victrix*, of which I had not seen a good plant for thirty-six years. It is still one of the most distinct and pretty *Fuchsias* we have. I saw *Lobelia*, *King of the Blues* of very dwarf and compact habit, intense blue, with a conspicuous white eye; and *Heliotrope Mirado*, which, in respect to habit and freeness of

flowering, is a distinct advance on previous varieties. In another house I noticed a stock of the Otaheite Orange, an old favourite, meriting more extensive culture than it gets; also a good stock of Clematis indivisa lobata, which, for beauty and usefulness, is second to no other greenhouse climber we have. In a collection of Hibiscus, *H. sub-violaceus*, from its immense flowers, attracts attention. In the succulent house I saw what I think is a form of *Sempervivum calcareum*, labelled *S. corderatum*, a very pleasing and distinct advance on the original type. Another large house is full of tree Carnations, many of which were in flower, including a fine stock of Pride of Penshurst in the best possible health and vigour. Gloxinias and Achimenes have each a house devoted to them, the former being well represented in the various strains—erect, drooping, spotted, and selfs.

Outside, in the nursery quarters, the space allotted to Dahlias is very extensive, and a few weeks later on there will be a fine display of them. Show, fancy, Cactus, and singles are all grown in collections. Violas, Pansies, Carnations, herbaceous Pæonies, and Gladioli, including Lemoine's hybrids, are extensively cultivated. The most surprising thing in connection with outdoor arrangements is the space allotted to Chrysanthemums,

reason it is popularly known as Morning Glory. This species has been cultivated in Britain since 1629, and has sported or varied from seed with various coloured and highly beautiful flowers, including some very showy striped ones. Like many other popular flowers, it has several synonyms, including *Pharbitis hispida*, from its peculiarity of possessing a three-celled six-seeded fruit, while two or four cells are more typical of *Ipomæa*.

THE THREE-COLOURED OR DWARF CONVULVULUS.

CURIOSLY enough this popular annual bears the same date of introduction as *Ipomæa purpurea*, and while the latter is the *C. major* of gardens, the former is the *C. minor*, its true botanical name being *C. tricolor*. There is no more showy or pretty annual than this procumbent herb, for when well grown, by cultivating it in moderately rich soil, and thinning it sufficiently to allow of a proper development, the procumbent stems spread to a distance of 9 ins. to 15 ins., and rise up at the tips, showing their large extremely handsome flowers to the best advantage. If stunted or sown thickly the stems are more erect,

abundance clambering over bushes and other obstacles in its way on the railway embankments between Caterham and Reigate, occasionally occurring in other waste places such as at Whitehill, where it disputes possession of the chalky soil with the Traveller's Joy, *Clematis vitalba*, itself one of the finest of British climbers, especially at this season when loaded with its myriads of white flowers. A calcareous soil seems naturally best adapted to its likings, and cultivators might appropriate the hint. The *Lathyrus* just mentioned has beautiful rosy purple flowers, and is a near relative to the garden Everlasting Pea. The common Marjoram, in spite of its name, is a handsome wilding on the chalky Downs, with its cymes of pink or purple flowers, and magnificent masses of deep purple bracts that fairly put the cultivated plant in the shade as regards colour. In some forms that almost seem distinct varieties, the bracts, just after flowering, when they are seen to best advantage, are so crowded and highly coloured as to appear like a mass of flowers themselves. Its near allies *Calamintha Chinopodium*, and *Thymus Serpyllum Chamædrys*, vie with each other to attract attention. The latter is the prevailing form in the southern counties, whereas, the type is more confined to the north.



CONVOLVULUS TRICOLOR.



IPOMÆA PURPUREA.



CONVOLVULUS TRICOLOR VAR.

the collection here numbering about 1,000 varieties, stools of which are planted out in a large quarter. There are about 5,000 plants grown in 24-in. and 16-in. pots, the space of ground covered by them being very considerable. Every care is taken to ensure strong healthy cuttings, true to name, and the collection is unique and unapproachable. Like all other neighbourhoods, Swanley is suffering much from drought, many of the hardy herbaceous plants looking very distressed for want of the long-looked-for rain.—*W. B. G.*

IPOMÆA PURPUREA.

THIS is the *Convolvulus major* of gardens; but is, by the way, not a *Convolvulus* at all, having a simple style with an obsoletely or slightly three-lobed stigma, as shown in our illustration; while a true *Convolvulus* has a deeply bifid style. Otherwise, the flowers, and frequently the foliage, of the species in the two genera resemble each other greatly. The subject under notice is a very popular, twining, hardy annual, with large purple funnel-shaped flowers; and when grown in tolerably good garden soil, and furnished with the means of support, will grow to the height of from 8 ft. to 10 ft. or more, producing a great profusion of its handsome flowers, which, however, have the objectionable character of closing during the day-time in warm weather and bright sunshine, and, consequently, show their beauty in the morning and evening, for which

but certainly produce a smaller quantity of bloom, and lasts in beauty for a comparatively short period. The flowers remain open, and court the sunshine even at midday. The throat is yellow, the lower part of the limb pure white, and the broad outer margin a brilliant deep blue; but some forms of garden origin vary with different shades of colour. Our figures show the species drawn to two different scales.

WILD FLOWERS ON THE SURREY DOWNS.

FLOWERS in season and in their natural habitats seem at home, and bloom with a persistency that is surprising, when the same kinds removed to the garden seem to suffer more or less from dry seasons, such as the present, according to the unsuitability of the surroundings in which we place them, and the ungenial nature of the soil. Recently disturbed specimens also suffer greatly unless the soil has been deeply cultivated, and the sub-soil moisture can freely ascend to the assistance of the roots growing in them.

Those travelling by rail cannot fail, even in the month of August, to note the beauty of various wildings in the chalky cuttings, scrambling downwards or climbing upwards as the case may be, and holding on as it were with their roots to prevent them from being hurled to the bottom. *Lathyrus sylvestris*, a local species, is noteworthy, and occurs sometimes in great

Several of the above are old-fashioned garden plants; but when one sees the common Bugloss (*Echium vulgare*) in its glowing garb of the finest blue, throwing up spikes or compound racemes from 1 ft. to 3 ft. in height, without any attention whatever, except it be to cut it down when it intrudes on newly-made roads or garden ground in the vicinity of its native home, the question arises why we do not oftener attempt its cultivation as a regular garden plant, for it is really a grand thing, and worth heaps of the exotic Borageworts over which we rave in ecstasies when they happen to flower. *Blackstonia perfoliata*, and *Erythraea Centaurium*, in its beautiful rosy pink and white forms, are also gems for the hardy plant lover's best care. *Gentiana Amarella* does, indeed, appear plentifully on several parts of the Downs, such as at Reigate, extending thence, at intervals, to Kingsdown and Dover, on the coast of Kent. It is pretty, but not so attractive as the last two *Gentianworts*. The Bell-flowers (*Campanula glomerata*, *C. rotundifolia*, *C. Trachelium*, and *C. hybrida*) either grow on the Downs or in the fields and hedgerows adjoining, and all have been recognised as worthy of cultivation for many years back. The same may be said of *Sedum reflexum*, which botanists refuse to recognise as a true British plant. It certainly maintains its position by the waysides near the Downs in the neighbourhood of Bletchingley, in broken or continuous patches for considerable distances, flowering, scattering its seeds, and extending its area of distri-

bution in a truly surprising way. That rare and interesting Lilywort, *Paris quadrifolia*, hides in the thickets close by; and though it flowers early in spring, its inconspicuous and erratic (number of parts) flowers still persist. When the underwood is allowed to become dense, it seems to disappear altogether; but when the bush is cut down, it reappears as plentiful as ever. Such is the habit of many of nature's *protégés*, which she perpetuates from generation to generation for a long series of years. In such places, and where they can scramble up to catch a glimpse of the sun's kindly rays, the red and the black Bryonies, together with *Rosa repens*, compete with each other for a share of the earth's surface.

On the lower slopes, where the conditions are more suitable to their welfare, the Wild Carrot, the yellow-flowered Parsnip, the Fleabane, *Inula dysenterica*, the large purple-headed *Centaurea Scabiosa*, and *C. nigra* monopolise the once-cultivated fields in a manner that is disgraceful to modern civilisation, showing the present neglected condition of agriculture, which compels us to pay the foreigner for bread, while thousands in the British Islands have to starve. None can deny the beauty of *Scabiosa arvensis*, the field Poppies in their brilliant soldier-like garb, with here and there pale and pink varieties, from which the big, frail and beautiful garden forms of *Papaver Rhæas* have sprung—a sure sign that the husbandman, instead of being up and doing battle with them, has simply been napping while they quietly entrench themselves from year to year. *Orobanche minor* in more than one form is another insidious enemy of the Clover fields at the foot of the Downs, grasping more than a proper share of its neighbours' nutritive stores. The typical form of the species is by far the most predominant, and lives on the roots of *Trifolium pratense*, giving the aftermath of a Clover field a sickly hue from its undesirable prevalence.

It is late in the season to dwell upon the numerous terrestrial Orchids for which the North Downs are noted, as most or all of the species have now gone to seed; but the Bee and the Fly (*Ophrys apifera* and *O. muscifera*) sometimes show themselves in abundance, together with *Orchis maculata*, *Habenaria chlorantha*, *Gymnadenia conopsea*, *Cephalanthera grandiflora*, and *Listera ovata*. *Orchis maculata* and the *Gymnadenia* mentioned sometimes give to suitable fields or spots their own particular hue, so abundant are they; but a stray specimen of *Orchis purpurea* on the Surrey Downs is a rare bird, and gives a keen relish to the finds of *Botanist*.

CARNATIONS AND HOLLY-HOCKS AT TOTTENHAM.

THE glory of the Carnations is almost gone for another season, and enthusiastic lovers of this class of plants may reluctantly write "Ichabod," and patiently wait till another year; for the period during which they last in perfection and gladden the eyes of cultivators is, at best, a short one in any season, but the summer of 1887 will long be remembered as a dry burning one. Those who have been fairly successful at the various exhibitions, and who lay the greatest stress upon that point, will have little cause to regret the short-lived nature of their flowers; but those who grow for decorative purposes, and merely desire a long-continued display of their favourite flower, will have little to remember of a pleasant or satisfactory nature.

On a recent visit to the Hale Farm Nurseries, Tottenham, where Mr. T. S. Ware annually grows some 44,000 plants, we were just in time to see the last flowers of a few of the kinds cultivated and grown in quantity. The florists' flower pure and simple finds little favour here, from the fact that the demand is greatest for free-growing floriferous varieties that produce the largest amount of bloom with the least possible attention; in short, decorative plants suitable for the million, and those of the best quality procurable for such purposes, is the primary desideratum at this or any other establishment of the kind.

The dry condition of the atmosphere and the soil has been extremely unfavourable for the insertion of pipings in the open air, and propagation by that method has mostly been done in frames, where a genial atmosphere could be maintained till rooting had taken place. This applies mostly to Pinks, of which we saw a considerable quantity of that deservedly

popular, double white, deliciously-scented variety, Mrs. Sinkins. Its large flowers, dwarf vigorous habit, and floriferous character, recommend it to all who are fond of flowers generally. The process of layering the Carnations was being executed with diligence, and in spite of the tediousness of the operation, and the extra labour in watering necessitated by the dry weather, the work was approaching completion.

The undermentioned varieties, which we noted, were still in a condition to show their character and suitability for cut-flower purposes and border decoration. Self-coloured flowers of distinct hue always find their admirers, and among these, Guiding Star, a bright scarlet, holds its own as a free-flowering sort; but none of the dark-coloured flowers are able to displace the deep crimson Old Clove, firmly rooted in the estimation of all concerned for its delicious fragrance, simulating that of the Clove. There are, however, others of great merit, such as L. H. Pomeroy, whose large crimson flowers exhibit a shading of scarlet; and Meade's Scarlet, a great favourite in some northern gardens for its reddish scarlet, deliciously scented flowers of great size. Fashion at present, however, seems to be more decidedly in favour of softer hues, and those of that opinion will find something to their taste in Rhyll, a large pink and pleasing flower; together with the rosy pink Feodora and the salmon-hued variety George Nivens. A sweet-scented white variety of great purity is Gloire de Nancy, with large fully double flowers, distinctly toothed at the margin of the petals. As far as colour is concerned, Golden Fleece is superior in the depth of its yellow hue to that of Pride of Penshurst, but the petals are strongly inclined to be incurved at the margins. This might be remedied, however, by the selection of seedlings having the desired flatness and regularity.

Parti-coloured flowers are numerous represented, and claim attention in various ways. The recently certificated Alice Ayres, with white flowers slightly flaked with red, still showed its superiority as a floriferous useful border Carnation; Corney Grain is similar in general appearance, but flaked with pink; Annie Benary has large flowers, finely flaked with rose; and Sailor Gordon is a carmine-flaked and very floriferous variety. W. H. Gilbert is one of those fancy forms whose colours are difficult to define, and for want of a better term we say suffused orange-scarlet flaked with crimson. Several of the varieties are inconstant and sportive, giving rise to altogether different colours. Lady Armstrong, a yellow-ground Picotee edged with short scarlet lines, is one of these; and Nellie Crombie, a white Carnation flaked with violet, is another. Three or four distinctly coloured flowers are sometimes produced by the same plant. Red Bræs, a heavy purple-edged Picotee and deliciously scented, is also a fine thing.

HOLLYHOCKS.

Fresh zeal is again being infused into the culture of these fine things by the practice of growing them from seed. The Hollyhock disease had formerly nearly stamped them out by its ravages—a state of matters brought about, or, at all events, greatly assisted by the weakening process of continued propagation by cuttings, and especially in the employment of heat in striking them. To lovers of this class of plants, a journey to the Hale Farm Nurseries just now would well repay the time and trouble incurred. A large piece of ground, planted with seedlings in rows, shows what can be done in the space of fourteen months, that being the length of time which has elapsed since they were sown. The stems now vary from 6 ft. to 10 ft. in height, and, with the foliage, form stately objects, which are narrowly pyramidal, and densely clothed in the upper part with fully double, large, rosette-like masses of bloom in all possible shades for the genus. White, orange, pink, blush, red, crimson, purple, and a shade which is almost black, show that there is no lack of variety in that respect, and one might almost say it would be difficult to find fresh shades; but such is the pliability of nature, that her resources when urged on by the aid of the hybridist seem exhaustless.

The different sorts are all unnamed, being grown solely for the purpose of seed. To an outsider it would seem almost impossible for such double flowers to produce seed; but on closer inspection, both styles and bundles of stamens may be found concealed amongst the petals, only requiring the aid of insects to

distribute the pollen. The weather being fine at the time of our visit, bees in large numbers—chiefly wild ones—were diligently working their way in amongst the petals, not only satisfying their own needs, but doing much useful work. The petals in the natural family to which the Hollyhock belongs being united at the base with the staminal tube, the whole comes away in one piece at the shedding of the bloom. The flowers in these double sorts are much more persistent, and fall away with some difficulty, especially in wet seasons, often causing the whole fruit to rot through the moisture retained by the petals. It is necessary, in that case, to go over the plants occasionally, and remove the decaying flowers; but this summer they have dried up and fallen away mostly of their own accord, and already there is promise of an abundant harvest of seed from the earlier-opened flowers.

HONEY LOCUSTS AT DEVONHURST.

IN the days of Loudon, when arboriculture (for ornamental purposes at least) had reached its climax, the Honey Locusts, or species of *Gleditschia*, received a much greater amount of attention than they do at present, notwithstanding the handsome character of their finely divided leaves. After describing a half-dozen forms, which were then reckoned species, Loudon says:—"Every modification of the species of this genus is so interesting, both in point of the elegance of its foliage and the singularity of its prickles, that new varieties have been eagerly sought after by cultivators, and the genus seems particularly favourable to this desire, from the tendency of seedling plants to sport." Not only has this tendency to sport been exhibited by plants grown in this country, but both native and wild specimens, from various foreign countries, show the same peculiarity, and from the days of Loudon till now the genus has been in a state of great confusion. Seeing that this is so, it would be undesirable that any specialist should take them in hand to multiply the species; but at the same time it would be a great boon to the student, or even to cultivators who desired to get a true knowledge of the existing species of *Gleditschia*.

It would seem an easy matter to unravel the mysteries of some half-a-dozen species or so that are known at present to science, but the amount of variation in the same species under different conditions or from seed, makes the task of classifying the forms, under their respective types, difficult to accomplish. An extensive set of specimens, collected from purely wild trees, would furnish the most satisfactory evidence of the desired knowledge, and furnish a basis for classifying all cultivated specimens.

The *Gleditschias* represent a very ancient type of vegetation, as fossil forms have been found in Pliocene strata, and at the present day they are distributed in various parts of temperate and subtropical Asia (chiefly China and Japan), North America, and some of the mountains of tropical Africa. The commonest species in British gardens are *G. triacanthos* from North America, and *G. sinensis* from China; but of these there are several distinct forms in cultivation, and if the genus were to be thoroughly overhauled, it might be found expedient to arrange others, generally considered distinct species, under one or other of the above, either as varieties or sub-species.

There are three trees at Devonhurst forming part of the remnant of the once famous collection of the Royal Horticultural Society at Chiswick, before that part of the garden devoted to their cultivation was sold. They are planted in close proximity, and form a group, as several other trees do, evidently for the purpose of comparison—an excellent idea, and one that might more often be practised for educational purposes than is the rule in this country. They range from 25 ft. to 50 ft. in height, the tallest one being, apparently, a distinct form of *G. triacanthos*. I cannot regard it as the type, seeing that the leaflets are shorter and broader than those of trees generally enjoying this distinction in gardens, and because they do not agree with the descriptions repeated in several publications, nor with dried specimens in herbaria. Even the figures given by Loudon do not bear out the description he gives of this species. Moreover, owing to the dimorphic or polymorphic condition of the leaves on the same tree, it is the more necessary that original descriptions should be drawn up from fresh specimens. There can

be little question that *G. triacanthos* is the largest tree of the genus yet in cultivation, and, at the same time, has the most handsome foliage. The earliest-developed leaves of the season, and all those produced on the short lateral branches, are simply pinnate, and these, as far as number is concerned, are the most predominant in old trees; but later on, especially when the tree is growing vigorously, large and very elegant bipinnate leaves are developed on branches having long internodes. As already stated, the leaflets of the Devonhurst specimen are broader and shorter than in that which Loudon has taken as the type. It may be a garden production, and this is also supported by the fact that the flowers, which contain both stamens and ovaries, are frequently in a mousty condition. There should be only one pod to a flower, in accordance with the universal character of the Pea family; but in this case there are often two that attain considerable size, together with a number of smaller ones, forming a sub-globular mass, enclosed or grasped by the bases of these latter. Pods are produced by this tree 9 ins. or more in length, and sometimes upwards of 1½ ins. in breadth. These are retained by the tree after the leaves have fallen, and from their flattened character and brownish red colour, they present a very singular appearance.

The other two trees are forms of *G. sinensis*, the smaller one having perfect flowers producing pods in autumn, while the other tree bears male flowers only. Neither do they exactly agree in other respects, as the leaflets in the male tree are more oblong, rather narrower, and less decidedly creuate at the margin, while its flowers are smaller, and much more distinctly and sweetly scented. In both cases, however, the flowers are quite green, and indistinguishable from the leaves at a short distance. These male flowers, however, no doubt serve an excellent purpose in the economy of nature, and, when expanded, form a great source of attraction for bees, which are doubtless attracted by the pleasant odour. The fruit-bearing tree is the smallest of the group, and the most spiny. The pods of this species are much smaller, shorter and more attenuated than those of *G. triacanthos*. *G. sinensis* had not fruited in this country up to the time that Loudon wrote his *Trees and Shrubs of Great Britain*.

The singular branching spines of the *Gleditsias* are no less a feature of exceeding interest than the beautiful and polymorphic leaves themselves. This is to be accounted for in various ways. In the first place, they are metamorphosed branches, and, as a rule, originate at some little distance above the leaf, not in its axil according to the ordinary rule. Secondly, they are often produced in clusters from the old and naked trunk, when they generally attain a considerable size and become much branched, giving the tree a very defensive or offensive aspect. Certainly from their size and strength they would be very formidable weapons for cattle or similar animals to encounter. All the three trees of the group are furnished with these large spines on the trunk; but the smaller specimen of *G. sinensis*, which is the fruit-bearing form, is by far the most spiny. *G. ferox* and *G. horrida* would seem to be names for unusually well-armed forms of *G. sinensis*. There are spineless or almost spineless forms of both *G. triacanthos* and *G. sinensis* in cultivation, and which are frequently selected from beds of seedlings.—*J. F.*

GARDENING NOTES FROM SCOTLAND.

Apples.—The earliness and general excellence of Apples in northern gardens and orchards this season has rarely been equalled, and some kinds are on a par with many of the same sorts which are grown in the most southern districts; and we doubt not but that the late kinds will assume the bright colouring which is so desirable in dessert Apples. We have found great benefit this season from Red Astrachan, which has been the means of forming a connecting link to the Strawberry crop. The deep crimson shade of colour that is next to the sun and yellowish white towards the stalk gives the fruit a very attractive appearance; the perfume, too, enhance its value.

In many gardens that we have visited, we found the walls indifferently clothed with fruit trees—and often

with such as do not give a return for the labour expended upon them—which might be made to yield fine crops of handsome Apples, and such as would shut out the American consignments altogether. It has been written, by an extensive grower of fruits in orchard-houses, that “one does not know what really good Apples are who have not eaten them from under glass in this country.” It has not fallen to our lot to cultivate them under glass, and only of late years on walls, and these have not been in such positions as to ensure the full sun (being north-west); but to compare the fruit grown on odd wall spaces with ordinary crops on standards and cordons is remarkably striking. Golden Pippin is really yellow, so is Kerry Pippin, and Margils (if allowed to hang long enough) are of a bright yellow shade, crisp, and flavour superior to any American Apple we have ever tasted. This kind is simply a small Ribston, but more productive, and the tree is much less liable to become cankered. As a standard or bush fruit, we do not know a more useful kind in southern gardens. The late Mr. Thomas Osborn pointed out a tree to us in his private grounds which was loaded, and that gentleman said he could not remember any season that it was otherwise. We noticed a number of old trees of various kinds, which had their bottom roots entirely cut away because of the fruit cracking and the tree cankered, in fine foliage and heavily cropped with sound fruit. The kinds of Apples that are extra loaded are Lord Suffield, Stirling Castle, Cellini, King of Pippins, and Seaton House.—*Caledonian*.

Vegetable Notes.—While vegetables are very abundant, and most kinds excellent in northern gardens, it will be well not to neglect those which are expected to give good supplies during the autumn and winter seasons. We have already been reminded of late, on more nights than one, that frost may be expected to cripple, if not destroy, some useful crops. French Beans are among the first to suffer, and if protection at night can be given them, the plants now bearing freely, and those about to enter that state, might be kept on for a number of weeks to come. Frames and glass-lights, plant-protectors, hand-lights, hoops and mats, or frigi-domo placed over a framework of stakes, are some of the means in favour for protecting tender plants. Vegetable Marrows, Tomatos on walls, &c., are among the kinds of useful esculents which are exposed to injury. The usual successions of Lettuce, Cabbages, Spinach, Turnips, Endive, young Carrots, Radishes, and small salads claim attention now. We never rest contented with one or two successive crops of these, and every sheltered space should be filled with any kinds that are in much request. If Spinach is not equal to the demand, the thinnings may be planted on finely-prepared soil. This vegetable is never over-plentiful during severe winters, thus requiring all the more attention to establish it in favourable quarters. Allowing such crops to come up thickly, and not properly thinned in time, is courting failure, as they are never sturdy and of such substance as to withstand damp and severe frost. We notice aphids attacking many of the Brassica kinds of vegetables. Dustings of lime and soot may act as a preventive. Young Coleworts, newly planted, are very liable to injury; but Brussels Sprouts are generally the most affected. We see it, to some extent, on our four successions of these, which are extra strong and early. The first dish was gathered on August 11th, a month before we expected them. The present is a favourable time to make a sowing of these in northern gardens, where they cannot be brought forward under glass for very early supplies. Cauliflowers, of sorts, and curled Kale may also be sown; but the latter is generally too coarse when sown before spring, which is especially the case this season.—*Caledonian*.

VIOLA, COUNTESS OF KINTORE.—Being the raiser of the above beautiful variety, I was very much interested in your correspondent's remarks regarding its drought-resisting properties, which I can fully bear out in my own experience. Having two rows of it, each over 200 ft. long, and fully exposed to the sun, not a plant has died this season, but it has been one continuous mass of bloom all the summer; whilst other varieties, growing side by side with it, have suffered more or less. It is a variety that seems to suit itself to any climate, for in the far north of Scotland, some 200 miles from Edinburgh, I saw it last week blooming most profusely.—*John Downie*.

THE AMATEURS' GARDEN.

VINES OUTDOORS.—Not everyone who has the desire possesses the means of growing Grapes under glass; but thousands who cannot do so can secure a crop outdoors provided they have at command a wall with a sunny aspect against which to train the Vines. This is not the season for planting or making fresh alterations; but the fact can be borne in mind, when that time arrives, that Grape-growing can be carried on to a much greater extent in England than it is at present by amateurs, and that it forms a pleasant outdoor recreation even in the hottest weather. Add to this the advantages to be derived from a supply of useful and wholesome fruit, at a cost which may be set down as almost nil to those who can command a little spare time, either in the morning or at night after the day's labour is over.

Those who do possess Vines in the open air will see that the fruit is now rapidly swelling, and may receive a little thinning where the berries have set very thickly. This will cause them to become larger than they would otherwise be, not only ensuring better quality, but preventing damage to the berries by squeezing later on. It is usual to see Vines on open walls, at this season of the year, crowded with rampant-growing shoots that not only rob the bunches of the nutriment which serves to swell the berries, but also shades them, greatly to the disadvantage of the ripening process, especially as the season advances and the sun becomes less powerful. Shading does not materially affect the swelling of the fruit directly, but does so indirectly by robbing it of ill-directed nourishment that goes to the production of a labyrinth of useless wood, which must be cut away from all badly-managed Vines at the winter pruning. Another matter requiring attention, at this period of growth especially, is to see that the Vines do not suffer from want of a copious supply of water at the roots. If an attack of mildew should make its appearance, syringe the foliage, and apply a dusting of flowers of sulphur immediately the disease is detected, whereby its ravages will be promptly checked.

From the amount of sunshine, this season is particularly favourable to the ripening of outdoor Grapes; but more attention should be given to the cultivation of varieties that give most satisfaction in any season, favourable or otherwise, with which we may be visited. If this were done, Grape-growing in the open air in England would receive a fresh impetus, such as it has not enjoyed for many years past. The cheapening of glass, and the superior quality, appearance and more certainty of success engendered thereby, has put outdoor cultivation greatly in the background; but there is no reason why this state of matters should not be greatly improved, and that through the exertions of amateurs who may grow their own Grapes, ensuring a supply for a month or two every year. Royal Muscadine, a white Sweetwater Grape, is a very early variety, and has been proved to be the best suited for our climate, ripening very satisfactorily. Black Hamburg and Black Prince will also ripen tolerably well in favourable positions, even when visited by less propitious seasons than the present one—a season which augurs well to continue.

VINES UNDER GLASS.—Those who are fortunate enough to possess a greenhouse or similar glass structure, will still have to exercise close attention to the duties required by the objects of their care or pastime. The greatest evil in Grape-growing by amateurs is the attempt to do too much, or, in other words, crowd too much in a small space. Two, three or more Vines are allowed to struggle for an existence in a space that ought to be monopolised by one plant only. The Vine naturally is a very rampant and vigorous grower, and, to give the greatest satisfaction, must be allowed plenty of space to develop, unless managed by experienced cultivators. If the fact is once recognised that one specimen will occupy a large space profitably, we should hear less of Vines failing to fruit in small houses. All useless and fruitless shoots should be rigidly cut away, unless there is ample space to lay them in, so as to allow full exposure of the foliage to the sun. Fruit-bearing branches may be pruned beyond the first or second leaf from the bunch. If pruning, however, has hitherto been neglected, and the Vines are now a mass of wood, great care should be exercised not to denude them too

severely of foliage at any one time, otherwise the root system of the plant may receive an irreparable check. Rather than run this risk, cut away those branches only that override the others, preventing due access of light to the remaining foliage. To prevent the attack and spread of red-spider, keep the floor and stages, if any, well damped down several times a day to keep up a supply of moisture in the atmosphere. If there is likely to be any outbreak of the pest, give the Vines a good syringing—provided the Grapes have not begun to colour, which they are not likely to be if the house is an unheated one—and close up early in the afternoon, maintaining a saturated atmosphere till it is necessary to ventilate next day.—*F.*

HERBACEOUS AND ALPINE PLANTS IN FLOWER.

GLOBE THISTLE.—From a decorative point of view, none of the Globe Thistles are more select than *Echinops Ritro*, which grows to the height of 2 ft. or 3 ft., being thus dwarfer than most other species in cultivation. The flower-heads are globular, as the name implies, and of an intense blue, and the combination such as we seldom see amongst hardy plants. For this reason it deserves to be more widely disseminated in gardens than it is at present. The pinnatifid leaves are cottony beneath, but not so spiny as in the variety *E. R. ruthenicus*.

ANEMONE JAPONICA ELEGANS.—In many gardens this form is more popular than, and seems to have displaced, the type. It is a hybrid between *A. japonica* and *A. vitifolia*, a far less showy but interesting Himalayan species. That under notice grows 3 ft. to 4 ft. in height, producing a long succession of soft rosy flowers about 3 ins. in diameter, and furnished with fewer but much broader coloured sepals than either parent. The variety is also known as *A. j. rosca*, and *A. j. hybrida*, and both names are sometimes combined.

GYPSOPHILA PANICULATA.—There are several pretty species in this genus very useful in their way for dotting about the Alpine garden, or planting near a rocky ledge where their trailing stems may hang over; but none have attained the popularity of this species within comparatively recent times for mixing with cut flowers in table decoration. From 18 ins. to 24 ins. is the usual height of the stems, and when grown where they have plenty of room to develop, ramify and form a semi-globular clump completely covered with myriads of tiny white flowers, which are very graceful in the mass, and serve the purpose for which they are used admirably.

DENSE-FLOWERED EVENING PRIMROSE.—Although an annual, this pretty and distinct Californian species might with great propriety be introduced to some of the more prominent parts of the garden, where its beauty could hardly fail to attract attention. Botanically this is known as *Oenothera densiflora* or *Boisduvalia Douglasi*; we prefer the former, although a few botanical distinctions relegate it to a distinct section of the genus. The small rosy purple flowers form a sort of umbel as they expand, and remind one very forcibly of *Lychnis flos-Jovis* at a short distance, but as the inflorescence elongates it becomes truly spicate.

THE WING-STEMMED LOOSESTRIPE.—*Lythrum alatum*—for such is its botanical name—is a North American and very distinct species, for some time confused with the procumbent *L. Graëferi* from South Europe. The larger deeper purple flowers, and erect tetragonal or four-winged stems, however, readily distinguish it from its congener. It thrives best in a light sandy soil, and the lower part of the stems assume a semi-shrubby character, constituting a compact and elegant subject for the herbaceous border.

GILLIES MALVASTRUM.—After its first appearance in British gardens, this plant was grown under the name of *Modiola geranioides*, and certainly bears considerable resemblance to a *Geranium*, both in habit, in its finely-cut foliage, and its large rosy red flowers, with a dark spot at the base of each petal. *Malvastrum Gilliesii* is the recognised name now, although it also enjoys—or, rather, is hampered with—another synonym in *Malvaviscus geranioides*. The plant delights in a sunny aspect, and succeeds in resisting the severity of our winters best when planted in rather sandy soil; it is also a cheerful subject for the rock-garden, flowering freely in warm dry weather.

THE WOOLLY-LEAVED ANDROSACE.—Few Alpines are calculated to give such a long-continued display of bloom as the Himalayan *Androsace lanuginosa*, which continues to throw up its umbels of beautiful rose-coloured dark-eyed flowers throughout the summer, wet and dry weather alike. It must be confessed, however, that the flowers are much brighter in colour when the weather is cool and the atmosphere somewhat moister than it is at present, which may be more akin to that of its native habitats, where heavy fogs and rain are more prevalent than in an English summer. At present the flowers are nearly white, with the exception of the eye, but pretty and interesting notwithstanding.

LOBELIA SPLENDENS.—There is a certain similarity between this and *L. fulgens* (both Mexican species), and the Cardinal *Lobelia*; but the two former are superior to the latter in the size of the flowers, while *L. fulgens* is distinguishable by its downy stems and the exterior surface of the flowers. *L. splendens* is in every way a magnificent species, with a terminal raceme of scarlet flowers, and responds readily to cultivation, provided it is grown in a somewhat loose moist soil. All the three species mentioned delight in a marshy soil, where they can receive an abundant supply of moisture. There is a dark-leaved variety (*L. s. atrosanguinea*) similar, if not identical, with that known as Queen Victoria.

THE BLUE POPPY.—Notwithstanding the somewhat evanescent character of the flower of *Meconopsis Wallichii*, it is a handsome perennial, that merits more extended cultivation than it yet enjoys in British gardens. The flower-stems rise to the height of 3 ft. to 5 ft., bearing numerous short lateral racemes of flowers over great part of the stem. As flowering proceeds, a constant succession of blooms is produced, extending over many weeks, which are of a pale but decidedly blue hue, with deeper-coloured filaments and orange anthers, and certainly showy. A faint suffusion of lilac or purple sometimes pervades the blue colouring of the petals. The rusty-looking hairs of the leaves and stem are also very curious and characteristic.

OSWEGO TEA.—Such is the popular name of *Monarda didyma*, a highly ornamental plant now adorning the borders of various gardens throughout the country. It must not be confused with *M. fistulosa rubra*, otherwise known as *M. f. purpurea*, with dark purple flowers. In the case of *M. didyma* they are of a uniform crimson, and not bright scarlet as they are often described. This species may be otherwise determined by the acutely—not bluntly—four-angled stems, such as we see in *M. f. rubra*, and the bracts supporting the flower-heads are red or crimson, thus rendering the plant additionally attractive.

PLANTS IN FLOWER AT THE AMERICAN EXHIBITION.

OWING to the exceptional nature of the season, and the late period of the year at which they were planted, the flowering of the various American annual and herbaceous plants has not been so continuous or so prolonged as might otherwise have been the case. Some of the early-flowering annuals have seen their best, but other subjects, both annual and perennial, will continue or come into bloom till cut down by frost; and there can be no doubt that the most has been made of their arrangement, as to position and otherwise, that could be effected under the circumstances by Mr. Goldring, who superintends this department of the exhibition.

The various annual and perennial herbaceous plants used in the gardens are intended to represent the American flora as nearly as circumstances will allow. Most of the annuals have been supplied by Messrs. J. Carter & Co., High Holborn, and include many of the most popular subjects grown in British gardens, so they do not present much novelty to the public on that account. A large bed of *Godetia Whitneyi*, with its large rosy pink flowers and crimson blotches, has sustained its usual character of being a profuse-flowering annual, and the same might be said of its near relatives—*Clarkia pulchella alba*, with white, and *Oenothera Drummondii*, with hoary foliage and large yellow flowers. The dry summer seems particularly favourable to most kinds of plants coming from dry regions such as Mexico, and accordingly we find *Zinnia elegans*, *Coreopsis Burridgei*, *Gaillardia grandiflora*, and *Eschscholtzia californica* doing remarkably well.

Lupins in various colours, dwarf *Tropæolums*, *Fenzli dianthiflora*, and *Oxyura californica* swell the list of useful things that every good garden should possess. *Phlox Drummondii* likes partial shade or an abundant supply of moisture to bring out the splendid effect it is capable of producing.

The plants supplied by Mr. T. S. Ware, Tottenham, are mostly perennials, which have furnished bloom from an early period of the year, according to their kind, and will continue till late in autumn, when *Asters* will join the late-flowering *Gaillardias*. *Spiræa astilboides* and some others were followed by *Hemerocallis fulva*, Iceland Poppies in various hues, *Coreopsis lanceolata*, *Erigeron (Stenactis) speciosus*, and *Oenothera fruticosa*. Most of these still flower freely, and have been joined by that fine old-fashioned thing, the orange-flowered *Asclepias tuberosa*, by late-flowering hybrid *Phloxes*, *Helianthus (Harpalum) rigidus*, *Pentstemons* in numerous fine varieties, and *Gaillardias*. The latter were small pieces when planted late; but being put in rich soil have now made excellent growth, and will continue till late in the season. *Dahlias* are very late, owing to the drought, but will improve presently, when various *Helianthi* and perennial *Asters* will become the chief centres of attraction.—*Visitor*.

CHINESE BELLFLOWER.

OUR figure gives an illustration of *Platycodon grandiflorum*, one of the best of Bellflowers, which, however, is not a true *Campanula*, although it has been considered such by some authorities, and is known under that name in some gardens. In a true *Campanula* the seed-vessel opens by slits beneath and outside the calyx limb, whereas in *Platycodon* the capsule bursts by valves inside and opposite to the segments of the calyx. Apart from botanical characters, it may be stated that this, the only species, a native of China, Manchuria and Japan, varies in height from 6 ins. to 18 ins. or more; branching somewhat in the upper part under good cultivation, and bearing a number of large, erect, deep blue flowers. The dwarf varieties get separate names, such as *P. grandiflorum Mariessii* and *P. g. pumilum*, and it must be acknowledged that they are extremely handsome subjects for planting in the rock-garden, or in beds or borders. The flowers themselves vary considerably in colour and even in structure, as we noted recently at Pendell Court, Bletchingley, where some stems bore white flowers, and numerous others showed a tendency to become double or semi-double, and even developed a second corolla within the outer. Increase in this species is comparatively slow, when we consider the rate at which most of the true *Campanulas* spread and occupy the ground, so that the Chinese Bellflower never becomes weedy. Propagation is effected by division of the root-stock, which, however, dislikes to be disturbed after having established itself; cuttings of the young stems may also be made in the spring.

MIMICRY IN PLANTS.

THROUGHOUT the animal and vegetable worlds we find a remarkable amount of mimicry or imitation amongst its members, whereby one animal resembles another of a different genus; one plant another; or animals bear remarkable resemblances to certain plants, or *vice versa*. In many cases it would be difficult or impossible to trace the origin, or account for this mimicry; and while we may in some cases treat these phenomena as accidental, we cannot reasonably do so in all cases. We have ample evidence that certain animals resemble others, or some object in the mineral or vegetable kingdoms, and in most cases this is for the sake of protection, so that they may escape the observation of their enemies, or, it may be, to deceive their prey. Amongst plants there would seem to be less necessity for this kind of protection, and accordingly we find protective resemblances far less decidedly developed.

It must not be inferred from the above that there is a general absence of imitation in the vegetable kingdom. On the other hand, if we are to judge from the botanical and English names, especially of the 100,000 species of flowering plants clothing our earth, the botanists of all ages have impressed us with the fact that plants bear striking resemblances to a host of objects, animate or inanimate. These shapes, appearances or likenesses

doubtless serve some particular purpose in the economy of plant life, although frequently the object is difficult of explanation. My theory is that the bulk of the resemblances is due to man's imaginative faculty, which leads one to adopt a second heading to this paper, namely "Comparison," as inseparable from a full explanation of plant form.

The bump of comparison is so strong in man, and the use of it of such common occurrence in every-day life, that we are apt to overlook the fact in a great measure or altogether. When new plants are discovered, the faculty of comparison is brought into play, whereby he likens his discovery to some commoner and better-known object, in order to assist memory, but chiefly to make himself more readily understood by his fellow men. Hence it is a favourite custom to compare the new comer to some other and better-known thing, and name it accordingly; in fact, a mass of the words in human language is intelligible only by comparison. Need we wonder, then, that it is employed in scientific circles as well as in every-day life? Time will not permit, nor is it my object to deal with mimicry and comparison outside the plant world—a subject sufficiently exhaustive for one evening.

PLANTS OR FLOWERS THAT RESEMBLE INSECTS.

In the genus *Ophrys* alone, at least eight different species have been likened to as many different insects, and named accordingly. The most familiar of these is the common Bee Orchis, the lip of which has not inaptly been compared to a bee; and some have gone so far as to say this form was developed in order to frighten away insects injurious to the flower. We have reason to believe, however, that the sense of vision is so acute in insects generally that they see no likeness in it, for the flower really resembles no European bee or other insect, and they would soon lose all fear, as sparrows do at an artificially-made cat. The resemblance is much closer in the Fly Orchis (*Ophrys muscifera*), the body, wings, head, and antennæ being wonderfully deceptive. In like manner, the saw-fly, drone-bee, the dun-fly, bumble-bee, and wasp have been burlesqued by different European species. Curiously enough, the generic name *Ophrys* comes from *ophrus*, an eyebrow, referring to the markings on the lip of some species. Bumble-bees are also wonderfully imitated by the lips of *Cotonia peduncularis* and *Oncidium dasyle*, or the latter may be likened to a big blue-fly. Our British Butterfly Orchid does not much resemble a butterfly, and why it should enjoy the

appellation I have never discovered; but the exotic *Oncidium Papilio* is a wonderful piece of mimicry, and the deception is very much heightened when a light breeze plays with the flower, which, poised on its long slender foot-stalk in mid-air, far above the foliage, resembles a gaily-coloured butterfly disporting itself in the sunshine. The species of *Phalænopsis* are known as Moth Orchids, having been so named from the appearance presented by their broad, flattened, pale-coloured flowers as they hang suspended from the rocks or trees of their native jungles in tropical forests.



CHINESE BELLFLOWER (*PLATYCODON GRANDIFLORUM*).

BIRDS IMITATED.

Curiously enough the above comparisons or likenesses have all been derived from the great Orchid family, and here again we borrow a few illustrations from an order replete with imagery. The woodcock, pelican, swan, and dove have been portrayed by nature with wonderful exactness, it would seem, to human eyes, but for what purpose remains to be determined. The dove-like Orchid is also called the Holy Ghost Orchid, and is known in its native country (Panama) by the name of *El Spirito Sancto*, which means the same thing. Partly, perhaps, to assist memory, and partly from want of invention, authors of all ages have compared plants to some natural object, and birds of various kinds have been called to their assistance in

some way or other; therefore, the imagination must be appealed to in order to trace a comparison between certain plants and the following ornithological detail. The Geranium of our meadows, banks and hedges has been named Crane's-bill, from a fanciful allusion to the beak of their fruit resembling the long slender bill of the crane; while the allusion is also borrowed in the naming of the Cranberry. A machine used for lifting and some other things also derive their names from the same source. In order to distinguish it from Geranium, the Pelargonium has been likened to the stork's bill,

and the *Erodium* the heron's bill. The fruits in all three cases are very similar. A curious mixture of names sometimes arises from the use of generic and specific names applying to different parts of animals. A genus of Ferns is named *Pteris*, from the Greek *pteron*, a wing; and *Pteris caudata* would mean the tailed wing, *P. arachnoidea* the spider-like wing, *P. biaurita* the two-eared wing, *P. edentula* the toothless wing, *P. esculenta* the edible wing, *P. ornithopus* the bird's-foot wing, *P. podophylla* the foot-leaved wing, and *P. vespertilionis* the bat's wing. The latter animal furnishes a name for several plants, but it is neither a bird nor has it a wing. *Ornithopus* is the Bird's-foot, and *O. scorpioides* is the scorpion-like Bird's-foot. *Ornithogalum* translated is Bird's-milk; but the allusion seems far-fetched and imaginative, for how can we account for *Ornithogalum barbatum*, the bearded Bird's-milk, or *O. ovatum*, the egg-shaped Bird's-milk? These are but a few of the incongruous mixtures of the kind. Larkspur, Cocksfoot, Cockspur Thorn, Crowfoot, Goosefoot, Cockshead, and Cockscomb have all been named from a fancied resemblance between those various members of the birds in question and some part of the plants bearing the appellation.

The specific name of our native Fritillary has been called *Meleagris*, from the chequered flowers resembling a guinea-hen, while the generic name is given from the same markings resembling a dice-box; and Snake's-head is doubtless due to the same fact. Hen-and-Chickens is a term applied to a variety of the Daisy and several other plants.

VARIOUS ANIMALS SIMULATED.

The most familiar plant probably coming under this title is the Monkey Flower or *Mimulus*, from the Greek *mimo*, an ape. There is not an inapt comparison between the gaping corolla of that flower and the mouth of some animal. The allusion, however, is somewhat ludicrous if we translate *M. cardinalis*, as

the Cardinal Monkey Flower, and imply that it means anything more than the scarlet Monkey Flower, referring to the scarlet cloak of a cardinal. A much better instance of mimicry is furnished by *Masdevallia troglodytes*, which resembles the face of an ape in a remarkable manner. The lip resembles the mouth, and other parts of the flower the eyes and nose. *M. porcelliceus* compared to a little pig is, however, much more fanciful. The spider is imitated by several Orchids, such as *Ophrys aranifera*, *Maxillaria arachnites*, *Dendrochilum arachnites*, and the spider's web by *Sempervivum arachnoideum*. The long slender generally curved segments of some of the foregoing give a not inapt impression of a gigantic spider. *Orchis hircina* is the Lizard Orchis, and the similarity is drawn from the long, curiously shaped, dull-coloured lip of that flower, and the specific name has been taken from the detestable disagreeable smell resembling that of a goat. Frogs, toads, tortoises, weasels, pigs' heads, birds' heads, and dragons' heads, are also called into requisition to convey an impression of the ideas and simulative faculties of man's fertile brain. The Snapdragon, notwithstanding its striking similarity to the mouth of some life-destroying monster, is no deterrent to insect visitors in quest of food, from which we may conclude that they have become familiar with the deception, or see no evidence of the monster depicted by the human intellect. On the other hand the jaw-like process merely closes the entrance of the flower to exclude uninvited guests, that from their small size would rob the flower of its contents without rendering it any service. Many other animals, or parts of them, are burlesqued in a more or less fanciful way, but considerable interest is attached to the Man Orchis, the sepals and petals of which simulate a man's head, while the four-lobed lip constitute the arms and legs. We have yet a great deal to learn if we reckon according to the sentiments of some of our best naturalists that all these structures have their uses in the economy of the plant, which is not improbable. There is little doubt, moreover, that all these similarities are purely of man's invention, and serve no purpose to the needs of the plant in that respect, or from that point of view. Mythical beings are represented by *Adonis*, dragons, nymphs, satyrs, angels, and others, while human beings are implied by such appellations as monks, cardinals, and soldiers, such as *Dendrobium stratiotes*, water soldier, and opera girls. The latter plant botanically is *Mantisia saltatoria*—the generic name in reference to insects called *Mantis*, and the specific name from a fancied resemblance to a well-known theatrical figure. The head, arms, shoulders, and gay dress worn by *opera* girls are represented by various parts of the flower and its various lively colours.—*J. F. (To be continued).*

THE WEATHER.

AFTER many weeks of drought and great scarcity of water, we had a nice genial rainfall on Tuesday night, and early on Wednesday morning a copious downpour, so much so, as to very materially add to our domestic comforts, in giving a good supply of rain-water in our tanks, which had been quite empty and dry previously for several weeks; even the plants, shrubs and all vegetation already assume a different aspect, and appear grateful for the long-wished-for boon, and whilst I am writing occasional showers are gently falling. Surely there cannot be a living creature but what feels truly thankful for these timely aids to health and industry, in whatever sphere they may move.

I may now say, that on the night of the 14th and the morning of the 15th inst., great destruction was caused by frost in this neighbourhood. One very large grower for Covent Garden, of all kinds of vegetable products, estimates that as regards his Vegetable Marrows, he has lost in them alone nearly £40 in value; one large plantation being almost, if not completely destroyed by this unexpected and untimely visit of the Ice King. For years we have been familiar with all kinds of fluctuations of the atmosphere, but I do not remember Marrows cut off in the middle of August before. Some of your readers may, perhaps, inform us if they have experienced frost at the time I mention, for, most likely, the low temperature was not confined to this locality, but may have been general, and, if so, tender and succulent growing plants may have been injured, if not altogether destroyed.—*George Fry, Lewisham.*

At last rain has come, and not before it was sorely needed. In the district round London very little had fallen for three months, and the country had at last assumed the aspect of a vast field of stubble, scarcely a green blade of grass being visible; the thick hedges in many places were burnt up, and in the garden everything was parched, even the Phloxes, Pyrethrums and other strong-growing things being dried up and flowerless. During a great part of Tuesday night, however, a steady downpour of rain took place, which will bring relief to suffering vegetation, and also to anxious gardeners who not only have to regard the present but the future crops. Advice I have from Worcestershire and other parts seem to say that heavy thunderstorms and rains have been general. On Wednesday evening London and its environs was visited by a heavy thunderstorm which will do much good, for already the fields look green.—*J. B.*

On Wednesday afternoon, low peals of thunder were heard over the western part of London and suburbs; but about six o'clock the storm became most terrific, and raged heavily for about an hour and a-half, with a copious downpour of rain and hail, doing much good to thirsty vegetation, although the dusty or hard soil refused to take in the moisture for some considerable time, so that the fields looked like sheets of water. Altogether, the storm lasted for fully three hours, and the much-needed rain already shows its effect visibly. So great was the downfall in the Metropolis that sewers were flooded, and the traffic suspended on the Metropolitan Railway owing to the same cause. Heavy rains also fell over many of the southern and Midland counties.—*B. B.*

On Sunday morning (the 14th) our thermometer registered 2° of frost; and many places in the neighbourhood that are situated lower than us registered 4°. In these lower places, Dahlias, French Beans, and tender plants generally, are spoiled. This is a sad disappointment after the severe drought we have been experiencing, as many were looking forward to a grand display of autumn flowers, in the event of the elements favouring us with copious rain, of which we stand much in need.—*W. G., Edgend.*

GARDENING MISCELLANY.

Olearia Haastii.—It may be interesting to any who may not know this shrub, of which you gave an illustration last week, that it has stood uninjured in this neighbourhood for the past four winters to my knowledge. The most severe frost during that time was on the morning of December 18th, 1886, when we registered 17°, and that did not appear to injure it in the least. Some of your readers who live in northern districts may think that such a frost is not worth their notice; but Brocolis, &c., were much cut up by it, the Bay Laurel also presented, unless in sheltered positions, a shabby appearance, and another thing, as far as my experience goes, we have not anything to equal autumn sun to ripen the growths as in England. I have it in an exposed situation, and I know of others equally so. As a dwarf compact free-flowering evergreen shrub it has much to commend it for the outside of shrubberies. Your illustration does not exaggerate its floriferousness in the least, as I searched last week to find a shoot without a flower, and could not.—*E. Dumper, Limerick.*

Seedling Fuchsias.—Some Fuchsia-blossoms of seedlings raised by Mr. James Lye, Clyffe Hall, Market Lavington, have reached us. No names accompanied them, from which we presume they have not yet received any. Compared with the older sorts which still linger in cultivation, and which have been popular in their day, we have no hesitation in saying there is a marked improvement, as far as the flowers are concerned. The habit of the plants is described as good and the growth free. A dark-coloured variety was notable for the size of its flowers, the soft rosy scarlet sepals being over 1½ in. in length, and the broad erect petals over 1¼ in., thus falling very little short of the former. The petals are also of a rich violet-purple veined with scarlet at the base. Of three light-coloured varieties sent, one was conspicuous for the dimensions of its pure white tube, which measured 1 in. in length clear of the fruit, and ¾ in. thick. The sepals were also white, and the short stiff petals were of a lively

rose colour suffused with scarlet towards the margin. Similar to this was another form with a short thick tube, and the white recurved sepals faintly tinted with blush, which might be the result of fading, as the flowers had suffered through carriage. The petals were decidedly suffused with scarlet all over. A botanical curiosity consisted in the short stamens being scarcely protruded from the corolla. The third variety was characterised by a long slender tube, long reflexed sepals, and erect petals, similar to those of the last, but twice the size.

British Artillery Plants.—Much interest and curiosity is attached to the bursting of the anthers of the exotic weeds, *Pilea muscosa* and *Pellionia Daveana*; while some of our native weeds belonging to the same, that is, the nettle family, are equally wonderful in their mechanism. The reason of this is that exotic plants introduced to gardens are more likely to come under the eye of gardeners than our native weeds, which seldom or never find their way into cultivation, except in botanic gardens. The common Nettle, *Urtica dioica*, and Pellitory, *Parietaria officinalis*, are equally good if not better than the so-called Artillery plant. The filaments are incurved in bud and so constructed that they jerk backwards with considerable force when mature and when released by the expanding calyx. In doing so the anthers scatter their pollen like a little cloud of smoke, exactly the same as happens in *Pilea muscosa*. The process may be very conveniently observed in the early part of the day when the sun brightens up and warms the atmosphere. If the weather has been dull and moist for some days previously to the observations being made and then clears up, little showers of pollen may constantly be seen flying off like clouds of smoke, resembling so many miniature guns at work.

Oxalis Double Rose.—We have a very pretty double-flowered *Oxalis* of a charming rose colour, much resembling the double Hepatica, and of the same hue. I first saw a single specimen of it many years ago, and thought it a sport; but more recently I have found a bank about two miles to the west of my house, where in April and May a few may be found mixed with single ones, the entire habitat not being more than 10 yds. square. My brother found another place at a greater distance (six miles) last year, where they seemed to be plentiful; so on the Queen's birthday I was out all day visiting this fresh locality, but not one was to be seen. It certainly is very pretty, and would be much prized by growers of neat greenhouse plants in Great Britain I am sure.—*R. Hallack, Port Elizabeth, South Africa.*

A Large Double White Camellia.—In your issue for August 6th I read of a large double white Camellia 17 ft. high and 17 ft. through, at The Henburys, in Birmingham, and you say it would be interesting to know if there are many more such plants grown under glass in England. During the four years that I had charge of the Molinex Grounds, Wolverhampton, I had in my care a large Camellia (*alba plena*) somewhat answering to the description of Mr. Bluck's, and it was treated in the same manner, except that I occasionally syringed the tree with a solution of Gishurst compound, by which means it was always clean and healthy. I cannot recollect the number of blooms it produced, but I annually handed over to my employer from £15 to £20 received for blooms cut from it. The tree was also advertised as being open to public inspection, and it made quite a grand display during the winter months. It was planted in a tub set in the middle of a stone case in a glasshouse, and just before leaving there during the summer of 1883, owing to the break-up of the garden portion of the place, we had a large plant sale, everything being sold except the large Camellia, which on account of its size and the fear of moving it, the box having become rotten, did not find a purchaser. I have oftentimes since wondered what had become of the plant, and now surmise that Mr. Bluck's must be the same.—*J. E. B.*

Plumbago capensis.—I can fully endorse the remarks of your correspondent, Mr. Gaut, concerning the value of this beautiful climber, but I cannot agree with him that it is not a fit subject for pot-culture. My object in writing is to encourage those who may be desirous of growing it, and have not facilities for doing so in boxes, where the roots may ramble at will. To such I say, do not be deterred, for although they will not be quite so good as the plant

Mr. Gaut reviewed, they will yet be very good. I have quite recently seen a plant in a 14-in. pot, standing on a wooden trellis with a brick floor, where its roots could not possibly penetrate, trained up the roof of a greenhouse; the plant measured 10 ft. in length, and extended 15 ft. in width at the bottom, getting gradually narrower, until at the top it was but 2 ft. This plant had 400 spikes of bloom upon it, with many more to open, and looked the very picture of health. Under these circumstances I think the subject of this note may fairly claim a more extended system of pot culture. — *Richard Weller, The Gardens, Glenstal Castle, Murroe, Co. Limerick.*

Seedling Coleus.—The various colours and markings of the leaves of Coleus are difficult of description, especially as the colours are so changeable, even on the same plant; but we shall essay to define those of several seedling specimens sent us by Mr. James Lye, Clyffe Hall, Market Lavington, Wilts. A most striking form was that of which the leaf measured 6 ins. by 3½ ins., of a uniform velvety brown colour, except the margins of the crenatures, which were bright yellow; the under-surface was uniformly pale yellow throughout. Another with equally large foliage was deep velvety maroon, almost black, with green crenatures, and the mid-rib lively rose-carmine, more or less suffused with scarlet. A third form we liked equally well had the central area larger and even more brightly coloured, with a green more deeply scalloped margin, and marbled with green blotches for some distance inwards. These three are certainly the cream of the varieties sent us, although some might give preference to a form with shorter and proportionately broader leaves, rather deeply crenate at the margin, and having a broad centre area of a lively carmine, fading to rose as the leaf gets old, and variously blotched with yellow.

Muscat of Alexandria.—A fine houseful of this Grape may now be seen in excellent condition at Cliveden, Berks, the seat of the Duke of Westminster, whose interests are served to good purpose by Mr. Ellam, his gardener. We frequently see this, one of the handsomest of Grapes, grown in a house containing a mixed collection, but it never attains that perfection which it does in a house specially devoted to its culture. The effect produced in the latter case is also more imposing by reason of the fine appearance of its large oval berries and handsome bunches, which in the present instance bear evidence of their true character. This variety is naturally a late one, but the house having been forced, the Grapes are now assuming a fine soft yellow or even amber colour.

Gaillardia pulchella Lorenziana.—Some of the most attractive and well-furnished beds at Dropmore, Taplow, the seat of Lady Fortescue, consist of this remarkable composite. Although of annual duration only, its floriferous character and the unique appearance of this variety or race recommend it to the attention of those whose soil is light, or whose garden is likely to suffer from drought when we are visited by seasons such as the present. This liking for dry weather has been abundantly evinced by Gaillardias on every hand, but by none more so than the beds at Dropmore, which must be described as a mass of bloom. The distinguishing characters of the variety Lorenziana depend on the ray florets and more or less on those of the disk as well, which are developed into a long funnel-shaped tube with a small three to five-parted limb. The first form that originated of this variety had crimson florets with yellow-tipped segments, but various red and rose tints are now to be seen in plants raised from seed, and the species seems capable of great improvement, both with respect to the habit of the plant and in the further production of beautiful and attractive colours.

Isotoma axillaris.—In common with the Lobelias, to which this plant is closely allied, it possesses the character of blooming very profusely in dry, warm seasons. There is a fine bed of it at Dropmore, which is now very conspicuous from the dwarf habit of the plant and the profusion of its clear pale blue flowers. It requires the protection of a greenhouse in winter, is easily propagated from cuttings at this season, and requires the same treatment as that given to Lobelias. There is a more deeply cut-leaved form in cultivation under the names of *I. a. subpinnatifida*, *I. senecioides subpinnatifida* and *Lobelia senecioides*.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.—From henceforth for the remainder of the season care must be taken that the shading on the houses is allowed to be down only during those periods in which the sun is shining on them, the blinds being drawn up as the rays pass off. Nothing better prepares Orchids for passing the winter in a sound and healthy condition than giving them abundance of light in the autumn. When the sun's rays are not too powerful, therefore, they should be freely admitted on the Lælia and Cattleya houses, and more particularly on that part where Lælia anceps, *L. autumnalis*, &c., are growing. The Phalenopsis want the most care to protect them from the sun; and although they seem to prefer a house of southern aspect on account of the light they get there in winter, they should have a thin shade for spring and autumn, and a second blind during the summer months. Vandas, Aërides, Saccolabiums, Bolleas, Warscewiczellas, Angreecums, Cypripediums, and all such plants are readily injured by direct sunlight, and so also are the occupants of the cold house, in some places especially; and it is better, therefore, while giving plenty of light to guard them against the sun on hot days. Resting Dendrobies require bright sunlight to ripen their growths, and the Barkerias should not be shaded any longer. Indeed, in some houses they do best without shading all the year round. In all cases where, in changeable weather, it is deemed better not to let the blinds down, a safeguard against injury in case of the sun coming out very strong should be provided by carefully ventilating the house top and bottom—an inch or so of each ventilator being opened. Catasetums, Mormodes, and Cycnoches as they finish up their growth should be put away on a shelf near the glass in a cool house, where they may get plenty of light, and may be kept dry for winter—in fact, treated as resting Dendrobies—but those that are still growing should have abundance of water until growth is completed. — *James O'Brien.*

Eriopsis rutidobulbon.—The very singular-looking and, at the same time, beautiful or ornamental Orchid of the above name, is now flowering at Burford Lodge, Dorking, in the far-famed collection of Sir Trevor Lawrence. The pseudo-bulbs are black and corrugated, or raised into coarse blunt elevations, which give them an unwonted appearance in the family to which this plant belongs. On the top of these are produced two or three broad arching lance-shaped leaves. The long arching flower-spike bears twenty flowers of a showy but exceedingly curious combination of colours; the sepals and petals are orange with a broad black border; while the three-lobed lip is brown with a white tip, at the base of which are a few comparatively large jet-black spots. The latter organ has upturned lateral lobes, and, together with the general aspect of the plant, bears some resemblance to a *Celogyne*. An intermediate temperature is most suitable to its well-being, as it comes from New Grenada.

Lycaste tetragona.—This curious species is wrongly described in several works, where the sepals are said to be oblong-obtuse and erect. They are, on the other hand, ovate-acute (the lateral ones broadly so), and erect, of a greenish yellow, suffused and lined with brownish purple. The petals are similar but several times smaller; and, on the whole, the flowers cannot be described as showy, compared with some of the more common and popular species, but the lip is singularly curious and highly coloured. It is somewhat saccate at the base, and bulged out into a strange transverse ridge above the middle, while internally it is furnished with a large blackish purple tongue as wide as the throat itself; and the whole lip forms a tube which stands against the column, being held in that position by a highly elastic claw fixed to the long foot of the column. Internally the lip is blackish purple, and white externally with the exception of the top; all the three lobes are somewhat bearded. A well-flowered specimen may be seen in the Orchid house at Pendell Court.

Miltonia spectabilis.—At the present time two finely-flowered pieces of this Orchid may be seen at Coolhurst, Horsham. Some thirty or more flowers are all fully expanded; while numerous others, as yet concealed by the large yellowish bracts of the inflorescence, will keep up a succession for weeks to come. Con-

sidering that the pieces were comparatively small, we seldom have the opportunity of witnessing instances of such profuse flowering, as plants of the same size may frequently be seen bearing less than a third of that number. The flowers are smaller than those of the magnificent variety *M. s. Moreliana*, and differently coloured, the sepals and petals being pure white, while the labellum is of a beautiful rosy violet, fading to a paler tint towards the apex. Curiously enough, the petals in *M. s. Moreliana* are more deeply coloured than the labellum—a circumstance which one would hardly expect. The best specimens of this, as of other Orchids, are transferred to the rooms of the mansion when in flower, and last in perfection there for many weeks unhurt. Being stood in a quantity of wet moss, they require little watering.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

EARLY RISERS, by the chilliness of the mornings, will be reminded that autumn is fast approaching, and will take time by the forelock. Propagating must now be thought of, although it is somewhat of a query where the necessary stock of cuttings can be obtained. All the Pelargonium tribe are terribly deficient in this respect, and, of course, will not submit—without greatly spoiling the effect—to the usual August thinnings-out. However, every effort must be made to get the best possible early stock of cuttings, remembering that in an emergency these will each afford one or two spring cuttings, a great number of which will doubtless find their way into the flower garden next season, and somewhat detract from the usual gorgeous display of bloom.

We have potted up our Lachenalias, which had just re-started, but not sufficiently to injure the young roots. Care should be taken that the crown of the bulbs is kept quite an inch under the surface, or during the resting period many of the crowns are injured, and go partially blind if exposed. After potting up let them be returned to the cold pits, simply giving a rather heavy damping through the "rose" to settle the soil about the bulbs, after which the only attention necessary will be to ventilate during the day, and keep the soil sprinkled to avoid shrivelling of the bulbs, until active growth takes place, when they should be regularly watered, and kept as hardy as possible.

THE FIRST BATCH OF ROMAN HYACINTHS should now be potted; the flowers are most useful for bouquet work, and should on that account receive due attention. If not already done, let the heap of soil for these and the other Dutch bulbs to follow be prepared without delay; if the loam at hand to be used is of a heavy nature make a liberal use of leaf-soil and sharp sand, but by all means avoid as much as possible the adding of cow-manure to the soil. I am quite sure that it is frequently a source of failure in the cultivation of plants; far better give a sound compost and feed with liquid manure when in active growth than to add an ingredient to the soil so provocative of failure, as we have proved this to be, by the introduction of insect pests. My advice is, by 'all' means avoid the use of any matter whatever in the mixing of the soil; and whatever food is necessary give it in a liquid state, when the plant is in a fit condition to receive the fullest amount. We have completed the layering of

CARNATIONS, including a goodly batch of *Malmaison*, for which purpose old stools were planted out. After the layers are taken off (they are layered in small pots) they will be cut back, and then we hope to secure a good batch of grass for next season's stock. This is, without doubt, a grand Carnation, but to obtain anything like satisfactory results it must be specially treated; that is, if blooms by the hundred are expected, and they can be had readily enough if special structures are devoted to their culture. A fit companion for special culture now to hand is the beautiful, as well as useful, *Pride of Penshurst*.

THE FRUIT HOUSES.

MELONS.—Care must now be taken that plenty of bottom heat is afforded the late Melons; if this should be neglected a stunted dirty growth will be the certain result. On the contrary, if good-flavoured well-netted

fruit is desired, the most constant and a full amount of bottom heat must be afforded at this season. We have shifted on the autumn and winter-fruited batch of Tomatos, the sorts used for the purpose being Nisbet's Victoria and Hackwood Park, the former being the most valuable we have met with for late work. The time when the

LADY DOWNE'S Grapes should be quite finished is fast approaching, and to insure a thorough ripening of both fruit and wood the pipes in the house have been kept quite warm continuously, and the desired end will be attained within the prescribed time, that is by the first week in September. Unless ripened early they never keep well; they either damp off excessively during the latter part of November, or else they shrivel later on, which should not be. If they are properly ripened they should keep colour and be plump and fresh well on into May next, and in that condition are much valued as a dessert fruit.

STRAWBERRIES, in pots, should now receive an abundant supply of water and be kept sprinkled overhead morning and evening so as to prevent red-spider establishing itself upon the under side of the foliage. Keep all runners removed from the plants as they appear, and should the plants have been staged thickly at first let them be at once rearranged, allowing room for each to fully develop.

THE KITCHEN GARDEN.

POTATOS.—Following the advice given last week, we have lifted all the second-early varieties of Potatos, and find the yield most variable. Cosmopolitan is by far the best, and we have lifted a crop equal to an average season, the quality being described at table as "most excellent." Sutton's Seedling, although not nearly so large, gave a good yield; and as we hold a high opinion of it, all the seed possible will be saved. Lily White is a heavy crop, but very small, and we shall now discard it; likewise Radstock Beauty. Woodstock Kidney is quite a failure, although it has hitherto been our best mid-season variety. Cosmopolitan coming into use about the same time, and having proved itself so much more reliable, will replace it. We have sown a good breadth of

WINTER SPINACH, and also put in Tripoli Onions, Enfield and Red Dutch Cabbage, Brown Cos and Hardy Winter White Lettuce, and Early London Cauliflower, thoroughly soaking the drills, as advised, previous to sowing. As soon as they make their appearance through the soil, netting must be placed over them, as they are of great importance. We have mulched the late sowing of French Beans, afterwards giving them a thorough watering, which will last for a time, and so enable them to form a succession—by no means an easy task this season. We have pricked-out a good border of Ellam's Cabbage, which will be kept sprinkled and shaded until they start. This, we expect, will be a valuable plant next spring, owing to the scarcity of green stuff of all kinds. The July sowing of Parsley having been kept watered, is now well up, and will be carefully attended to. Raspberries should now be gone through, and the old canes pruned out, neatly tying up the young growths for security.—*Walter Child, Croome Court.*

FLORICULTURE.

EARLY-FLOWERING ASTERS AT CHISWICK.—A large collection of China Asters, varieties of *Callistephus chinensis* (we have no desire to be botanically fastidious in ignoring the ordinarily accepted name of *Aster chinensis*), are being grown on trial in the Royal Horticultural Society's Gardens, Chiswick. It is too early to review the collection as a whole, although evidence of a fine display is already showing itself. By far the most conspicuous at present is a race named Pride of the Market (Vilmorin). We refrain from calling it a variety, because there is a number of colours ranging from white through pink, red and purple to crimson. The heads are not fully double, but have a very commanding appearance from their size—2½ ins. to 3 ins. in diameter—variety of bright colours, and the fact that all the lateral branches throw up, arch over and flower at the same time as the terminal stem, making the line in which they are grown like a broad spreading ridge of flowers. Mr. Barron says they flower ten days earlier than any other large-flower-

ing Aster, and are thus an acquisition for market purposes.

A very dwarf or Pygmea (Vilmorin) race and Shakespeare or dwarf Pompon Asters are noticeable for their pigmy stature and early-flowering character. There are a few rogues amongst them, but, as a rule, they do not exceed 2 ins. to 4 ins. in height. They both seem identically the same race, but different strains. In the Pygmea race the flower-heads are pale blue, white or crimson, whilst the mixed Shakespeare varieties have the semi-tubular florets margined with blue or pink on a white ground, and a few of them are also red or blue selfs. They are undoubtedly pretty in their way, but too dwarf ever to become popular for general purposes. The best use for which they seem adapted would be as edgings to beds of taller-growing sorts. To our taste, the prettiest of the smaller-growing very early-flowering forms is that named Dwarf Chrysanthemum-flowered. The plants are 6 ins. to 9 ins. in height, close, compact, and profusely covered with small flower-heads, it is true; but beauty does not always accompany size. The florets are very compact, semi-tubular or somewhat quilled, with harmoniously blending blue and white colours.

HORTICULTURAL SOCIETIES.

Nether Edge Horticultural.—The eighth annual exhibition of the above society was held on August 8th and 9th, and the weather was all that could be desired for the occasion. The exhibits filled two large tents, one being devoted to the open class, the other to the district gardeners, cottagers, and amateurs, each of them being well represented. The centre part of the open class tent was well filled with groups of plants and other miscellaneous subjects. Conspicuous amongst them was a fine batch of Carnations in pots from Messrs. Fisher, Son & Sibray, not for competition, including some very fine seedlings, one of which, a fine yellow variety named Mrs. Milner, will become a favourite amongst lovers of this class of plants. In the class for a group of plants arranged for effect (space 10 ft. by 10 ft.), there were three competitors, all making a bright and attractive display. Mr. Collier, gardener to J. Eaton, Esq., Sharrow Bank, Sheffield, was justly awarded the first prize; Mr. Foggin, gardener to Mrs. Wilson, Tapton Hall, was second; and Messrs. H. Shaw & Son, Richmond Nursery, came in third. For six stove and greenhouse plants (open), three lots were staged. Mr. J. Walker, gardener to B. P. Broomhead, Esq., was first; Mr. Foggin was second; and Mr. Thomas, gardener to Mrs. Thorpe, third. For twelve table plants Mr. Collier was first; Mr. Foggin and Mr. Thomas took second and third respectively. Mr. Collier and Mr. Thomas took the prizes for exotic Ferns.

British Ferns were well represented, there being a class for twenty-four pots not exceeding 8 in., arranged for effect. This brought together three groups all of meritorious character; Mr. Newsham gaining the first position, was closely run by Mr. Eadon, who is well known in the neighbourhood as an enthusiast and true lover of these British Cryptogams; Mr. Smith was third. Mr. Eadon was first for six British Ferns, his plants being fine examples; Mr. Foggin came second; and Mr. Newsham third. For a collection of zonal Pelargoniums in bloom Mr. Foggin was first, closely followed by Mr. Atkinson, gardener to W. Wilson, Esq., Ecclesall Grange. The society offered a prize this year for six Orchids in bloom, but one lot only was staged by Mr. J. Walker, to whom the judges awarded the first prize. Mr. How, Nottingham, was first for twenty-four blooms of Roses; Mr. D. Gilmour was second; Mr. R. W. Proctor, Chesterfield, came third. For twelve Roses Mr. Gilmour was first. Dahlias were well represented considering the unfavourable season for this moisture-loving plant, and the first prizes for twenty-four and twelve were taken by Messrs. H. Clarke & Son, of Rodley, who were closely followed by a local amateur, Mr. C. Storey. The noted Sheffield florist, Mr. B. Simouite, secured first prizes for both Carnations and Picotees; Mr. G. Beal and Mr. Proctor were the other prize-winners. In the class for twelve bunches of cut blooms Mr. Walker was first; Mr. Foggin and Mr. Collier were second and third.

Fruit was poorly represented in this class, owing to the prizes being so small, which did not attract growers from a distance. Mr. Shackleton, Norwood Grange,

Sheffield, was the only exhibitor for eight kinds of dessert fruits, he being awarded the first prize. For two bunches of black Grapes, Mr. Kelly, gardener to A. Wilson, Esq., Archer House; and Mr. Warrington, gardener to J. J. G. Tuckwood, Esq., Broomhall Park, took the first and second prizes for both black and white Grapes. Mr. Jefferson, The Gardens, Totley Grange, exhibited six good bunches of well-finished Grapes, not for competition, which were an attractive feature, and should be an inducement to the committee to offer better prizes for fruit next season. Collections of vegetables were well shown, Mr. Foggin taking the first prize with some fine examples; Mr. Urton was second, and Mr. Cooper third. The second tent was well filled with the exhibits of the district gardeners, amateurs, and cottagers, among them being several neat and attractive groups of plants, specimen stove subjects, cut flowers, and single dishes of fruit and vegetables.—*Visitor.*

Longfords Valley Horticultural and Industrial.—August 11th.—The second annual show of this society was held, under very favourable auspices as to weather and other circumstances, in the beautiful and spacious grounds placed at the disposal of the committee by Mr. and Mrs. Arthur Payne, Longfords. There was a large attendance of visitors, which must add materially to the funds of this young but well-managed society. Some of the exhibits were inferior in growth compared with those of last year; but the excellence of others more than compensated for this defect. Three spacious tents were well occupied. Some exhibits of honey were made, besides many others classed in the industrial department; but our limited space forbids notice of them. Vegetables, in most cases, bore evident traces of the long-continued drought. Miscellaneous exhibits, not for competition, were shown by Messrs. J. Cypher, Cheltenham, and Messrs. Jefferies & Son, Cirencester.

The following prizes comprise those for amateurs, nurserymen, and gentlemen's gardeners. For the most tastefully-arranged group of plants in a space not exceeding 72 sq. ft., Mr. Driver, gardener to A. T. Payne, Esq., and Mr. Wilkinson, gardener to Mrs. Frith, were declared equal firsts; Mr. C. Mayo, gardener to A. Apperly, Esq., was second; and Mr. Blackwell, gardener to the Rev. Father Prior, took the third prize. Mr. Driver had the best six stove or greenhouse plants in bloom, and Mr. Bastin was second. Mr. Smith, gardener to Mr. Houghton, had the best three plants of that class. The first prize for six stove foliage plants went to Mr. Wilkinson, and that for three plants was secured by Mr. W. Smith. The best exotic Ferns came from Mr. Wilkinson, and the best hardy ones were those of Mr. W. J. Ogden. Mr. Bastin was the most successful exhibitor of six zonal Pelargoniums. Mr. Driver secured the first prize for both tuberous-rooted Begonias and Fuchsias. Mr. Wilkinson had the best specimen plant of any description, and was followed by Mr. W. Driver. Cut flowers attracted some considerable attention, and table decoration was admitted to be very effective. The best bouquet was that shown by Mr. C. Mayo, who was followed by Mrs. Falconer and Mr. G. Bastin. Mr. J. E. Burton, gardener to E. J. D. Paul, Esq., showed the best stand of twelve varieties of Roses, and Mr. Driver had the best six. The best trusses of stove or greenhouse plants came from Mr. W. Smith. Mr. G. Bastin and Mr. W. Driver had the best exhibits in two classes for twelve trusses of Pelargoniums. Mr. C. Uphill, gardener to Lord C. Clinton, took the first prize for twelve Carnation blooms; Mr. W. Blackwell had the best specimens of herbaceous plants; and Mr. Driver had the best stand of annual or half-hardy garden flowers.

Some excellent fruit was exhibited, and Grapes were considered exceptionally fine. Mr. G. Bastin took the first prize for a collection of fruit for dessert, and was succeeded by Mr. W. Smith. In a class for four varieties Mr. C. Mayo was first; and Mr. G. Bastin came in second. Mr. J. F. Wilkinson secured the first prize for four varieties of Grapes; and Mr. G. Bastin was second. Mr. W. Driver and Mr. W. Smith had the best white and black Grapes respectively. The best-flavoured Melon was exhibited by Mr. C. Mayo. Mr. W. Driver had the best dishes of Currants and Plums. The best exhibit of red Gooseberries came from Mr. Preston, gardener to J. E. Falconer, Esq.; and the best yellow ones were those shown by Mr. T. Floyd, gardener to — Baynes, Esq. Mr. W. Smith had

the best Pears and Peaches ; while the best Nectarines came from Mr. T. Pegler, gardener to E. Kimber, Esq. Vegetables were fairly well represented. Mr. W. Blackwell took the first prize both for three dishes of round, and for three dishes of kidney Potatos, as well as for six Parsnips. Mr. G. Bastin secured the first award for a plate of Broad Beans, a collection of vegetables, and likewise for six heads of Celery. The best kidney Beans, the best Cauliflowers, the best basket of salad, and the best collection of herbs, were those exhibited by Mr. W. Driver. On the other hand the best Carrots, and the best twenty-four pods of Peas came from Mr. A. Edmonds. The most successful exhibitor of Tomatos was Mr. C. Mayo. Special prizes were offered for a collection of vegetables and salads by Messrs. J. Jefferies & Son, Cirencester. The first award went to Mr. W. Driver ; and Mr. C. Mayo had the second.

Luton Horticultural.—*Aug. 10th.*—This society held their fourth annual summer show on Wednesday, in the grounds of Bedford House, New Bedford Road. Encouraged by the success and popular satisfaction which attended their exhibition last year at Holly Lodge, the residence of their President, G. C. G. Lockhart, Esq., the committee resolved to again hold their show outdoors, and on J. J. Kershaw, Esq., J.P., being approached, he kindly acceded to their request that permission might be granted for the display to take place in the grounds attached to his house.

The committee had prepared a very comprehensive schedule, which was placed in the hands of the public in ample time ; and nearly £100 was offered in prizes. The competition for the best decorated dinner-table is always a popular feature in connection with the society's shows, and it was probably the one which secured most attention from the general visitors on this occasion. This year it was divided into two classes—one open to subscribers and the other for amateurs only. There were in all seven tables laid. In the open class the first honours were awarded to Mrs. Beckett, Aldenham Park, whose arrangement was certainly very chaste. The second prize table was the handiwork of Miss Higgins, Malvern House. Though much plainer, it also was very pleasing. In the amateurs' class the first prize was awarded to Mr. H. L. Snell ; his conception was effective, but in the eyes of some it had rather too "glassy" an appearance. Mrs. W. Weatherhead, Princess Street, was given second place for a table which might have stood higher had it been properly arranged.

Among the flowers, the collections of stove and greenhouse plants staged for effect were the most attractive. The *Lilium auratum* and Ferns included in Mr. Kershaw's first-prize group were especially fine. Mr. James Higgins, Malvern House, had the second. The collection of six foliage plants exhibited by Mr. W. Phillips, The Laurels, were good ; Mr. H. Gibbons, of Park Street, being second. *Coleus* were finely shown by Mr. J. J. Kershaw, who was first. Messrs. Gibbons and Coupees were respectively first and second with foliage Begonias. Gloxinias were a capital display, those of Mr. Blundell well deserving the first prize. Pelargoniums in this division—A, that open to all subscribers—were likewise good, showing a wonderful improvement upon those to be seen last year. Ferns were one of the best things in the exhibition. The Begonias competing for a special prize offered by Messrs. J. Laing & Co., seedsmen, Forest Hill, were very poor. Messrs. Wood & Son, Wood Green, gave a Silver Medal for the best specimen plant in bloom in the show. This was awarded to Mr. W. Butcher, Cardiff Road, for a beautiful *Lilium lancifolium roseum*. In the amateur division the display was restricted, but what there was of it was exceedingly creditable. The collection of plants belonging to Mr. W. Tarment, Hastings Street, was well worthy of first honours.

On the side tables were several excellent collections of wild flowers, botanically named, the best of them comprising some 150 varieties collected in this district. George Underwood, of High Firs, Harpenden, took the first prize, the second being awarded to James Bloomfield, of Luton. Baskets and bouquets of wild flowers were numerous shown, the first prize going to an enormous trophy sent by Joseph Brown, and the second to a very tasteful arrangement by George Underwood, jun. There were some pretty button-holes and sprays of wild flowers, and a charming wreath composed of white or delicately-tinted varieties was shown by Miss Healy. There was a small col-

lection of cut flowers. Mr. W. Wardill's Carnations and Picotees were amongst the best things shown ; and there was also a notable collection of hardy perennials from Mr. R. Cooke, in which there were many varieties of very high merit.

SPECIAL PRIZES.—We have already referred to those offered by Messrs. J. Laing & Co., of Forest Hill, and Messrs. Wood & Son, Wood Green. In addition, Messrs. J. Carter & Co. offered prizes for six dishes of vegetables, Mr. J. J. Kershaw being first, and Mr. H. Blundell second. Messrs. Daniels Bros., Norwich, for three dishes of Potatos ; Mr. J. Eaton being the fortunate winner. Messrs. Horton & Co., Cheapside, Luton, for seven dishes of vegetables ; Mr. H. L. Snell taking first prize, and Mr. H. Cumberland second. Messrs. Sutton & Sons, seedsmen, Reading, for six vegetables ; Mr. H. L. Snell being first, and Mr. W. Phillips second. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for twelve bunches of hardy perennials ; Mr. R. Cooke, Dunstable Road, being the winner. Messrs. R. Smith & Co., St. John's Nursery, Worcester, offered a prize for a dish of Lord Beaconsfield Raspberry, which was awarded to Mr. T. W. Clayton.

In regard to the general classes for vegetables—with the single exception of Potatos, which were remarkably good considering the season—they were very inferior, in common with those which are being shown everywhere else. Peas were very fair.

FRUIT.—Of this there was a small display. Messrs. J. Higgins and B. Bennett, Cheverell's Park, Dunstable, were first and second with black Grapes. Messrs. Bennett and T. A. Webster, New Bedford Road, had the best white Grapes. Peaches, Nectarines, and Apricots were poor ; while Gooseberries and Currants were very good generally.

Taunton Horticultural.—*August 11th.*—The annual exhibition of this society took place as usual in Vivary Park on the above date, and the show fully maintained its high character as one of the best, if not the best in the west of England. Two large marquees were required to take the exhibits, and that in which the principal plants were staged was a show in itself. The general opinion was that the exhibition not only maintained its usual character of high excellence, but that in its leading features it was greatly in advance of anything in previous years.

In the division open to all, the leading class was for twelve stove and greenhouse plants in bloom, and here Mr. Lock, gardener to B. W. Cleave, Esq., Crediton, was a good first, having *Ixora Prince of Orange*, *I. Fraseri*, and *I. Williamsi*, *Clerodendron Balfourianum*, *Allamandas*, &c. ; Mr. J. Cypher, nurseryman, Cheltenham, was second with a very good lot, but weak in wood or thin subjects ; Mr. E. Wills, gardener to Mrs. Pearce, Bassett, Southampton, was third. Mr. Cypher had the best six plants, staging capital specimens ; Mr. E. Wills was second. In the class for eight fine-foliaged plants Mr. Cypher came in first, having a very fine lot ; Mr. Lock followed, who showed the best eight exotic Ferns ; Mr. Wills with good medium-sized specimens had the second prize. Pelargoniums of the zonal class were a very fine feature. Mr. H. Godding, Taunton, had the best eight single-flowered. In the class for the same number of variegated Pelargoniums Mr. T. Tidbury, Taunton, was first. Mr. Godding had the best six tuberous-rooted Begonias, staging some admirable plants ; he also had the best four Fuchsias. Messrs. George Cooling & Sons, nurserymen, Bath, had the best six Cockscombs. Mr. Cypher had the best newly introduced plant, staging a nice piece of *Cattleya odorata virginale* ; Mr. C. Lucas, gardener to J. Marshall, Esq., Taunton, being second with *Amasonia punicea*. The best four Orchids also came from Mr. Cypher ; and Mr. Wills came in second.

In the amateurs' division Mr. Lock was first with twelve stove and greenhouse plants of the usual exhibition stuff ; Mr. E. Wills took second. Mr. Lock also had the best six plants ; Mr. Lucas being second. Mr. Lock was again first for four plants ; and took first prize with six exotic Ferns, eight hardy Ferns, and six foliage plants. Mr. Wills had the best six Selaginellas and also the best four Orchids. Japan Lilies were capitally shown by Messrs. Thomas and Huxtable, Taunton. There were classes for gold and silver tricolors, bronze double and single Pelargoniums, in which good specimens were staged. Mr. Thomas was first with six excellent *Coleus* ; Mr. Bradbeer was a

good second. Mr. Thomas was first with a grand lot of four specimen *Achimenes* ; Mr. C. Lucas won the second prize with a fine lot also. *Petunias*, *Balsams*, *Cockscombs*, &c., were all good, firm, and very attractive. In the classes for single specimen plants some well-grown examples were exhibited, but space does not admit of details.

CUT FLOWERS.—In the open classes Roses were a leading feature ; the best forty-eight in single blooms came from Messrs. G. Cooling & Sons, who had capital blooms ; S. P. Budd, Esq., Bath, was second. The same exhibitors occupied similar positions in the class for twenty-four varieties. Mr. J. Nation, West Monkton, had the best twelve Dahlias ; he also had the best twelve fancies ; and the best singles. Hollyhocks were small ; German and French Asters were very good, the season considered ; Gladioli were indifferent ; *Verbenas*, plentiful and bright. Mr. Lucas had the best twelve bunches of stove and greenhouse cut flowers. In the amateur division there were good cut flowers also. The best collection of annuals came from Mr. E. G. Garraway. Dr. Budd was first in all the classes for Roses. Asters, *Verbenas*, Dahlias, Hollyhocks, and Gladioli were in good character. In the cottagers' division there was an interesting display of cut flowers.

The fruit department of the show quite maintained its old reputation. In the class for ten varieties, Mr. H. W. Ward, The Gardens, Longford Castle, Salisbury, was first with *Madresfield Court* and *Muscat of Alexandria* Grapes, *Smooth Cayenne* Pine, &c. ; Mr. Pratt, The Gardens, Longleat, Warminster, being second. Mr. A. Daffur, Weston-super-Mare, had the best four dishes. Mr. Pratt had the premier Pine Apple, and also the best three bunches of Black *Hamburgh* Grape. In the class for any other black Grape, Mr. Ward was first with *Madresfield Court* ; while Mr. Pratt had the best two bunches of Black *Hamburgh*. In the class for any other white Grape, Mr. Ward was first with *Buckland Sweetwater*. Other fruits consisted of Peaches, Nectarines, Apples, Pears, Plums, Apricots, &c., and were all in good condition. Messrs. G. Cooling & Sons' new Apple—*Beauty of Bath*—was seen in its best form, and took the first prize in the dessert class. In the amateurs' division fruit was generally tolerably well represented.

The best dinner-table arrangement came from Mrs. J. R. Chard, Stoke Newington, N., as well as the best centre-piece and premier bouquet.

We regret that space does not admit of full details of the vegetable exhibits being given. Mr. H. F. Manley had the best collection of ten dishes. The best six dishes in competition for Messrs. Webb & Sons' special prizes came from Mr. Banwell. Potatos were a remarkably good feature, Mr. H. Moore having the best six dishes. The cottagers' display throughout was very good indeed, and quite an interesting show in itself.

A fine collection of cut spikes of Gladioli was staged by Messrs. Kelway & Son, Langport, and First Class Certificates were awarded to Civis, Howard Maynard and Hilda, likewise to Gaillardia William Kelway. A very interesting collection of plants and various kinds of cut flowers were staged by Messrs. R. T. Veitch & Son, nurserymen, Exeter ; also Begonias by Mr. R. B. Davis, nurseryman, Yeovil, and miscellaneous plants by Mr. R. H. Poynter, seedsman, Taunton.

Shropshire Floral and Horticultural.—*August 17th and 18th.*—The Shrewsbury show is now one of the best in the Kingdom, and is looked forward to by exhibitors with keen interest, the competitions all round being of a spirited character, and the prizes offered of a liberal description. Indeed, for fruits and vegetables it has been recognised as one of the leading displays, and this year certainly merited a high meed of praise, for of collections of fruit, Grapes, single dishes of various kinds, and collections of vegetables, we have seldom seen a finer lot. The Grapes and the vegetables were indeed superb. The show was held in the far-famed Quarry—than which no more beautiful place for such a gathering of horticultural produce could probably be found. Unfortunately for the show committee and the visitors, it rained hard all the best part of the first day, but no one complained, so badly was rain wanted in the district. And again, the society has had many good years, and has a substantial reserve to fall back upon, so there need be no anxiety as to the finances.

The best plant class was that for twenty stove and greenhouse plants, ten to be in bloom, for which the handsome prizes of £25, £20 and £15 were offered, and which brought out four competitors. Mr. J. Cypher secured first honours in a very close run with Mr. W. Finch, gardener to James Marriott, Esq., Queen's Road, Coventry. The Cheltenham collection included grandly-bloomed examples of *Ericas Irbyana*, *Marnockiana* and *ampullacea Barnesii*, *Ixoras Fraseri* and *Pilgrimii*, *Allamandas grandiflora* and *Hendersoni*, a wonderful specimen of *Cycas revoluta*, *Croton Sunset*, *Bougainvillea glabra* (well bloomed), *Cattleya crispa superba* (with four spikes), *Croton Johannis*, *Cordyline indivisa*, *Croton Victoriae*, *Phenocoma prolifera Barnesii*, &c. Mr. Finch was an exceedingly close second, staging a superb lot of plants, including a beautifully-shaped bush, magnificently coloured, of the handsome *Croton Mortefoutainensis*. Mr. C. Roberts, gardener to A. Nicholson, Esq., Highfield Hall, Leek, was third. For nine stove and greenhouse plants, in a fairly good class, Messrs. Pritchard & Sons were first and third, and Mr. Farrant, gardener to Mrs. Juson, Shrewsbury, second. For six plants, Orchids excluded, Mr. Cypher again came to the front, as he also did in the competition for six Palms, in which one competitor was rightly disqualified for staging a *Cycad*. The group class was a disappointment, only two being shown, and those belonged to Messrs. Pritchard & Sons, who took the first and second prizes. The Fern classes were very good, and in the local one for six specimens, Mr. Lambert, gardener to Col. Wingfield, Onslow Hall, beat Mr. Farrant and Mr. Milner, of Sundorne Castle; while in the open competition, Mr. Cypher, with a nice group, beat Mr. Lambert and Messrs. Pritchard & Sons.

Fuchsias and Coleuses are subjects that are specially well done in this district, handsome plants being always shown. The class for four Coleuses brought out three groups of pyramids about 4 ft. high, with perfect foliage throughout, and for the most part highly coloured. The prizes went to Mr. Sheppard, gardener to the Misses Bannerman, Roden Hall, and Mr. R. Milner, Sundorne. For four Fuchsias, Messrs. Pritchard & Sons secured first and second honours with handsome pyramids about 5 ft. high, profusely bloomed, and the third award went to Mr. Albert Myers, Sutton Lane, Shrewsbury. The double-flowered zonal *Pelargoniums* made a good class, in which Mr. A. Myers beat Mr. Sheppard and the Messrs. Pritchard.

To the miscellaneous class Messrs. F. & A. Dickson & Sons, Chester, contributed a large group of specimen Conifers in tubs, a large collection of small stove and greenhouse plants, a good box of Roses, another of *Gladiolus Brechleyensis*, and a third of hardy herbaceous plants. Messrs. James Dickson & Sons, of Chester, also sent a pretty group of Conifers and pictorial trees and shrubs, fine stands of Hollyhocks and *Gladioli*, a beautiful lot of hardy herbaceous plants, and a stand of a new bedding *Caruati* named Mrs. Reynolds Hole, terra-cotta coloured and of good form, but scentless. Mr. E. Mussell, Shrewsbury, showed a nice group of Conifers, Apple trees, &c. in pots, and a collection of small stove and greenhouse plants. Messrs. Jones & Sons and Messrs. Pritchard & Sons, also showed neat groups; and Mr. R. H. Vertegans, Chad Valley Nurseries, Birmingham, had a pretty lot of cut Roses, Phloxes and hardy herbaceous plants. Messrs. Hans Niemand & Co., Harborne Road, Birmingham, contributed a handsome bouquet, a beautiful lot of Carnation and Picotees, Mauve Beauty Stocks, &c.

The cut-flower classes were the weakest in the show, and unmistakeably testified to the severe effects of heat and drought. The Asters, Marigolds, Pansies, Carnations, Picotees, &c., were extremely poor, and call for no comment; but a word of praise must be accorded to the Roses shown by Messrs. Perkins & Sons, Coventry; Messrs. Burrill & Co., Howe House, Cambridge; and Mr. E. Murrel, Shrewsbury; the Dahlias from Messrs. Heath & Son, Cheltenham; and the *Gladioli* from Messrs. Burrill & Co.

The good prizes offered for a collection of twelve dishes of fruit brought out a splendid competition, in which Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, came in first; Mr. Pratt, The Gardens, Longleat, Warminster, second; Mr. Roberts, Gunnersbury, third; and Mr. Gilman, Ingestrie, fourth. Mr. Goodacre, who was in rare form, had a fine Cayenne Pine, large and finely-finished examples of Muscat of

Alexandria, Muscat Hamburg, Black Hamburg, and Foster's Seedling Grapes, very handsome Gros Mignonne Peaches, Brown Turkey Figs, Hero of Lockinge Melon, Moor Park Apricots, Elruge Nectarines (a superb dish), Black Tartarian Cherries, and Transparent Gage Plums. Mr. Pratt was very strong with his Grapes, having grand bunches of Black Hamburg, Muscat of Alexandria, and Foster's Seedling. For nine dishes, open to exhibitors from Salop and Montgomery only, Mr. J. Lambert, of Onslow, won the first award with first-rate Grapes, beautiful Darwin and Humboldt Nectarines, Royal George Peaches, Cherries, Apricots, &c.; Mr. Sheppard, Roden Hall, came in a good second; and Mr. Milner, Sundorne, a close third. Ten competitors appeared with three bunches of black Grapes—a very good lot, and the first prize went to Mr. J. Bennett, gardener, Rug, Corwen, for heavily-shouldered and beautifully-finished bunches of Alnwick Seedling; Mr. Udale, gardener, Elford Hall, Tamworth, coming in second with perfectly-finished Gros Maroc. For three bunches of Black Hamburg, Mr. Pratt easily beat a dozen other competitors with grand bunches, the centre one of which must have been about 7 lbs. in weight. Mr. G. Baker, gardener to G. T. Raynes, Esq., Rock Ferry, was second; and Mr. Lambert, Onslow, third. For six bunches of black Grapes, the first prize for which was £10, there was a very keen competition between Mr. Pratt and Mr. Goodacre, the former having much the largest samples of Black Hamburg, Gros Maroc, and Alicante, and the latter, bunches weighing about 4 lbs. each of black Hamburg, Muscat Hamburg, and Madresfield Court, all jet-black, and carrying a fine bloom. Mr. Pratt clearly won by weight, but the judges could not get away from the superb finish of the Elvaston fruits, and awarded them the first prize, Mr. Pratt the second; and Mr. Dawes, gardener to M. Biddulph, Esq., Ledbury Park, the third; while Mr. Alderman Chaffin, Bath, received a special prize for admirable examples of Gros Maroc, Lady Downe's, and Alnwick Seedling, all out of season sorts, but shown in beautiful condition. For four bunches of white Grapes, Mr. Pratt also came in first, showing very fine Muscats and Foster's Seedling; Mr. Dawes was a good second; and Mr. Roberts close up third. Mr. Pratt also headed the list with three bunches of Muscats. The single dish classes were all well contested, and the subjects exhibited of the highest quality. The leading awards went to Mr. Gilman, Ingestrie, for Peaches and Nectarines; Mr. Thistle, gardener to J. S. Phillips, Esq., The Mount, for Cherries; H. Owen, Esq., The Cedars, for a green-fleshed Melon; Mr. Blair, Treutham, for Plums; and Mr. T. Bailey, gardener to W. A. H. Martin, Esq., Ledbury, for Apricots.

In the best class for vegetables the prizes were all given by Messrs. Edward Webb & Sons, Wordsley, who must have been proud of the competition, for it was remarkably good. The best collection came from a famous local grower, Mr. Lambert, of Onslow, who had large and good samples of Webb's Colossal Leek, Webb's Mammoth Red Celery, White Tripoli Onions, Veitch's Autumn Giant Cauliflower, Potatos, Peas, French Beans, &c. The other awards went to Mr. C. J. Waite, of Glenhurst, Esher, Surrey; Mr. Milner, Sundorne; Mr. Crawford, gardener to Colonel Thorpe, Coddington Hall, Newark-on-Trent; and Mrs. Sheppard, Roden Hall, in the order named. There were eight or nine competitors with collections of twelve dishes, and here again Mr. Lambert came in first with a grand lot, beating Mr. Milner, Mr. Waite, Mr. Crawford, Mr. Miller (Rood Ashton), Mr. Famount, Mr. Pearson, Mr. Palmer (Thames Ditton), and Mr. R. Spink. The single classes brought a grand lot of produce together; and there was little in the specimens shown to remind us of the drought.

The cottagers' tent was one of the features of the show, being crammed with vegetables of the very finest quality, a fair show of hardy fruits, a capital lot of plants, and cut blooms of hardy flowers, &c., which reflected the greatest credit on their cultivators, of whom we may mention Mr. W. Maund, of Ludlow, as one of the most successful.

Obituary.

DIED, on August 10th, aged 49 years, after a long and painful illness, JANE, wife of Mr. WILLIAM SWAN, gardener, Howick House, Prestou.

QUESTIONS & ANSWERS.

BALSAMS.—Mrs. Everard: Balsams will remain longer in bloom if shaded during the hotter parts of the day after being put into the greenhouse or conservatory; but this must not be overdone at any time, as they are easily drawn and spoiled by insufficient light and ventilation. Sow the seeds in March or according to the time they are required to be in bloom, in pots or pans of light rich soil and plunge in a bottom heat of about 65°. Pot them off into 3-in. pots as soon as they break into the rough leaf, and shift repeatedly into larger sizes as the pots become filled with roots. Keep the plants as near the glass as possible, giving plenty of ventilation and an abundance of water. So treated they will branch freely and require very little if any shading. If large plants are desired stake out the shoots, remove all the early flower buds, and frequently turn the plants round to the light so as to ensure a well-balanced and equal growth. When by potting and other culture they have attained a proper size, cease disbudding, feed with liquid manure, give abundant ventilation and water, and a position near the glass.

BOOK.—*Enquirer*: The *Garden Annual*, published by W. Robinson, 37, Southampton Street, W.C.

NAMES OF PLANTS.—R. J. G. Read: *Anthemis anglica* (very rare, should like fresh specimens if procurable.) *Omicron*: *Eupatorium cannabinum*. G. Beaton: *Vanda limbat*.

NAMES OF FRUITS.—T. Cooper: 1, Nectarine Elruge; 2, Nectarine Violet; 3, Peach Grosse Mignonne.

GARDENERS ORPHAN FUND.—B. L. Many thanks. Any time before the end of June next, but, of course, the sooner the better.

COMMUNICATIONS RECEIVED.—R. J. M.—H. E.—A. L.—W. P.—E. G.—C. P.—J. V. W. P. R.—E. H.—W. G. S.—J. Standish & Co.—A. van Geert.—R. D.—R. S. & S.—W. E. B.—E. T.—A. H. E.—W. B. G.

LONDON SEED TRADE.

August 17th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a good demand for Mustard, Rape, and Trifolium, owing to recent rains; prices remain unchanged, though an advance in price of Trifolium may be expected as stocks are small. French and Italian Rye Grasses are firmly held for an advance of 6d. per bale. Rye and Winter Tares offer freely. Clover and Bird Seeds neglected.

COVENT GARDEN MARKET.

August 18th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, $\frac{1}{2}$ sieve	1 6	3 6	Peaches....per dozen	2 0	8 0
Grapes	1 0	2 6	Pine-apples, St.		
Grapes, Chan. Islands,			Michaels, each	3 0	8 0
per lb. 0 9	1 6		Pine-apples, Eng., lb.	1 0	3 0
Kent Filberts, 100 lbs.	45 0	50 0	Plums	$\frac{1}{2}$ sieve	3 0 4 0
Melons	1 6	3 0	Strawberries, per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch....	0 2	0 4
Asparagus, per bdle.			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4	0 6	Lettuces ..per dozen	2 0	3 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 0	2 6	Onions, per bushel ..	4 0	5 0
Carrots.....per bun.	0 9		Parsley, per bunch ..	0 6	
Cauliflowers, English,			Radishes, per dozen..	1 6	
per dozen	4 0	6 0	Smallsalading, punnet	0 4	
Celery, per bundle ..	2 0		Spinach, per strike ..	2 0	
Cucumbers, each	0 6	1 0	Tomatoes, per lb.	1 0	
Endive, French, doz.	2 6	3 6	Turnips.... per bun.	0 6	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.					

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones....12 bun.			Pansies, 12 bunches..		
Arum Lilies, 12 blms.	3 0	5 0	Narcissus double,		
Asters	3 0	4 0	12 bunches		
Aster, French per bun.	1 0	2 0	Narcissus, 12 bunches		
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 spys.	0 6	1 0
Carnations, 12 blooms	0 6	1 0	Pelargoniums, scarlet,		
Carnations ..12 buns.	3 0	6 0	12 sprays.....	0 4	0 6
Cornflower .. 12 bun.	1 0	3 0	Pinks, colored & white,		
Day Lily ..12 bunches			dozen bunches ..	2 0	4 0
Eucharis, per dozen..	3 0	6 0	Polyanthus, 12 buns.		
Gardenias, 12 blooms.	2 0	4 0	Garula, double, bun.	0 9	1 6
Heliotropes, 12 sprays	0 6	1 0	— single 12 bun.		
Iris, various ..12 bun.			Pyrethrum .. 12 bun.	2 0	6 0
Lavender 12 bun.	4 0	5 0	Roses (coloured)	1 0	4 0
Lilium longiflorum,			Roses, Tea, per dozen	0 6	1 6
12 blooms	2 0	4 0	Roses, mixed, per doz.	0 6	2 0
Lilium speciosum,			— Safrano ..per doz.	0 6	0 9
12 blooms	1 0	2 0	Spirea		
Lilies of the Valley			Stephanotis,		
12 sprays			dozen sprays	2 0	4 0
Marguerites, 12 bun...	3 0	6 0	Tropaeolums	1 0	2 0
Mignonette, 12 bun...	1 0	3 0	Tuberose, per dozen.	0 6	1 0
Myosotis, 12 bunches	2 0	3 0	White Jasmine, bun.	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Hydrangea ..per doz.	9 0	12 0
Asters	4 0	6 0	Lilium longiflorum,		
Balsam	3 0	6 0	per doz.	12 0	24 0
Calceolarias ..per doz.	4 0	9 0	Lilium speciosum doz.	9 0	18 0
Cyperus, per dozen...	4 0	12 0	Lobelia	3 0	4 0
Dracena term., doz.	30 0	60 0	Mignonette ..per doz.	3 0	6 0
— viridis, per dozen	12 0	24 0	Musk	2 0	4 0
Evergreens, in var.,			Palms in variety, each	2 6	21 0
per dozen	6 0	24 0	Pelargoniums....doz.	6 0	12 0
Ferns, in var., do ..	4 0	18 0	Pelargoniums, scarlet,		
Ficus elastica, each..	1 6	7 6	per dozen	3 0	6 0
Foliage Plants, vari-			Rhodanthe ..per doz.	6 0	9 0
ous, each.....	2 0	10 6	Scented Verbena	4 0	6 0
Fuchsia	3 0	9 0	Spireas per dozen		
Heliotrope	4 0	0 0	Tulips ..per doz.	pots	

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 Royal Botanical Gardens, Manchester.

National Chrysanthemum Society, Royal
 Aquarium, Westminster.
EARLY CHRYSANTHEMUMS, DAH-
LIAS AND GLADIOLI EXHIBITION, SEPTEMBER
 14th and 15th.

Schedules free on application to Mr. WILLIAM HOLMES,
 Frampton Park Nurseries, Hackney.

The Floral Committee will meet Sept. 14th, Oct. 12th and 26th,
 Nov. 9th and 23rd, and Dec. 7th. Medals are offered for com-
 petition at each meeting for New Chrysanthemums. See
 Schedule.

Next Week's Engagements.

MONDAY, August 29th.—Sale of Bulbs at Stevens' and Protheroe
 & Morris's Rooms.

TUESDAY, August 30th.—Sale of Orchids in Flower at Protheroe
 & Morris's Rooms.

WEDNESDAY, August 31st.—Newcastle-upon-Tyne Horticultural
 Society's Show (3 days).—Sale of Dutch Bulbs at Stevens'
 Rooms.

THURSDAY, September 1st.—Sale of Bulbs at Protheroe & Morris's
 Rooms. Sale of Imported Orchids at Stevens' Rooms.

FRIDAY, September 2nd.—Sale of Imported and Established
 Orchids at Protheroe & Morris's Rooms.

SATURDAY, September 3rd.—Bulb Sales at Stevens' and Protheroe
 & Morris's Rooms.

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 refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 27, 1887.

THE POPULAR TOPIC.—The English summer has at length redeemed its reputation from slander, and no longer can the old inhabitant assert that summers are not as in his youthful days. It is true that we had some cold, cheerless summers—so-called—a few years, but for the past three years, at least, there has been little cause for complaint; the present one especially showing what an English summer can be when, as it were, put upon its mettle. What sort of summers may presently succeed this one is a problem yet folded in the bosom of time, a mystery which only the recurring seasons will make plain; but the present one will remain indelibly fixed in our minds for life, associated with the Jubilee, as being hotter and drier than any known for many years previously. After sighing so strongly for more of the old-fashioned heat and sunshine of summer, it is now very doubtful whether we have not sighed for too much and do not like the form in which our prayers have been answered. Warmth is pleasant, and fine weather is so delightful, that we can but repeat the old saying, "pity it should do any harm." Why for weeks past we have been anxiously wishing for rain, and the whole country is literally covered in dust and sackcloth in penance for sins, which causes the sun not to hide its face nor shine less abundantly. Seldom has such a wealth of consecutive sunshine been registered as during the past three

months, in any English summer, whilst the rainfall, till recently, has been proportionately trifling. We have had as dry spells of summer weather before, but rarely such continuous great heat, and thus it comes that all vegetation has suffered as much from the atmospheric heat as from the terrestrial drought. We have now reached the last week of August and have experienced some twelve weeks of torrid weather; from time to time the sky has been overcast or hung with dark clouds, and the nights have promised rain, which promises the mornings have duly dissipated. Just in the midst of the harvest as we have been, we should, as a rule, regard the continuity of sunshine and dryness with equanimity, but that there is a season to be regarded after harvest—a long, cold, and too often a painful season—for which it is needful that due provision should be made. To that effect we shall find, probably, but moderate crops of cereals at home; but the harvest of the world is ours also, and there is little fear of scarcity as long as we have money to buy.

Then our Potato crop, upon which we adversely remarked recently, shows no signs of amendment; whilst the continued drought rather tended to check tuber development. Except in the case of northern and late cold districts, and very late varieties, in spite of the thunderstorm of last week we must have a very moderate Potato crop, indeed, that is now inevitable; and that will present a calamity which will come home far more closely than deficiencies in the cereal crops. We all grow Potatoes; indeed, the poor man's allotment or cottage garden is given over more to the growth of this important esculent than to the culture of any other vegetable, so that there is hardly a home in the kingdom in which the assured shortness of the Potato crop will not be severely felt. The more favoured north and some continental countries may make good our deficiencies; but when we see Potatoes quoted in the market 40 per cent. higher than at this time in past years, we find abundant proof that the scarcity is general. The fine warm summer has, therefore, done us a sorry turn in regard to our cherished and noble tuber, and we now find after all that warmth-loving as is the Solanum tuberosum, still that element may be overdone.

Turning to garden, and specially to market garden crops generally, we see a by no means pleasant prospect greeting us. All winter crops, whether of plants or from seed, will be secured only at exceeding cost of labour in watering. It is true weeds give no trouble, they too are having a long resting time, but if weeds grow so also do garden plants, hence we have some compensation. But this season it is hard to induce plant growth even with the aid of laborious watering. Till recently, only by its aid could winter plants be got out and established. As a crop, all of the Brassica family will be small and moderate, indeed, it can hardly be otherwise than dear. If not well paid for, the labour bestowed in watering will be worse than wasted. As for Turnips, gardeners and farmers alike have to mourn their absence; where seed has been sown and it has germinated, the plaguey Turnip-beetle has feasted luxuriantly, whilst in the present scarcity it now has to feed off vegetation which in more plentiful seasons it would despise. If these pests could—through the drought and scarcity—be starved to death, and thus removed from doing farther evil, some valuable compensation would be obtained for our present deficiencies. Unless rains come speedily, indeed, we may say instantly, it will be useless for us to hope for white Turnips of any sort of use during the coming winter, and that will be a severe deprivation. Onions will be small, and Carrots and Parsnips unshapely—especially

in heavy clay soils—and small also. These valuable food roots may have a less proportion of water in them and more of solid matter, but bulk will be sadly lacking. So indifferent has been the summer crops, on the whole, that growers have done poorly, and the winter prospect naturally creates gloom.

Without doubt, the land interest—so far as the unfortunate cultivator is concerned—has to look upon a winter in greater doubt and mistrust than at any preceding time. There are cries for fiscal changes, meaning literally a return to protection; with food supplies short at home, protection would but intensify the evil. The people must be fed—that is the first and primary consideration—and whilst protection would materially shorten our food supply, it would render no help against the evils which flow from untoward seasons, whether excessively dry or wet. Even our fruit crop has not escaped the effects of the hot, dry summer weather, and it will be, for that reason, materially lessened. Now the trees—which have been laden with Apples, Pears and Plums—are feeling the pinch of the drought, and whilst fruits will be small and hard, the trees are suffering appreciably. A grand spring promise will be sadly falsified.

We shall have to endure heavy losses in that respect; whilst all our summer fruits have been more or less disastrously affected. Reckoning up the advantages of glorious sunshine and fine weather, and comparing the product with the loss consequent upon it, in our land produce, we shall have to show a balance greatly to the bad. On the whole, we prefer ordinary seasons to sensational ones.

WE regret to record the death on the 14th inst. of Mr. ARCHIBALD FOWLER, for nearly fifty years gardener at Castle Kennedy, Ayrshire.

In connection with the National Co-operative Flower Show, at Kensington, on Tuesday, a lecture was given at 3 p.m., in the west quadrant of the Royal Albert Hall, by Mr. E. Owen Greening on the "POSSIBILITIES OF CO-OPERATIVE ALLOTMENTS AND ASSOCIATED GARDENS." There was a good attendance.

HER MAJESTY'S Commissioners of Public Works have accepted the tender of Messrs. James Carter & Co., of High Holborn, London, for the supply of bulbs for planting in Hyde Park, Regent's Park, Battersea Park, Victoria Park, Kensington Park, Kennington Park, Hampton Court Palace, and the Bethnal Green Museum.

AN old industry is stated to be receiving renewed attention in Aberdeenshire. Three experimental stations for the purpose of FLAX-GROWING have been started under the auspices of the Royal Northern Agricultural Society, and 50 acres already put under crop have been favourably commented upon by a Dutch expert. As recently as twelve or twenty years ago, fields of *Linum usitatissimum* might have been seen in that county; but it was grown chiefly for the sake of its seed, which was used for feeding purposes.

A VERY generous act on the part of Capt. Hargreaves took place the other day at Bishopstoke, he kindly throwing open his beautiful grounds, The Mount, to the public; a small charge was made, and thousands flocked to see the place, which was well kept. In the evening the grounds were magnificently illuminated with the electric light and hundreds of Chinese lanterns, the effect being most charming. The entire management was in the hands of Mr. Forty, the energetic and obliging gardener, whose abilities as a first-rate all-round gardener are evident from the excellent way everything is done. A handsome sum was realised, which was distributed between the South Hants Infirmary and County Hospital, Winchester; upwards of seventy aged and infirm people of the village likewise received 5s. each; the school-children, tradespeople and residents a medal of neat design, in memory of the Jubilee. Would there were more who would follow in the wake of the generous Captain, for such benevolence as the example set is well worthy the attention of many who might easily go and do likewise. It is gratifying to state, that though thousands

of persons visited these grounds, not the slightest damage of any description was done.

At a meeting of the FRUIT AND VEGETABLE COMMITTEE of the Royal Horticultural Society, Chiswick, on the 12th inst.—present: Mr. Peter Barr in the chair, Messrs. Roberts, Saltmarsh, and the Secretary—the Committee examined the collections of Onions, Potatos, and Tomatos growing in the garden. Amongst Onions, Rousham Park Hero and Anglo White Spanish from Mr. Deverill, and Sandy Prize from Mr. Laxton, were selected as excellent stocks of the White Spanish Onion that should be tried again next year, and White Queen (Carter) was commended as a very true stock. Potatos—fourteen sorts were selected and cooked; none of them were considered equal in quality to existing kinds. Of Tomatos, of which eighty-seven samples were grown in pots, the following were considered worthy of three marks each, viz., Horsford's Prelude (Horsford & Pringle), medium-sized smooth red, a very free bearer; Livingston's Perfection (Farquhar, Veitch), large, smooth, round, red, very free; President Cleveland (Farquhar), large, round, smooth, handsome; Ham Green Favourite (Crocker), very large, smooth, round, early, and prolific; No. 1 (Watkins & Simpson), large, round, smooth, very free; No. 3 (Watkins & Simpson), medium-sized, roundish, sometimes oblong, smooth red, producing large clusters, a remarkably free cropper.

WASPS.

As the above-named pests are now in the midst of their depredations in gardens and orchards, and are apparently unusually numerous this dry season, I venture to call the attention of your readers to a mixture called "Death to Wasps," and specially prepared for the wholesale destruction of wasps, ants, earwigs, &c., &c. It is in the form of a fine powder, and half a teaspoonful placed in the mouth of the hole leading to the nest will, in the course of an hour or two, annihilate the whole colony. I have, in this way, destroyed upwards of thirty nests without a single failure, much to my gardener's satisfaction, and to the delight of the village boys, who are rewarded with a penny for each nest discovered.

I trust by these means to rid the neighbourhood entirely of wasps, which last year got into my vineries and did very serious damage. In certain cases, where the nests are in trees and in the "open," I make a solution of the mixture (say a tea-spoonful with half a pint of water) and find it equally efficacious. The "Death" can be obtained through any respectable chemist from Barclay's, the well-known druggists of London.

I had almost forgotten to add that it is expedient to dig out the nest after all signs of life has disappeared, and so destroy all grubs, which might otherwise be hatched.—*Wasp Killer*.

TOMATOS.

YOUR article on Tomatos at Chiswick is an apt illustration of the value of the gardening press; for by its means the knowledge arrived at by these comparative trials is disseminated far and wide, conferring benefits on a large constituency who otherwise would be entirely precluded from the advantages resulting from the labours and observations of others. Your remarks respecting the flooding of the market with almost numberless so-called varieties are quite to the point, and these trials, carried on with so much painstaking at Chiswick, are calculated to be of great service to many who are so circumstanced that they have few opportunities of making comparisons, to enable them to judge for themselves respecting the merits of the many varieties that are brought to their notice.

It occurs to me that among the many readers of THE GARDENING WORLD there must be a goodly number who are growing a selection of varieties, and that if before the season closes they would give us their estimate of them under the heads of earliness, beauty, flavour, and productiveness, they would be rendering a service to many who from circumstances are necessarily confined to the culture of a few kinds. In such cases it is highly desirable that the best only should be grown, as then the supply is simply for home use and not for any ornamental purpose, when flavour, productiveness, and, last but not least precocity are three points of the most consequence—three particulars in which there is a wider margin of difference than one would imagine. I think, where there is no accom-

modation to grow Tomatos under glass, that precocity should be a leading recommendation, not only because the earlier a variety is we have reason to expect a larger period of bearing than in the case of later-ripening kinds, but also from a melancholy fact that for the last ten or eleven years the Tomato has fallen a victim to disease, which is often very destructive, especially towards autumn; so, in order to secure a fair crop, it is of the first importance that it be matured as early in the season as possible.

We find in looking through our note book that Sutton's Earliest of All sown with others on the 21st of March ripened its first fruit on the 27th of July. This, and eight other varieties were planted out on the 10th of June; Dwarf Orangefield is a few days later, and extra early; Advance, later still, the first fruit ripening on the 9th of August. We think the latter unfortunate in its name, for without exception this is the most beautiful Tomato we have ever seen. Sutton's Earliest of All is very prolific—one plant carrying sixty-three fruits—twenty-five of which are on one raceme. We think it the most prolific variety we have, although a plant of Hackwood Park in the same row is bearing thirty-six fruits on one raceme. We have not yet obtained ripe fruit of all the varieties on trial, so cannot compare them for flavour, but find that Laxton's Outdoor has much to recommend it, being fairly productive, and of the most exquisite flavour. If solidity is a point for recommendation, Turner's Hybrid would, we think, carry the palm; it is so sparsely seeded, and is almost as solid as a Turnip.

We are sorry to say that the disease has commenced its ravages with us, and contrary to our preconceived notions respecting the point of attack, our observations lead us to think that it originates on the flowers, in some instances causing them to drop; in other cases it seems to affect the style, turning it black. We intend dusting them with flowers of sulphur to see if that will check the ravages of the disease, but have small hope of any beneficial result. Can any of your readers say which is the best flavoured yellow Tomato? We grew Green Gage, but thought it so deficient in flavour compared with the red kinds that we discarded it.—*W. B. G.*

THE CHALCEDONIAN CAMPION.

As an all-round border plant there are few to equal, certainly none to excel, *Lychnis chalcedonica*, evidence of which is not wanting wherever we turn our eyes in the gardens of rich and poor alike. It has been an inhabitant of British gardens since 1593, and during that time has proved its excellence by the lasting possession it has taken of the minds of hardy plant lovers. Various things must be taken into consideration to account for this—namely, its accommodating character in a wide variety of soils, its intrinsic beauty, and the comparative slow compact growth made by its root-stock, which, consequently, never becomes weedy nor encroaches upon its neighbours.

The stems generally vary from 1½ ft. to 3 ft. in height, and are not materially affected by dry weather if planted in moderately deep rich soil. They are straight, and seldom, if ever, branched, unless the top is accidentally or otherwise broken off. One peculiarity, however, is noticeable, the economy of which for garden purposes will be mentioned presently. The leaves are opposite, but only one of them develops a cluster of leaves or short branch in its axil; and this takes place on alternate sides of the stem throughout its length. The flowers are terminal and arranged in a densely fasciated or corymbose cyme, and in the typical form are of a bright scarlet. There are white-flowered and other varieties, both single and double, but the best of all are the scarlet forms, both single and double, while those that depart from the primary colour are inferior in point of beauty and need only be grown where a collection is desirable to show the variation in that respect. The double scarlet remains in perfection for the longest period of time, as happens with most other double flowers.

In the case of the single kinds, propagation is easily effected by means of seeds, which they ripen in abundance and scatter about the mother plant, where they germinate spontaneously if undisturbed. The double-flowered varieties are sterile, and can only be propagated by dividing the plant early in spring, or by cutting off the young stems furnished with axillary buds as mentioned above.—*B. B.*

THE COW-HORN ORCHID.

THE hollow stems, or pseudo-bulbs, of *Schomburgkia tibicinis* give rise to the popular name, from the fact that the native children of Honduras, after cutting off the extremities of the stems, use them as trumpets. Swarms of ants also take up their abode in the hollow stems. The flowers are borne in a terminal raceme or panicle, and have undulated or wavy sepals and petals of a mauve-purple colour suffused with crimson; the labellum is white, with the exception of the lateral lobes, which are rose-coloured. It does not flower very frequently in this country, being by some considered difficult to manage. Mr. F. Ross, Pendell Court, Bletchingley, who supplied us with the specimen from which our illustration was prepared, succeeds very well with it, by suspending it in a basket of peat and sphagnum, near the glass in the Lily-house. Heat, moisture and full exposure to the sun, are the three essential requirements in the flowering of this Orchid.

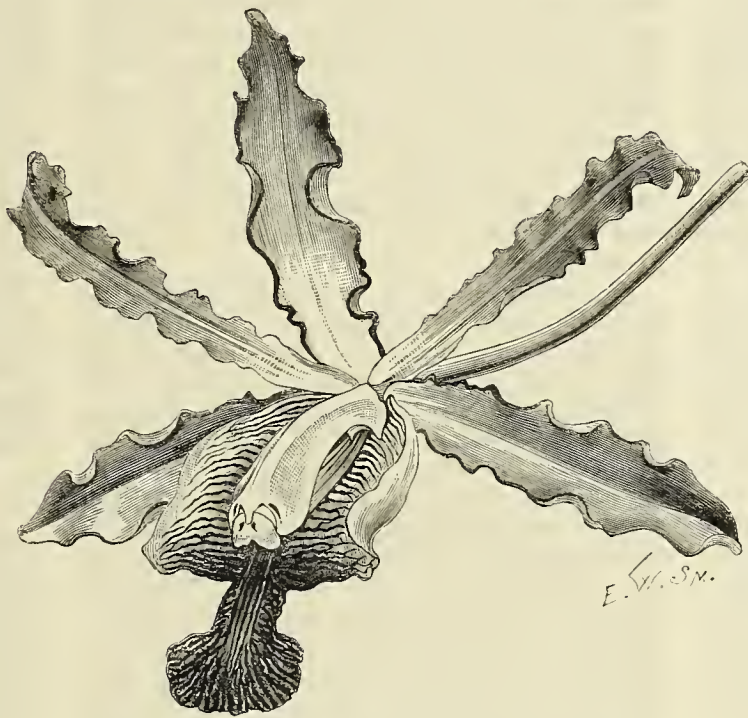
CONIFERS AT DROPMORE.

IN passing through the extensive forest-like woods surrounding the residence of Lady Fortescue, at Dropmore, Buckinghamshire, the visitor who sees the magnificent old trees for the first time cannot fail to be struck with their healthy and sturdy appearance. This is especially the case with those who have been accustomed to see the same kinds in the vicinity of the metropolis, where the evergreen kinds especially have always a dull, begrimed, and sooty appearance. The pollarded specimens at Burnham Beeches, with their old, massive, decaying trunks and historical associations, may possess a fascination of their own; but who that possesses a love for trees, and has any pretensions to taste, can ignore the natural beauty of untrained, unpruned, well-grown trees of stately dimensions, such as are to be seen here in all directions? The public are privileged, we believe, under certain restrictions, to pass through the grounds of Dropmore by a beautiful drive on the way to Burnham Beeches; and the fine specimens—even including the Pines, with their stately trunks and sombre-tinted heads—that greet the traveller at every turn of the road must be a fresh surprise, and productive of much quiet enjoyment.

Firmly rooted in the ground, with few exceptions, no amount of drought to which our climate is liable seems to appreciably affect the health of the trees. The most notable exception to this rule was in the case of some grand old specimens of the White Lime (*Tilia alba*), whose long umbrageous arms extend across the roadway by which visitors or travellers on their way to Burnham Beeches must pass. They were just in bloom and sweetly-scented, too, at the time of our visit; but the leaves in the shade were turning yellow and dropping about, while those fully exposed were more or less curled or folded so as show their underside. Very different was the case with a noble specimen of *Araucaria imbricata*, said to be the finest in the country. Great summer-heat and cold in winter is said to be the lot of this tree in its native country; and certainly this experience of an English summer must be highly conducive to its welfare. The tree is a male, as the numerous cylindrical, pendent, brown cones about 4 ins. to 6 ins. in length testified; it is about 50 ft. in height, and handsomely furnished with massive branches to the very ground. The trunk, some 3 ft. above the ground, is 8 ft. in circumference and close upon 3 ft. in diameter; being planted on an artificial mound of good soil, its roots enjoy perfect drainage, but are supposed to descend and draw supplies from a pond close by. The height of the tree is not great, but its proportions are grand and striking, and to the eye of the beholder detracts somewhat from the actual height. There are several other specimens in the grounds bearing both male and female cones, but none assume the dimensions of the tree just mentioned; which, being planted in 1830, is now fifty-seven years old. A more historical tree at Dropmore is a magni-

ficent and pyramidal specimen of *Pseudotsuga* (*Abies*) *Douglasii*, towering to the height of 120 ft., with a straight trunk furnished to the ground with branches, the deep glaucous green foliage of which testifies to the health of the tree. The leader is still intact, so that the maximum height has not yet been attained. The trunk some distance from the ground measures about 11 ft. 6 ins. in circumference; while the spread of the branches has a diameter of 20 yds. to 21 yds.; and a circumference of 66 yds. It is certainly a giant of its kind in this country, and is now fifty-seven years old, having been planted about four years after its introduction originally into Britain. In relating the history of this tree, it was the proud boast of the late Mr. Frost when speaking about it to visitors, that he carried the seed in his waistcoat pocket for some time before committing to the soil what has now grown to be a veritable monarch of the woods. There are few gardeners peradventure in this country, who could lay claim to a similar statement. Time has now felled the planter to the ground, but not before he had lived to see and deplore the loss of some of the upper branches of his favourite old tree, by the destructive snowstorm that occurred the day after Christmas last.

The two trees just mentioned are the grandest specimens of their kind in the grounds; but others of the same or different species occur at various points of



THE COW-HORN ORCHID (*SCHOMBURGKIA TIBICINIS*).

vantage, which, if less interesting, are none the less ornamental, and constitute objects of which the owner may justly feel proud. What is known as the Cedar-walk is skirted on each side by a close line of *Cedrus Libani*—broad, massive, and fine, with their huge, far-spreading, horizontal arms, very characteristic of this tree as seen in many an old English park. There are also fine pyramidal specimens of *C. Deodara*, about 60 ft. or 70 ft. in height, a species that can always be recognised from the other two forms in cultivation by its longer, paler green leaves, decidedly-drooping leader, and tips of the branches. *C. atlantica*, at different stages of its growth, is very similar to *C. Libani* of the same age, and can with difficulty be distinguished from the latter by its pyramidal habit, ascending branches, more or less distinctly-glaucous foliage, and by its leaves, which are shorter and denser than those of its better-known rival. The finest specimen is now about 80 ft. or more in height, and assuming the horizontal habit peculiar to the Cedars after attaining some considerable age.

We frequently have to deplore the improvident shortsightedness of planters in placing favourite, popular or beautiful trees so close to houses or other objects, or in planting so thickly that they either have to be uprooted after a few years, on account of their being in inconvenient situations, or they inevitably spoil one another by mutual crowding. Mr. Frost, however knew his business, and allowed ample space for the development of his favourites. These remarks apply chiefly to *Sequoia gigantea* and *Araucaria*

imbricata, and were brought forcibly home to us on seeing the fine specimens at this place standing out in relief by themselves, and nearly always on mounds of good loam, old potting material, &c., placed on the top of the natural soil. *Sequoia* (syn. *Wellingtonia*) *gigantea*, of a quarter of a century's standing, is now about 60 ft. in height, a perfect pyramid of beauty, and feathered to the ground. The Californian Redwood or Bastard Cedar is equally good, and about 10 ft. higher; but the date of planting this we did not ascertain. The Japan Cedar (*Cryptomeria japonica*)—planted in an open position by the side of a pond, round the margins of which *Lythrum Salicaria*, *Lysimachia vulgaris* and other native weeds were flowering in profusion—towered to the height of 60 ft. or 70 ft., heavily laden with its curious green cones. Close by the deciduous Cypress, *Taxodium distichum*, with its pale green, feathery and delicate foliage, rose to the height of 50 ft. This specimen was a fine one, although it had not grown very rapidly, seeing that it had been planted in 1843—a year in which a great proportion of the ornamental trees had been planted, as we ascertained from the durable iron labels bearing the name and record of the date. *Thuja gigantea*, so frequently mismanaged in small “choke-muddle” shrubberies, rises here to the height of 60 ft., forming a pyramidal and highly ornamental tree. In its native

country it varies from 50 ft. to 150 ft.—a fact which should be borne in mind by home planters and landscape gardeners.

In passing through the grounds, numerous specimens of the Hemlock Spruce, *Tsuga canadensis*, present themselves, and bear a strong resemblance to the Californian Hemlock, *T. Mertensiana*; but the latter is naturally a much stronger and more rapidly growing species, a fact which is borne out by the specimens at Dropmore, which have a beautifully pyramidal outline, while the trees of the Canadian species have a broad spreading head with numerous branches more resembling a huge bush. The Californian species is known here as *T. Alberti*, a name under which it is generally disseminated in gardens. The Himalayan species, *T. Brunoni*, a tree of which we noticed about 35 ft. in height, with a broad spreading head, was heavily laden with its tiny but singular-looking and pretty cones. It was planted in 1847, and although it bears a superficial resemblance to the Canadian species, on a close inspection it proves very distinct, with long, linear, slightly tapering

leaves, of a beautiful silvery or milky mealy-white colour underneath. A singular tree, *Cunninghamia sinensis*, which is very abundant in China, its native home, we seldom have the pleasure of inspecting in this country, owing, probably, to its not being able to resist the exceptionally severe winters we experience. The young shoots of one specimen planted in a very dry situation were showing unmistakable signs of distress for the want of moisture; but another tree about 40 ft. in height, and, probably, the largest specimen in the country, was more favourably situated within the precincts of the kitchen garden. The trunk is about 12 ins. to 15 ins. in diameter, and the long densely arranged leaves, and tasselled-like branches, give the tree at a distance the appearance of some species of *Araucaria*, or other unfamiliar kind of vegetation.

Picea Smithiana, or *P. Morinda*, known also under a host of names, is a Himalayan species of Spruce that has taken kindly to our climate, no other proof of which we require than a sight of the specimens planted in different positions through the woods. One tree particularly, planted by the side of the main drive or road through the grounds, we could not fail to admire, being a perfect model of its kind; but, unfortunately, the storm of last Christmas wrenched off a number of branches, causing a considerable disfigurement on one side, which, happily, is invisible from the road. It was planted in 1843, and the healthy dark green appearance of the foliage on the pendent branches characterises this as a striking and handsome tree. Other

species of this genus were *P. nigra*—here named *Abies nigricans*—and a tree named *Abies carpatica*, which Gordon, in his *Pinetum*, states to be a garden name for *A. excelsa*, or, as we should now say, *Picea excelsa*; but whether such was the case we had not the time or means to determine, or whether, from its narrowly-pyramidal shape, it might be a distinct variety of that species.

The Silver Firs, now botanically classed under *Abies*, are numerous represented, both as to number and species; and few, probably, will deny the handsome and ornamental effect produced by them in park, wood, or landscape scenery. We noticed some fine pyramidally-grown trees of *A. Pinsapo* and *A. Nordmanniana*, about 60 ft. in height, that had been planted in 1843. A variety of the latter, planted three years later, was 10 ft. below that height. The former was particularly attractive and gratifying from the fact that, in a large percentage of cases, it forms but a low stunted bush, in every way unsatisfactory and disappointing. A somewhat more recently-planted *A. amabilis* formed a tree about 40 ft. in height, having a dark and massive appearance. The grand Silver Fir, *A. nobilis*, is rightly named, for a nobler, more characteristic, or satisfactory tree of its kind we could not desire. Other connoisseurs or admirers of Silver Firs may differ, but such is our experience. A beautifully-pyramidal specimen, planted in 1863, is at present heavily laden with cones that, from their size and great weight apparently, have assumed a pendent position, contrary to the normal wont of this genus. Other trees, planted about four years after the original introduction of the species to this country in 1831, have now attained a height of 70 ft. to 75 ft., with very imposing dimensions, and are coning freely at the top. They are planted on mounds, their long arms sweeping the ground; while the healthy deep glaucous green foliage testifies to their present rude vigour, and shows them to be equally as fine, if not identical with, the variety named *A. n. glauca*. A striking contrast to this, in another part of the grounds, is presented by the pale glaucous green, almost grey, colour of *A. concolor*, a broadly-pyramidal tree, about 50 ft. in height; nor must we forget the Mount Enos Fir (*A. cephalonica*), in grand form, about 60 ft. in height, feathered to the ground, and planted in 1843. Other specimens were heavily laden with cones on the top.

Ornamental Pines were also numerous, but space prevents us from entering into detail. Amongst others we noticed *Pinus ponderosa* (syn. *P. Benthamiana*), the pyramidal-habited *P. monticola*, *P. Pinaster*, *Lemoniana*, *P. excelsa*, *P. Pinaster Escarena*, and *P. insignis*. The latter is admirably adapted for sea-side planting, and here the specimens planted in 1839 now tower up to a height of 65 ft. to 70 ft. It is a bold tree, with a very rugged brown or red bark, and deep grass-green leaves—remarkably so in some situations, and thereby readily distinguishable from most other species of a genus very difficult to define.

In conclusion, we desire to express our thanks to Mr. Herrin, the worthy successor to Mr. Frost, for his courtesy and kindness in accompanying us through the grounds for the purpose of inspecting the more noteworthy and ornamental trees scattered about through the extensive woods and arboretum.

GARDEN PLANTS ILLUSTRATED.

BILLBERGIA DECORA.

In 1864 this species was introduced to Ghent from the Amazon Valley, and the plant from which the description was taken flowered in the noted collection of Sir George Macleay, Pendell Court, Bletchingley. It is allied to *B. zebrina*, but has longer, green, curiously curled-up petals. The leaves are transversely banded with silvery grey streaks of scales, and are 1½ to 2 ft. in length, with short brown marginal teeth, and are produced in rosettes of eight to ten from the surface of the soil. The oblong-lanceolate numerous bright red bracts on the pendent flower-spikes constitutes the chief ornament of the plant when in flower.—*Botanical Magazine*, t. 6937.

PHALÆNOPSIS GRANDIFLORA.

The Javan Moth Orchid—universally known in British gardens under this name—is synonymous with *P. amabilis* of Blume; but is best known and will now probably retain Lindley's name for years to come. It

may be recognised by its oblong bright green leaves attaining a length of 8 ins. to 12 ins., the broad white petals destitute of the mucro seen in those of *P. amabilis* (*P. Aphrodite*), and by the narrow, hastate, elongated middle lobe of its labellum. This, as well as the lateral lobe and the crest, is stained with yellow and spotted or striped in the lower part with purple.—*Orchid Album*, t. 277.

SYRINGING ORCHIDS.

SOME time ago there appeared a somewhat lengthy discussion on this subject, which, in some ways, bore out my experience. Some three or four years ago, I had a collection of Orchids under my charge, nearly all of which used to be regularly syringed—*Cattleyas* being the only exception. I may state that *Odontoglossums* were never watered, except with a rather coarse rose of the watering-pot, and the way they grew and enjoyed this treatment was a surprise and delight to many good Orchidists who saw them. Then, again, *Phalænopsis* grew like weeds, and even these were syringed overhead three or four times a week.

In doing the *Phalænopsis*, care was taken that one did the syringing while another came behind with a sponge to wipe the water out of the centre. I may say we had about 200 *Phalænopsis*, and 2,000 to 3,000 *Odontoglossums*. Ever since then I have had a great inclination for syringing, and have constantly applied it with the best of results. I have now many hundreds of *Cattleyas* (all of which have been imported during the last twelve months) under my charge, which are regularly syringed overhead twice a day, and they would be indeed difficult to match; many of them have broken from nearly every bulb on the plant, both old and new, and are now one mass of roots, thus showing beyond any doubt that to syringe means to do good.

The *Odontoglossums* here are 3,000 in number, and the healthy look of all of them shows how well they appreciate their almost hourly bath during the late spell of tropical weather, when it was only by the abundant use of water that we could in any way keep down the temperature. I may say, in conclusion, that I have given this subject, syringing, every thought for the past four years, and all that I have found it necessary to do is, in potting, to see that the water can freely get away from the material used, while no moss whatever should be used with *Cattleyas*. *Phalænopsis* will only require a very little moss—merely enough to cover the roots, and, if practicable, grow them in cylinders, so that they may incline to the front, as by that means the water cannot lodge in the young leaf or heart of the plant. The *Cattleyas* and *Odontoglossums* are, after the end of August, only occasionally syringed, and then only on fine days, till the brighter days in spring, when they have it unremittingly.—*Grower*.

SELECT VARIETIES OF CAPE HEATHS.

THE reason that this class of plants has been so neglected for a considerable number of years past, is undoubtedly due to the fact that amongst the new tastes that have sprung up with the horticultural public, the growing desire for novelty may be reckoned as one of the most important. Orchids for some years past have taken a very large hold on the public, and the fact that they may be imported wholesale, with the chance of the great majority living and flourishing, has to a great extent thrown hard-wooded plants out of popular favour for a time at least. Heaths cannot be imported in a dry condition by shiploads, and then made to assume new life by a process of heat and moisture, but they have to be grown either from seedlings or cuttings in this country. Considering the length of time the Heath takes to form nice plants, this length of time militates sadly against their chances for popular culture.

The wheel of fortune still revolves, and possibly the Heath may in time come in again for its share of public favour, a probability equally as likely as it has been for hardy herbaceous and alpine plants to again attract attention from the public. If the reader will notice, at nearly all our public shows, the craving for old-fashioned plants has made its appearance, and seems likely to endure.

The Heath, to become popular, should be grown in quantity, so as to show its beauty to advantage, and also to have some of the varieties in flower at all seasons of the year; for there is scarcely a month of the year but what some variety may be had in bloom, either hard or soft-wooded. But to do this a considerable space must be allotted to their culture, and in many establishments this is almost impracticable. The only way out of this difficulty is to make a selection and confine them to one house, so that the treatment may be equable and the growth perfect. If this means be adopted, nearly all the soft-wooded sorts grown may be stood out of doors during the summer months, after they have matured or nearly matured their growth.

If a house be so specially adapted, staking and tying can always be done with pleasure, and the house will at all times have a quantity of flowers in it that will be of interest to the grower. Losses will certainly occur in the cultivation of these plants (drought being one of the principal causes), so it is always as well to be provided with duplicate plants at the commencement of their culture. It is not necessary that duplicates of all the varieties should be obtained, but only of those that may be considered worthy of growing on into specimens, or of useful soft-wooded kinds that may be serviceable for cutting flowers from.

The hard-wooded kinds require more care in their management, and should, therefore, have more attention given to them as regards light and room. For the perusal of your readers I will name some of the best sorts that pay for cultivation, classing them into spring, summer, autumn and winter kinds, thus giving to the uninitiated an insight as to what sorts to select, should they be disposed to grow this class of plants.

Spring-flowering kinds may be summed up in the following, an asterisk being affixed to the soft-wooded kinds:—

<i>Aristata</i> major and <i>subperba</i>	* <i>Spencerii</i> , an elegant variety, satiny pink in colour, very free
* <i>Candidissima</i> , useful for cutting	<i>Sprengellii</i>
<i>Devonianum</i>	<i>Tubæformis</i>
<i>Lambertiana rosea</i>	<i>Vernix coccinea</i>
<i>Lowii</i>	* <i>Wilmorea</i>
* <i>Sindryana</i>	<i>Victoriae</i> .

SUMMER.

<i>Ampullacea obbata</i>	<i>Obbata purpurea</i>
* <i>Cavendishii</i> , fine yellow	<i>Pulcherrima</i>
<i>Eximia superba</i>	* <i>Suaveolens</i>
<i>Exquisite</i>	<i>Tricolor elegans</i>
<i>Fairreana</i>	„ <i>Eppsi</i>
<i>Hartnelli virens</i>	„ <i>Holdfordii</i>
<i>Inflata alba</i>	„ <i>Kingscottiana</i>
* <i>Intermedia</i>	„ <i>splendens</i>
<i>Jasminæflora alba</i>	„ <i>Wilsonii</i>
<i>Kingstoniensis</i>	* <i>Ventricosa</i> , all the varieties, more especially <i>coccinea minor</i> .
<i>Lindleyana</i>	
<i>Maidstoniensis</i>	
<i>Massonii major</i>	

AUTUMN AND WINTER.

<i>Æmula</i>	<i>Irbyana</i>
<i>Aitoniana turgida</i>	<i>Marnockiana</i>
„ <i>Turnbullii</i>	* <i>Melanthera</i>
<i>Austiniana</i>	<i>Retorta major</i>
<i>Cerinthioides coronata</i>	* <i>Rubella</i>
* <i>Eweriana superba</i>	<i>Shannonii</i>
* <i>Gracilis autumnalis</i>	<i>Vestita coccinea</i> .
* <i>Hyemalis</i>	

The above fifty kinds are of sterling merit, all the hard-wooded kinds being worthy of growing into specimens, while the soft-wooded kinds are useful for decoration or for cutting from. If the grower should not care to grow his plants into large specimens, he may confine the plants to about 8-in. pots, the plants in this size pot making nice plants 12 ins. to 15 ins. high, and about the same size through. This style of plant is useful for decoration, being also very handy to move about from place to place if necessary; and possibly would give as much pleasure to an amateur grower as larger and more cumbersome specimens.

The mode of culture has something to do with the time of year some of the kinds flower; for instance, very hot weather may bring an autumn-flowering kind into bloom in July, or a summer flowerer into bloom in May; these freaks can only be regulated by either standing the plants outside in an aspect facing north, or else by shading from the force of strong sunshine during the heat of the day with temporary shading material, for at no time do Heaths require a permanent shade.—*W. G.*

PEARS.

THE report of the committee of the National Pear Conference, held in the Royal Horticultural Society's Garden, Chiswick, in 1885, is now before us, and is entitled and takes the form of the ninth volume of the journal of the society. It has been prepared by Mr. A. F. Barron, the superintendent of the society's gardens, and is similar to, but is a trifle smaller than its sister volume entitled *British Apples*. In the latter 1,545 varieties of Apples are described, giving their synonyms; while only 616 varieties of Pears have been described in the present case. The contents of the volume are arranged after the same fashion as that of *British Apples*, with the exception that the tabular arrangement of the selected varieties for each county are classified according to the months they come in season, which is undoubtedly an improvement, as forming a handy guide to intending planters whose experience in fruit culture is limited.

The outcome of the conference, resulting in the compilation of the experience of gardeners throughout the country, furnishes us with this handy little volume—a mine of statistics that cannot fail to be of service even to experienced growers, whose labours in fruit-growing have been confined to one or a few districts or places. What may be important to growers on a large scale is the special selection of sorts that have proved to be suitable for orchard culture in each of the respective counties from which representative collections were sent to the conference. As might be expected, the more favoured and sunny southern counties produced, as a rule, the best specimens of cultivation, and exhibited the greatest number of varieties. The greatest number of exhibitors from any one county was twenty from Middlesex, while Surrey and Kent followed, sending sixteen and eleven exhibitors respectively. It is a great matter for surprise to learn that the collections sent to the conference—numbering in all 616 varieties, after a thorough sifting—were, on the whole, remarkably correct as to nomenclature. This, and the comparatively few synonyms that were found to exist, is all the more creditable to gardeners and cultivators generally, seeing that some classes of garden plants—perhaps numbering only as many tens as there were hundreds in this case—are in a great state of confusion. This cannot arise from any facility or easy means of distinguishing the different varieties, for under different conditions as to soil and climate the same sorts are often with difficulty recognisable.

Fifteen comparatively new Pears, as yet but little known in cultivation, have been recommended by the committee, and four new French varieties are recommended for trial in this country. Besides the latter four and the Conference Pear, which was certificated, no other meritorious kinds have been brought to the notice of cultivators; a fact by no means remarkable, bearing in mind the difficulty experienced in raising anything really distinct, or offering advantages over older sorts. Worthless varieties undeserving of cultivation have been ignored, or eliminated from older lists, and sixty of the most prominent selected from the whole exhibited would form a very representative collection for any garden. The cultural remarks are very valuable, and the importance of the Quince as a stock for the Pear has been prominently brought to the notice of cultivators. On the whole we consider the book a very valuable adjunct to horticultural literature, and a useful companion to *British Apples* on the shelf of the garden library.

GARDENING NOTES FROM SCOTLAND.

Peaches.—For training as cordons, along rafters, or on single rods spurred, Sea Eagle answers admirably. On this system great numbers of fruit can be had in a small space, and with little trouble to the cultivator. In the collection in the famous Peach-house at Drumlanrig we saw the Sea Eagle, a few years ago, in perfection for the first time, and followed suit. Our crops since the tree was a year old, from the time of being planted, have given the most satisfactory results. In an early house, for the finest Peaches of good colour and size combined, the Early Crawford stands unrivalled. We are not much acquainted with

its flavour, but were told by those who used it for dessert that it was of great excellence. Deep crimson next the sun, and a rich golden hue towards the stalk, gives this kind a very imposing appearance. It is often supposed that Peaches should be near the glass to attain a high colour. This is a great fallacy. We never saw finer-coloured fruits than those on the back walls of houses 18 ft. wide, and 17 ft. high, the trellis being 5 ft. from the glass. Peaches and Nectarines attain the richest colour at this distance.

It is pleasing to notice that such serviceable old kinds, as mentioned by Mr. Markham (p. 795), still maintain their popularity, and to make a first-rate trio Royal George may well be added. It is found in nearly every collection in the northern part of the Kingdom, and rarely do we visit an exhibition during August and September (if fruits of this class are shown) but Royal George and Stirling Castle are present; the latter appears to be very hardy, and when well managed is very beautiful. A tree loaded with this northern production in the Parkhall Peacheries was a fine picture; the fruit was of good size, crimson next the sun and deep red to the back. This high colouring is attained by keeping the fruit well cleared of the foliage, allowing the sun and air to have full power on it. Bellegarde is, however, our chief favourite among Peaches; colouring and free bearing are strong points in its character, and its flavour is second to none (Noblesse excepted) that we have tasted. The hardiest kind we know is Violette Hâtive; like some others it does much better in some districts, and never have we seen it so fine as in some of the gardens in Wilts and Somerset where lime seems to abound in the soil. We have much faith in adding plenty of lime to Peach soil if it does not already form a part. The most productive Peach we have this season is Sea Eagle; the fruits average about 9 ins. apart on the tree and are of great size.—*Caledonian*.

Chrysanthemums.—It is drawing towards the period when cultivators of the popular Chrysanthemum may have to find means to protect the plants from sudden changes of fine weather to frosty nights; and as we have been told that the thermometer has been as low as 32° [and even 30° in the south.—Ed.] in some exposed northern districts, and that in some of the colder districts of England (we have lately read) the nights have been excessively cold for the season—one need not be caught unawares. The sad remembrance of the disastrous misfortunes which befel Chrysanthemums nearly two years ago suggest that timely warning to the inexperienced should be given. The great increase of fresh growers each season enlists the sympathy of "old hands," who should not be tardy in giving a hint of their experience to the uninitiated. A framework, over which mats or frigi domo can be thrown, would likely do all that is necessary to protect the plants till they must be taken under glass. A clearance of the old soil from the surface of the pots, and a top-dressing with loam and rotten manure mixed with a little soot will do much to maintain a healthy foliage and develop large flowers. Plants often lose their foliage during the early autumn, and the consequence is a poor floral display, which can clearly be traced to starving the roots.

Close Cropping.—We have frequently noticed instructions (not in *THE GARDENING WORLD*) given to crop moderately, and not tax the resources of the land too much. Where there is a deficient supply of manure, such advice is consistent with sound economy; but where the supply to the wants of the land is on the liberal scale which high cultivation demands, we would advise as close cropping, frequent sowings and plantings, as opportunity affords. This does not advise, however, the crowding of space, which is positively mischievous to crops. One plant smothering up its fellows is a sure means of meeting failure. At this season a complete vegetable-garden should have no vacant space and be quite destitute of weeds. There is so much which can be used for filling up ground at this season, that one can sow and plant to his heart's content. If space is in excess of manual power to cultivate it properly, as unfortunately is too often seen, we would advise the laying down a portion of the ground into grass, and planting Apples, such as produce good crops every season, and cultivate properly the space left. No market-growers that we know can afford to retain half-cultivated land, but they put plenty in, and in return get abundance out.—*Caledonian*.

THE AMATEURS' GARDEN.

BEDDING PLANTS.—The propagating season has again come round, and in light sandy or chalky districts especially many will be at their wits' ends to know where to get cuttings, owing to the meagre growth made by plants in many places consequent upon the severe and protracted drought of the summer we have just passed through. This applies to Pelargoniums, Lobelias, and similar things, which, in many places, have flowered so profusely, favoured by the dryness of the atmosphere and the abundance of sunshine, that little growth has been made, and few or no side-shoots produced that could best be spared for propagating purposes. In such cases the whole plant may be preserved at lifting time, and potted up for planting out next season, or used to supply cuttings when growth has commenced in spring. Cuttings of Pelargoniums obtainable now will root with most certainty if dibbled into prepared ground in the open air; or, better still, if a large quantity is required, make a shallow trench with the spade, and into this arrange the cuttings neatly against the even side. If the natural soil of the garden is at all heavy, put a quantity of light material—old potting-soil or a similar compost—next to the cuttings, and fill in the trench, making the soil firm so as to secure them. When rooted, they may be potted up singly in autumn, and will form excellent stuff by planting-out time next season. If the requisite space cannot be afforded bedding stuff so treated, put the cuttings three in a 60-sized pot, or dibble into boxes containing a suitable light compost, covered with a clean layer of sand. If no stock has been kept in pots, and cuttings cannot be had from Lobelias in the open ground, lift a few of the old plants, pot them up, and cut off all the flower-stems. Fresh growth will be produced, and plants so treated will become established before winter, thus affording any quantity of cuttings, either before autumn has advanced too far, or in spring, when propagation is being actively prosecuted. Fuchsias, Cupheas, Pansies, Violas, Verbenas, and similar things may also be seen to at once.

MIGNONETTE.—For spring-flowering, seeds of this useful sweet-scented subject should be sown now; use a compost consisting of two parts of good fibrous loam; one part well-rotted manure; and one part of old mortar rubbish. The latter is a very useful ingredient in the cultivation of Mignonette, as it naturally grows on calcareous soil or chalky places. A quantity of sharp river-sand will also prove most useful in securing a proper porosity of the soil; as Mignonette is naturally very impatient with stagnant moisture. Except in the case of standards, or Tree Mignonette as it is called, 5-in. or 6-in. pots will be sufficiently large for mere purposes of greenhouse or conservatory decoration. Having well drained the pots, fill them with the prepared compost to within ½ in. of the rim; and after making the surface smooth and level, sow the seeds thinly and cover lightly with a portion of the same compost sifted finely. This will ensure an even germination of the seedlings. Water with a fine rose and stand the pots on a bed of ashes in a cool frame, which should be kept close till the seeds are fairly well germinated. Previous to this shading may be resorted to with the view of preventing undue evaporation, should the sunshine be strong. As soon as germination has been completed, give all the air possible without shading, as nothing is more prejudicial to a dwarf and sturdy growth than a close atmosphere. For a similar reason it is easier for the cultivator to obtain satisfactory results with Mignonette grown during the cooler half of the year than in summer. In October, or at the approach of winter, remove the pots to a greenhouse, or some similar structure, where a free circulation of air is permitted on all favourable occasions; they should also be placed on a shelf near the glass, as a maximum of light is imperative during the dull winter months. Thin out the seedlings after ascertaining which will become the more vigorous, as crowding is one of the most crying causes of failure in the cultivation of annuals. No re-potting will be necessary in the case of Mignonette grown in this way, but a small and neat stake to prevent the plants falling about is most essential to their neat appearance. Water sparingly in winter, but towards spring, when growth is proceeding rapidly, give a copious supply.—*J. F.*

GLEANINGS IN OLD GARDEN LITERATURE.*

WE have found this a very attractive little book, and can strongly recommend it to all "book-worms"—a happy race of people addicted to a very innocent amusement—and to all who are interested in the antiquities of gardens and gardening. The author commences his researches with the first English work on gardening, which appeared in 1577, when Holborn was a suburb. A few pages—for he is always brief and readable—bring on the great revival under the Tudors, with Bacon's garden, where he forgot the cares of life and statesmanship, and the *Sylva* of Evelyn. Herbs, physic gardens, and bees follow, and then a gossip on the gardens at Sheen, Greenwich, Kew, and other gardens in and about London in 1691. Wine and the Vine, beer and mead are talked about in the same literary and discursive way, and we are told all about the "warden-Pear"—formerly an esteemed baking Pear—and "a warden-pie," which was composed of meat as well as Pears, being named in *Winter's Tale* by the clown, who says, "I must have Saffron to colour the warden-pies."

The chapters that follow relate to the introduction of various fruit trees and flowers, and to market gardens, nurseries and the private gardens of the eighteenth century, such as Sir William Temple's and that of the Countess of Bedford at Moor Park, Rickmansworth, which has been famous through many centuries, but was never more so than it is now under the ownership of Lord Ebury, though our author does not say so, his object being to expound the literature of gardening only, and the gardens and gardening of the past, as described in the various works cited by him. His plan includes a very excellent bibliography of gardening literature from 1603 to 1800, with several pages on the subsequent works of the Lindleys and Londons, which form not the least interesting and valuable portions of the book. Sir William Jackson Hooker is mentioned, but for a list of his works we are referred to Mr. Bohn's edition of the *Bibliographer's Manual* of Lowndes.

PAINTING AND GAS-TARRING HOT-WATER PIPES.

ALTHOUGH not a grower of Orchids, I always read Mr. O'Brien's calendar, and what others of your able contributors have to say upon this peculiar and interesting class of plants. I should very much like to grow them, though, figuratively speaking, I fear that I should want a bed in one corner of the house, and a table and chair in another; but apart from Orchids, the advice given last week upon the painting of pipes is applicable to us all who have the management of a heating apparatus in any house where plants are grown.

Particular stress—and rightly, too—is laid upon the injurious influence of painting with gas-tar. Surely, there are few who would recommend its use? If so, its destructive influence upon plants is more than anyone could imagine; and as Mr. O'Brien has struck the nail on the head, I can help him to drive it home by a case in point.

In the year 1874, I had the charge of a place where a lean-to vinery was built in one range, with a division in the centre for early and late Grapes. My then employer had at his works a few unused 4-in. pipes, which were gas-tarred, being intended at one time to convey cold water, and which he wished to utilise. The idea seemed to him a capital one, as he thought of his pocket, iron being then dear. Remonstrance proved of no avail, and, under protest, they were accordingly fixed in one of these divisions, where, with exactly the same compost and arrangement of pipes as in the other, the young Vines made little progress whatever, whilst the other division was all that could be desired. The second year they were cut back to one eye, when they made similar, though somewhat better, progress (about 4 ft. of puny growth). These were uprooted, and fresh canes inserted; but the plants were as stubborn as ever.

Ultimately, the pipes were replaced by new ones, painted, like the others, with lamp-black and oil. The effect the following year upon this second lot of rods cut down was as if by magic, they reached the full

length of the rafters. The house was sweet, although hitherto, on opening the door, the tarry smell was intolerable, and more fit for a fever hospital than a place for Vines. The more we fired, the more the tar melted and smelt; whilst the plants, under its contaminating influence, were struggling hard for existence. So much for tarred hot-water pipes in greenhouses, and penny-wise-and-pound-foolish ideas! Remembering the past for its lessons how to act in the future is a text of no mean significance, vividness of which has been portrayed to me by reading Mr. O'Brien's remarks on this subject; and to those who do wish to use cheap paints or tar, I would recommend the adoption of his advice—"Don't."—*B. L.*

A SAND VERBENA.

ALTHOUGH so different in general appearance, this elegant trailing plant is a member of the same family as *Bougainvillea* of our stoves and greenhouses. It is the *Abronia umbellata* of botanists, and has a synonym in *Tricratus admirabilis*. The generic name is derived from a Greek word *abros*, meaning delicate, in allusion to the delicate rose-coloured bracts at the base of the umbel of flowers, and morphologically the same organs that make the *Bougainvillea* such a favourite in gardens. The truss or umbel of flowers bears considerable resemblance to that of a *Verbena*, and the word "sand" is applied from the fact that most of the species grow in sandy places in California. Those of our readers who have not seen it may form a very exact idea of what the flowers are like by comparing them to



ABRONIA UMBELLATA: SHOWING HABIT OF GROWTH.

the Bird's Eye Primrose (*Primula farinosa*), for the rose-purple, yellow-eyed flowers are very similar, and delicately scented. Ten species are known to science, of which four only have been introduced, and the present one, together with *A. arenaria*, are the most ornamental for garden purposes. *A. umbellata*, although not now the commonest, was the earliest introduction, having been imported originally in 1823. It is half hardy, and of annual duration when cultivated out of doors, but is perennial when transferred to the greenhouse during the winter. The stems are prostrate or trailing, and grow from 1 ft. to 5 ft. in length, according to the treatment it receives and the time it has been planted, producing erect umbels of elegant and attractive flowers with great freedom from the axils of the leaves. For the specimens from which our life-size illustration has been prepared we are indebted to Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley. The reduced figure above shows the habit of the plant.

ORCHIDS AT BIRDHILL, CLONMEL.

THERE is a fascination in Orchid culture that I believe no other class of flowers possesses, more especially when the beginner commences in a limited way with what he is likely to succeed, and progresses from those requiring little skill to the rare and more difficult. This is the way in which the collection here has been got together—commencing with a dozen and now exceeding a thousand. Probably at no time of the year are flowering Orchids more limited than now, but, nevertheless, here something is always to be seen; so as I walked through to-day with the veteran worthy proprietor, George Gough, Esq., and his gardener, Mr.

Thomas Bulfin, I made a few notes for *THE GARDENING WORLD*, which paper I am proud to find is becoming a favourite in Ireland as elsewhere.

THE NEW COOL HOUSE.—DOUBLE STAGES.—In re-modelling this structure double stages have been introduced with the most satisfactory results. Plants that formerly declined and were difficult to manage, are now robust and, in many instances, yielding two pseudo-bulbs where one inferior specimen formerly was the rule. A circulation of air is secured, by spaces between, from underneath; while the evaporation from the second stage maintains that cool equable atmospheric temperature in which cool-house Orchids so prosper. Formerly the stages were slaty flags with sand strewn thereon and kept moist—too cool in winter and too hot in summer, and without any spaces for air to circulate between the pots or blocks placed thereon. This method may be worth the notice of any of your readers having cool-house Orchids not giving satisfaction. The front of the stages consists of green muffled glass, which throws an agreeable shade around. Another peculiarity worth noting is that the supports of the top stage rest in pans of water, which act as traps for slugs, woodlice, earwigs, cockroaches, &c., if they should try to creep upwards.

Blooming at present here are several varieties or sub-varieties of *Odontoglossum crispum*, one almost pure white, with a faint tint of lilac on the upper petals and labellum; and another heavily shaded and spotted—all imported. Adjoining was a large specimen of *O. Hallii* in rude health, very promising, and some strong stems of *O. grande magnificum*, then preparing to expand. We passed *O. vexillarium*, that many, notwithstanding recent introductions, still think the premier; then *O. triumphans*, with the remains of two spikes that gave thirty blooms each, and so on. At present there are two other imported pieces blooming late; Mr. Gough intends to have the opinion of an expert before he names them. There are 200 *Odontoglossums* of different varieties and sub-varieties here alone.

There are two varieties of *Disa grandiflora* here, both good, but neither having so many blooms on a single stem as Mr. F. W. Burbidge found on those grown by Mr. Bedford, at Staffane, near Dublin—viz., a dozen. One has the trowel-shaped labellum of the deepest shade of crimson-rose, suffused with a faint shade of blue, while the other is much lighter. They do best in pans, and, like all the Orchids in this house, they are surfaced with *living* sphagnum, which Mr. Gough considers a good test of healthy growth. *Calanthe vestita* has done much better this season in the cool house, and is here preferred to *C. furcata*. Shortly much more bloom will be here conspicuous, including *Oncidium Rogersi* and *Phajus bicolor*.

THE WARM HOUSE.—The gems here now are the *Cattleyas*, conspicuously large and fine being *C. gigas Sanderiana*. No word-painting could give an accurate idea of the rich crimson and rose-purple shading of the petals and labellum, which are curiously veined and crisped at the margins, with disks of yellow and magenta at the throat, the former being about 7 ins. across and the latter 3 ins. This will be immediately followed in blooming by *C. gigas imperialis*, which is said to be more superb. I was just too late to see *C. Gaskelliana* and *C. Eldorado*, but these even in their decline of life were worth seeing. Coming to the last-named, Mr. Gough reminded me that buyers of imported Orchids are sometimes fortunate. He got cheaply some specimens labelled *C. Eldorado* at Messrs. Protheroe & Morris's sales, and they turned out to be *C. E. splendens*, being much finer than the type, and more valuable. By-and-bye there will be magnificent spikes of *C. Mossiae*, *C. Trianae*, *C. Mendelii*, &c., which are all very promising now. The *Vandas* seem always in bloom, especially *V. suavis* and *V. tricolor*, and, from their great "fleshy" blooms, have great staying power when cut. The same may be said of the *Aroids* (*Anthuriums*), while if we look around for Orchids to cut from, Mr. Bulfin assured us he counted 300 blooms on *Ceologyne cristata* and *C. ocellata*. Just opening was *Cymbidium Mastersi*, here preferred to *C. eburneum* or *C. tigrinum*. It does very well with some as a cool-house subject, but gets an increased temperature to assist expansion of blooms here. *Dendrobium chrysanthum* and *Laelia elegans* alone represented their species. Among the curiosities was a new Orchid from the Bahama Islands, with long stems—say, 2½ ft. high—having bright purple flowers, which are curiously shaped and comparatively small. I need not say this transient reference at this bad Orchid season gives no full account of Mr. Gough's extensive collection.—*W. J. Murphy, Clonmel.*

* GLEANINGS IN OLD GARDEN LITERATURE, by W. Carew Hazlitt. London: Elliot Stock, 1887.

MR. GLADSTONE ON ALLOTMENT GARDENS.

THE annual exhibition of the Hawarden and Buckley Horticultural Society took place on August 18th in the grounds of Hawarden Castle, the weather being glorious. The show was an excellent one, and was visited by a large number of persons in the course of the afternoon. Mr. Gladstone, after inspecting the exhibits, said: "I cannot allow this anniversary to go by without saying on the part of us—my wife and myself—with what great pleasure we witness its recurrence. It is quite plain, I think, from what we saw to-day in the tent, that there is no diminution of interest among the population of the district in the practice of horticulture. On the contrary, if the judges of the day are as well satisfied with the show of the present year as the uninstructed eye is, I cannot but think that what we have seen indicates not retrogression, not even stagnation, but real advance in an undertaking which is of the utmost interest and value. I hope I am not going beyond the mark in saying this much—it has prospered. I trust, and I sincerely hope and desire, it may continue to prosper. It is, in every sense, a most valuable institution in each of its branches—I mean that which relates to flowers for the satisfaction and the delight of the eye, and that which relates to the production of fruit, and more particularly of vegetables. It is a highly civilising and humanising pursuit. It is also a pursuit which associates labour with recreation, interest, and pleasure. That I take to be no small advantage. Moreover, in one of its branches—that of the production of vegetables and fruit—I believe, and am firmly convinced, and have been convinced all along, that it is of very great and serious economical importance. Notwithstanding stagnation in trade, notwithstanding distress here and there, the people of this country, I rejoice to say, are acquiring, upon the whole, an increased command over the necessities and the necessary comforts—or, at all events, the primary comforts—of life. Whenever that is the case, it is a matter of moral certainty that a considerable proportion of any available increase of means will and must go in the direction of food for the mass of mankind. Though a portion of mankind are superabundantly fed, yet the mass of mankind are not superabundantly fed, and some portion of them, perhaps, still insufficiently fed—or, at all events, so fed that an extension of their means of feeding themselves, and of the variety of food, is of great importance and value for health, as

well as with reference to inclination. What is called the small culture forms, my friends, in France a very large share of the means of subsistence and of relative opulence for the small proprietary of that country, who, as you know, are a very important and numerous body, and I am perfectly convinced that as the means of this kind of cultivation—the cultivation of vegetables and fruits—are enlarged in this country, partly by awakening public attention to them, partly by the multiplication of gardens and allotments—a matter of the utmost consequence—and I must also

was fortunate that this portion of the day's proceedings had not been longer delayed, for shortly afterwards a violent thunderstorm swept over the district.

It will be observed from the preceding remarks, that the ex-Premier still advocates the more extensive cultivation of home-grown produce by farmers and others, by which England, if she bestirs herself, will be more and more able to cope with foreign competition, and feed her millions with the produce of her own soil, and at the same time give employment to thousands that wander about in compulsory and involuntary idleness, or swell the already teeming and overcrowded centres of civilisation. In opposition to this, it has again and again been reiterated that our markets, especially the metropolitan ones, are overstocked already, and the statement may be true in a measure, but not with English produce. What we want is a development of our resources, which shall render foreign competition less possible than it is at present, by the production of fruit and vegetables, which shall be on a par with the prices that not only tempt, but encourage foreign cultivators to sell in our markets. There can be no doubt about the quality and excellence of both home-grown fruit and vegetables, and English soil and climate is quite competent to meet the exigencies of the case. We cannot depend on our climate for early supplies; but while our markets are open to continental countries in that respect, our main and late crops should be equal to the demand, and more than sufficient to defy foreign competition. The quality of home-grown produce, and the prices they command would be a guarantee for this.

The home supply, as regards cereals, is out of the question at present; but it must seem paradoxical to many that thousands should go starving for lack of food or employment while broad acres of land are lying



ABRONIA UMBELLATA.

say by the increasing disposition of farmers here and there to include these important objects in their view, and to add to the variety of their resources—by trying something in this direction we shall have a large increase on the one hand of the means and wealth of producers, and on the other hand of the advantages enjoyed by the consumers of food, both for the reasonable satisfaction which the Almighty never intended to be severed from the use of food, and likewise in that most important view with reference to the sanitary condition of the country, and to the health of the people. I must not detain you any longer, my friends."

At the conclusion of the right hon. gentleman's speech, the distribution of prizes was continued. It

practically useless, and fast going to waste. The allotment question, practically and skilfully managed, would, no doubt, bring about a satisfactory change of this deplorable state of matters, if not an entire solution of the difficulty of obtaining employment for thousands that would turn the soil to better account, and furnish us with a supply of food, the profits of which would rightly go into the pockets of our fellow-countrymen. The existence of small gardens or pieces of land in France has been a source of great wealth to the owners, and a mine of strength to the country at large; why should not the same thing or something similar to it be so here? Labour is the most serious impediment to growers on a large scale in this country; and although horticulture is in a much more efficient

and advanced state than agriculture, yet, in order to hold our own, we must not rest on present or past achievements, but make progress the order of the day. What the uncultured land will not produce spontaneously we can greatly augment by calling in the aid of science and remedial legislation. Let us not rest upon past greatness, but advance with the times, by educating the rising generation of gardeners and others to meet any emergency with which they may be confronted in the pursuit of horticulture; and in so doing we shall be able to hold our own.

NEW PLANTS CERTIFICATED

By the Floral Committee of the R.H.S.

August 23rd.

CYPRIPEDIUM PRÆSTANS.

In this we have a decided novelty, which Reichenbach describes as the best of all the *Cypripediums*, and which is all the more interesting as it is the first species from New Guinea. It was imported about eight months ago, and two of the plants have flowered. That here exhibited bore three blooms on a spike, but as many as eleven have been produced in its native home. The strap-shaped, channelled leaves are uniformly deep green. The broadly ovate standard is marked with deep brown, almost black lines, alternating with yellow ones and is indeed fine. The long pendent petals are greenish yellow, much twisted except the basal quarter, which is purplish brown, flat, except for a number of small black undulations or elevations which are very striking. The large yellow staminode is very prominent, furnished at the sides with velvety brown hairs, and very characteristic. The labellum is pale yellow with brown veins, and resembles that of *C. Stonei*. Exhibited by Mr. J. Linden, for the Compagnie Continental d'Horticulture.

ASPLENIUM SCANDENS.

This novel and highly ornamental species belongs to the section *Darea*, which is characterised by the veins being simple, the ultimate divisions of the frond narrowly linear, and the oblong or linear sori, marginal or nearly so. It is named *scandens*, from the elongated stem being rhizomatous, and rooting somewhat similar in habit to a *Davallia*. The fronds are 1 ft. to 2 ft. long and 6 ins. to 12 ins. broad, arranged closely at intervals on the rhizomes, and spreading in an elegant manner. They are light green, three to four times finely divided into linear segments, which give the frond on the whole a very ornamental effect. The rhizomes can be arranged on the surface of a pan or trained in any other desired way. It comes from New Guinea and the Philippines. Exhibited by Messrs. J. Veitch & Sons.

DISA CORNUTA.

The general appearance of this Orchid is striking, although it is not calculated to become so generally popular as *D. grandiflora*. The upper sepal forms a large hood, covering or arching over the rest of the flower, with its spur projecting behind, and is pale brown suffused with a violet or blue flush. The lateral sepals are also large and pale yellow, with their mid-ribs excurrent beneath and a little behind the tips in the form of short black horns, suggesting the specific name. The petals are small and hooked, and completely enclosed by the large upper hooded sepal. The labellum is also small, and black with a yellow claw. Exhibited by Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington.

SCOLOPENDRIUM VULGARE CRISPUM FIMBRIATUM.

The fronds of this new and distinct variety are 12 ins. to 15 ins. in length and 3 ins. to 4½ ins. broad, and are, in the latter respect, very noticeable. They are at the same time deeply lobed, lacerated, undulated and crisped. The name would lead us to suppose that it was a sport from *S. vulgare crispum*; and if so, it is a very striking one. The undulations of that variety are rendered less conspicuous in this case by the number and length of the marginal fissions. As a decorative variety its merits are excellent. Exhibited by Messrs. F. W. & H. Stansfield, Sale, near Manchester.

GAILLARDIA ADMIRATION.

The flower-heads of this variety measure over 3 ins. in diameter, and have a deep chestnut-brown central disk, and surrounded by a lively crimson ring formed

by the colouring at the base of the ray florets. The latter are trifid, and, with the exception of the small basal part, are of a deep clear golden yellow. It is a dwarf and compact-habited variety, and quite new. Exhibited by Mr. T. S. Ware.

SINGLE DAHLIA, MISS GORDON.

We continue to break into new ground in the production of distinct types of single Dahlias, as far as colour is concerned. The flower-heads of this new form, as shown, are about 3 ins. in diameter, with broad very much imbricated ray florets of good substance. The outer half of these rays is deep dull reddish crimson, while the basal half is yellow, and the disk florets a clear yellow. By reason of the distinct zones of colour, it is certainly a novelty. Exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

GLADIOLI.

BONAVIA.—The ground colour of this variety is soft rosy pink, flaked and splashed towards the margin, especially the inner segments, with a darker shade of the same colour. The individual flowers are 4 ins. to 4½ ins. in diameter, and seven of them on the spike were opened, and twelve unopened.

MRS. EDGAR WILD.—This variety is either naturally more floriferous than the last, or the specimen must have been cut from a very vigorous plant. Of twenty-six flowers borne by it, eleven were fully expanded, and closely arranged on the spike. The blooms individually are large, pale pink, and flaked in a lively manner with rosy carmine towards the margin of the segments.

MARY ANDERSON.—The flowers of this form are of a very pleasing soft purple, except the three lower segments, which are white in the throat of the flower, the colour extending upwards for about half their length. All the segments have a more or less distinct white mid-rib. Of twenty-one flowers borne by the spike, six were fully expanded.

HALLE.—Here the flowers are bright scarlet, softly and rather indistinctly flaked with pale rose towards the outer margin. The throat is purple, and the lower segment—which is considerably smaller than any of the rest—is suffused and lined with purple for the greater part of the length. The flowers on the whole are very attractive.

JOHN DOMINY.—Of all the five forms certificated, this is the most decided in tone, and the ground colour is more uniform in the depth of its tint. This is a very fine pink, brightly flaked with carmine at the margin of the segments. The lower segment of the perianth is small, pale yellow on the lower half, with a pale mid-rib. All the above were exhibited by Messrs. Kelway & Son, Langport, Somerset.

CHRYSANTHEMUM GROWERS AT SWANLEY.

SUCH a collection of Chrysanthemum growers, all bent upon pleasure, is seldom to be seen, as the group who met at St. Paul's Station, about mid-day on Wednesday week, to accept the special invitation sent to them by Mr. Cannell to visit his Home for Flowers in Kent. The familiar faces of Mr. E. Sanderson, Mr. W. Holmes, Mr. R. Ballantine, Mr. Geo. Stevens, Mr. Gilson, and a host of other enthusiasts, in all about fifty, tend more to remind one of the November gathering at the Royal Aquarium than an outing on a hot summer day at Swanley.

Shortly before two o'clock we reached Swanley, and found Mr. Cannell awaiting us upon the platform, and he at once led the way to the nursery, where an inspection was made of the grounds and houses, which are at the present time in a blaze of colour from end to end. The Chrysanthemums which are standing out in the open in large square blocks, of course, came in for a fair share of criticism from the lips of men who do know how a Chrysanthemum should look at this time of the year. These plants look very healthy, but, like the general run of plants this season, they are short, owing possibly to the excessive heat. They are nevertheless strong, and, being short, are easier to group. We shall hope this season to see some very attractive groups at our leading exhibitions. The great difficulty a competitor has to contend with is the height his best plants will make—some varieties in a moist season growing about 10 ft., making them useless for grouping.

The most attractive houses at Swanley now contain the

double Begonia, the quality of which is marvellous, then the single and double zonal Pelargoniums, each of which have a house to themselves, 100 ft. long, with a path down the centre, and scarcely a bit of foliage to be seen for the gigantic trusses of bloom. Another very pretty house is that devoted to double Ivy-leaved Pelargoniums. It is unnecessary for me to give a further description of the respective houses after the very interesting article of "W. B. G." on his visit to Swanley last week.

Mr. Cannell says it is impossible to get good results from plants unless you feed them well. He is a practical man; on Wednesday week he treated our little group of fifty the same as he treats his plants, but not out of the same tub.

In one of the greenhouses Mr. Cannell had refreshments served before starting for Eynsford, where he has taken a very large farm, about 200 acres I believe. On arriving at Eynsford, arrangements had been made for a photograph to be taken of the group, after which a very pleasant walk was taken over the hill to the farm-house, where an excellent and substantial tea was served.

The thanks of the visitors are due not only to the hospitality of Mr. Cannell, but also to Mr. William Holmes, who spared no pains in arranging the trip to make it a success; and the Chrysanthemum grower, who was fortunate enough to receive an invitation, but did not avail himself of the visit to Swanley missed a sight worth travelling a long distance to see.—*Practical.*

GARDENING MISCELLANY.

St. Dabeoc's Heath.—Planted by the side of a drive at Cliveden, and intermixed with the native *Calluna vulgaris*, is a quantity of this fine old-fashioned Heath-like shrub, known botanically as *Daboecia polifolia*, or by other authorities named *Menziesia polifolia*. Its racemes of large, purple, bell-shaped flowers, peeping from among those of the smaller-flowered and more sober Heather, have a charming effect; and from the semi-wild appearance of this and other vegetation associated with it, one would naturally believe it to be a true native. It is, however, indigenous to Mayo and Conuemara in Ireland, and consequently is claimed as a British plant, whose beauty should warrant it a more extended cultivation in gardens.

An Early Peach.—On a wall with a south aspect in the gardens of the Royal Horticultural Society, Chiswick, is a Peach tree named The Shah, which for earliness shows it to be far ahead of any other on the same wall, either Peach or Nectarine. The tree is trained as an oblique cordon, consisting of two main stems or branches, with short laterals, and bears very little short of three dozen good-sized fruits. The latter are deep red all over the exposed side, and greenish yellow, often changing to a clear bright yellow, on the side next the wall, or where heavily shaded by foliage or otherwise. It would appear to be a vigorous variety, judging from its present healthy condition and deep green foliage. The fruits were ripe some fourteen days ago, but others by the side of it will be some weeks later. Its earliness and fine appearance should recommend it to those intending to plant or increase their number of varieties grown on the open wall.

Gaura Lindheimeri.—Wherever it is known, this plant is regarded as a fine thing; but it does not seem to be generally recognised as a bedding plant of first-class quality and rare beauty. Mr. Roberts grows a large bed of it in the centre of a design in the flower garden at Gunnersbury Park, Acton, and a beautiful effect it has with its long graceful branches, which are furnished throughout a great part of their length with white and rose or pink-tinted flowers. It is a member of the same family as the Fuchsia and Epilobium, most resembling the latter, and more nearly allied to it. Being hardy, there is no difficulty attached to its preservation in winter, and propagation is easily effected by cuttings. It is further capable of being used singly or in various attractive combinations.

Floriferous Allamanda.—In a previous note on *Allamanda Schottii*, generally known as *A. Hendersoni* in gardens, at Gunnersbury Park, Acton, the number of flowers produced by the plant in question is not very definitely or accurately stated. The plant

occupies an area of 27 ft. by 6 ft., or 162 sq. ft. Some time ago the flowers cut from it amounted to 1,872, and the other day there were 600 of its huge blooms fully expanded, or nearly four to 1 sq. ft., and there is every prospect of a continuation of bloom up till October or late in autumn, by which time the flowers may reasonably be expected to number 4,000, or an average of almost twenty-five to 1 sq. ft. At present the house is a grand sight, and the extraordinary floriferousness of the plant is attributed to the abundant sunshine, of which it obtained the full benefit, as, by growing plants underneath the Allamanda, that required no other shading than was afforded by the latter, shading was discarded.

Strawberry, Captain.—Mr. J. Dinsmore, gardener to T. F. Blackwell, Esq., The Cedars, Harrow Weald, has had good success with this Strawberry this trying year, and speaks highly of it as a fine early kind, with handsome fruits of good quality, produced in profusion.—*J. B.*

Plumbago capensis as a Basket Plant.—In addition to the well-deserved recommendations which Mr. Gaut and Mr. Weller (p. 810) give to this fine blue-flowered plant, let me say that it makes one of the best summer-flowering plants we have for suspension in large baskets. Years ago I used it for that purpose, twining its growths round the baskets until the heads of bloom appeared, when they were suffered to hang loose all round. Lately I saw a fine example of it grown in this way in a small conservatory at Maida Vale, London. *Plumbago capensis* is a very adaptable plant. I have grown it in 5-in. pots for decoration, and also, in Gloucestershire, as an outdoor wall-plant for warm and sheltered situations, with, at least, as much success as can be attained with many plants reputed to be quite hardy.—*James O'Brien.*

Cassia lævigata.—Planted out in the cool conservatory at Cliveden is a large, very floriferous specimen of this Cassia, which although pretty frequent in gardens is more often grown as a small specimen in pots, or planted out of doors by way of a bedding plant in summer. Under the latter condition it gives great satisfaction if the season is tolerably moist, or if in summers like the present it gets a good supply of water. It is a free-flowering plant when cultivated under glass, and a large specimen like that mentioned shows off its true character to best advantage; and not only is it ornamental from the abundance of its deep yellow flowers, but the ample, pinnate, smooth green leaves are in themselves very ornamental. There is considerable confusion amongst the species of Cassia cultivated in gardens; the present one is synonymous with *C. Herbertiana*, which was figured in the *Botanical Register*, t. 1422. It is also known as *C. corymbosa* and *C. floribunda*, which are altogether different species. The genus is very numerous in species, which are consequently difficult to define.

A Fern Wall.—In moist pits or stoves, and especially where the brickwork is not too closely cemented, seedlings of several kinds of Ferns germinate, and produce a very pretty effect. Our native *Adiantum Capillus-Veneris* is generally amongst the first to establish itself, and looks exceedingly ornamental and graceful. Attempts are occasionally made to cover the back walls of greenhouses and Ferneries systematically, and plant them with various subjects, according to the house. We noted, and could not fail to admire, an undertaking of this kind which has been very successfully effected at Cliveden, Berks, by Mr. Ellam. He uses moderately close-meshed galvanised wire netting, which he fastens within 3 ins. of the wall, filling the interspace with a compost suitable for Ferns. This is covered with *Selaginella Kraussiana* as a ground-work hiding the netting, and into this Ferns of various kinds—chiefly *Adiantum cuneatum* and *Pteris serrulata cristata*—have been planted. Fine, healthy, robust specimens of *Begonia Rex* have also been dotted in here and there, their ample and beautifully-variegated foliage having a very telling effect. Some economic value, however, is attached to the Ferns, seeing that the fronds are cut for decorative work. They attain a length of 18 ins. to 24 ins.—proportions they seldom assume when grown in pots, except under very special treatment.

Clianthus Dampieri.—On p. 789, in your notes on "Herbaceous Plants at Burford Lodge," you mention that "Mr. Baines succeeds admirably in the cultivation of *Clianthus Dampieri* both in and out-of-doors." I am

sure your readers would be very glad to hear from Mr. Baines what treatment he gives these plants, as you correctly state "it is notorious for the difficulty some experience in its cultivation," and many more would grow it if they did not find it so.—*Alfred Gaut, Copped Hall, Totteridge, Herts.*

Godetia Lady Albemarle.—Of all the Godetias there is none to surpass Lady Albemarle. It is of a beautiful rich deep rose colour, and is very showy and effective when planted in clumps upon borders. It has stood this season's excessive drought remarkably well.—*Alfred Gaut.*

Mildew of Roses.—The description of Rose Mildew, on p. 790, is really a good and correct description of the *Orange Fungus* of gardeners. The mildew of Roses (correctly so called by gardeners and botanists alike) is a white and very different fungus, viz., *Oidium leucoconium*, the early condition of a fungus named *Sphaerotheca pannosa*, a close ally of the white fungus of Hop mildew.—*W. G. S.*

A Large Vine.—There is a large Vine of the Black Hamburgh variety at Cliveden, of which no record is given in Mr. Barron's book on *Vines and Vine Culture*. It monopolises a whole house, and although not so large as the noted Vines at Hampton Court and elsewhere, deserves notice for the great area occupied by its rods, and the thickness of its stem from whence the branches ramify. Unfortunately it does not receive the amount of attention that might be bestowed on a giant of its kind; but seems to belong to a former time, and to an old school that delighted themselves more in the production of large or monster specimens of England's national Grape, the Black Hamburgh, than do cultivators of the present generation.

Veitch's Main Crop Onion.—In the head master's garden at Harrow-on-the-Hill, the excellence of this Onion, and its superiority over other good kinds, is clearly demonstrated. Mr. Hay, the gardener, has it growing side by side on the same piece of ground, and under precisely the same treatment and conditions as James's Long Keeping, Bedfordshire Champion, &c. Veitch's Main Crop is by far the best of all, and well deserves its name, it being as near perfection for general purposes as possible.—*J. B.*

Hardiness of Solanum jasminoides.—I was not aware of the hardiness of this grand climber till recently. I have been sojourning at Southsea, and directly opposite where I have been staying, viz., Stanley Street, in the front of the house of Mr. Layton, are two plants trained about 18 ft. high, spreading about 6 ft., and full of trusses of its magnificent pure white flowers. It has been in flower some time and is likely to continue so. It is greatly admired, and dozens of people gaze upon it with a curiosity to know what it is; in warm suitable situations this is a lovely object, especially as seen here.—*Rusticus.*

Meconopsis nepalensis.—A well-known nurseryman has just sent me a note, as follows:—"Mr. B—— informs me that you have found the secret of raising *Meconopsis nepalensis*, &c. I am glad of that, and hope what you have found can be made useful to the general public, as I am afraid most persons who purchase the seed from me fail to raise plants, and I confess I have failed also" I justify the time spent on my garden on the grounds that anyone who tries experiments carefully, and publishes the results, has a useful occupation, therefore am glad to answer such questions when I can. After this somewhat long preamble, I have only to state that we sow the seed when ripe in a rather moist shaded border, the soil being light loam, and more generally (as my wood garden happily need not be kept neat) let the plants shed their seed about, when a family of young plants come up around them. I must add that hitherto I have not been successful in raising *M. Wallichii* from seed.—*George F. Wilson, Heatherbank, Weybridge.*

Bean, Beck's Dwarf Gem.—For cottagers who have only a limited amount of space, or to those connoisseurs who do not like the strong flavour so persistent in the Long-pod or Broad Bean, this is the sort; for when cooked they are of a very deep green colour, though small, whilst the flavour is very mild. It is not more than 15 ins. high, of branching habit, which, in turn, gives a good crop of well-filled pods. It can be sown closer in the rows than the others. Judging

by its being seldom seen or known in gardens, it cannot have well recommended itself, or the public taste must have decided that the flavour of Beans should simply be that of Beans.—*B. L.*

Violas.—When our bedding Violas and Pansies here in the south are suffering so severely from drought, it is quite refreshing to read of their blooming so luxuriantly in the north, where, at least, it may be said, that Violas are real summer bedding-plants. With us they are of little use, except in the spring and early summer; indeed, their season is from the beginning of April till the end of June. Still, it is important to have a class of hardy plants which make such beautiful effects as Violas do, and especially old plants. It is difficult to find from newly put-out plants anything like such fine results as are shown by old stools—plants, indeed, put out the previous spring. Of these last spring, I had blooming early that excellent white Viola Mrs. Gray, some 15 ins. to 18 ins. across, literally covered with flowers and wondrously effective. "W. D." asserts that Violas should be planted out in the autumn. That is advice more important for the south than the north; there can be little doubt but that all plants put out in the autumn endure longer and flower far more profusely. One difficulty which has to be encountered this year is to get the plants to put out, as the soil is so hard-baked and dry and the bottoms make no growth. When planted out, even in August, the bottoms throw up an abundance of shoots in September; then they will lift and divide capitally, and give plenty of robust plants in the following month. I have found the wiry Viola type to stand better through the drought than have the stoutest wooded kinds. Thus Archie Grant, so fine when in bloom, but stout in habit, has gone down in the heat wholesale, whilst Mrs. Gray and Yellow Boy close by have stood very well. I have made a white selection from Mrs. Gray, which promises to make the best white Viola for hue and habit I have seen; but there are, doubtless, many of the rare northern strains very beautiful. Countess of Hopetoun, a pure white, soon collapsed here. Really, northern kinds need a lot of acclimatising to our greater heat before they will endure.—*A. D.*

The National Carnation and Picotee Society (Southern Section).—I have just made an analysis of the proportion of prize-money won by certain exhibitors at the exhibition at South Kensington in July last. I find that Mr. Douglas took thirty per cent.; Mr. Turner, twenty-five per cent.; leaving a beggarly forty-five per cent. to be distributed among all the other prize-winners!!! How different things are at Oxford, where Mr. E. S. Dodwell proceeds upon the principle of distributing the prize-money among as many exhibitors as possible, so that no one or two take the lion's share, as in London.—*Observer.*

Pea, Royal Jubilee.—I consider this to be one of the best 4 ft. new Peas of the year; possessed with a strong robust constitution and heavy deep green succulent foliage, it is more competent to produce and support its remarkable pods, which are well filled, slightly curved, and mostly containing from ten to twelve peas of the largest marrow type, the quality of them being first-class. Sown with the general cropping sorts, although a little later than some of them, it is well equipped to take its place amongst them. As a mid-season, or as a late sort, I have no doubt whatever that its constitutional qualities will render it better able to resist mildew, which late Peas are so much subject to. In general appearance it resembles that good late variety, Hallamshire Hero, but is an improvement upon it in every respect. One pod of Jubilee, the plant of which accidentally got broken at the joint behind, was 7 ins. long, containing within it fourteen large, even, and well-developed peas in one continuous row. Before another Jubilee I hope such pods will have become general. I enclose a fair sample of the Pea in question.—*B. L.*

Seedling Pansies.—We are in receipt of a box of Pansy blooms, raised from a single packet of seed, and must congratulate the raiser and sender, Mr. Thomas Murphy, The Gardens, Cleveland Lodge, Great Ayton, Yorks, for the possession of such an infinite variety of these old-fashioned garden plants. It is highly gratifying to note the love still manifested for the quaint beauty of these floral pets, and that pleasure is intensified by the knowledge that anyone

possessed of a fragment of garden ground can grow them; that they are, in fact, flowers for the million, and need no encomiums, as they carry their own recommendations with them. We feel quite unable to give them their due meed of praise, or describe a tithe of them, so varied are their tints and shades, all of which are fascinating. They do not possess the huge dimensions of some strains, due to a certain extent probably to the arid atmosphere of the summer we have just passed through. We may say that they range from the purest snowy white, with a small and neat yellow eye, to a jet-black with a similar central spot; and one would naturally conclude that the grower had been collecting and selecting for a number of years to secure such a varied range of colours. Some of the whites present violet blotches on three of the lower petals, with a faint but pleasing tint of mauve on the upper petals. One flower was of a clean pale sulphur or primrose, a colour much in vogue amongst those having some pretensions to taste. Blues are represented by shades similar to the old Blue King, Cliveden Blue, Holyrood, with, of course, endless combinations of blue, white, violet, purple, and yellow. White-edged varieties, with a ground colour of purple, rose and violet, represent a strain we frequently receive from Germany. Irregularly striped or flaked flowers in velvety maroon, purple, and fiery orange, remind us of some Picotees of the fancy class. Brilliant yellow buff colours and orange tints were also noticeable, and, all things considered, we must give preference to the limitless variety presented by home-grown strains of seed.

ORCHID NOTES AND GLEANINGS.

Lælia Turneri Littleana.—A grand specimen of this was kindly sent by Henry Little, Esq., of The Barons, Twickenham, to Messrs. Protheroe & Morris's Rooms in Cheapside on Friday last for Orchidists to see. Mr. Hill has put some splendid growth on the plant, and the last growth is about 3 ft. in height, bearing about a dozen flowers, the sepals and petals of which are rose-coloured like *L. Turneri* (*L. elegans* Turneri of gardens); the lip is tubular, but broadly expanding in the front, of a glowing carmine-crimson colour, which extends over the side as well as over the front lobe. The throat is pure white, and although the plant differs materially from the original *L. Turneri*, it may be regarded as the highest example in that direction.

Lælia elegans.—While on this subject I may as well ask what is *Lælia elegans*, and again give my views on the subject? The name is applied to one of the most variable and dissimilar groups of Orchids, but which is so easy to divide into two well-defined and distinct sections, as to leave it inexcusable to allow them to remain under one name. My opinion is, that they are as much *Cattleyas* as *Lælias*, and both sections of hybrid origin, the white or blush-petalled (usually named *L. elegans* Schilleriana) being crosses both ways between *Lælia purpurata* and *Cattleya intermedia*, and the rose-petalled or Turneri section between *Cattleya guttata* (Leopoldi) and *Lælia purpurata*. In every respect the plants and flowers are in different degrees intermediate between the parents I have named, the Turneri varieties even always showing traces of the spotting of *C. guttata* on the sepals, and its peculiar corrugation of the lip. I have dried off examples of each of those I have named, and also the varieties of so-called *L. elegans*, which I regarded as their progeny, and I found convincing proofs of the correctness of my judgment in the matter by the more visible resemblance they have to each as they decayed. Taking the test for *Lælia* to be eight pollen masses developed, and for *Cattleya* four developed and four rudimentary, I always find the plants called *Lælia elegans* in this respect to be more *Cattleya* than *Lælia*, four of the pollen masses being but partially developed, and in some cases no more visible than in *Cattleya labiata*. In Warner's *Select Orchidaceous Plants* Turner's variety is figured as *L. Turneri*, and that should be the specific name around which its varieties should be grouped, leaving *L. elegans* for the other section, provided it be determined to retain the name *Lælia* for them. It would be as well to do so, perhaps, as it would be as correct as *Cattleya*.—*James O'Brien*.

Stanhopea oculata.—Two very distinct forms of this fine species flowered recently in the collection of Messrs. Shuttleworth, Carder & Co. at Clapham. That which may be described as the type, has the sepals and petals heavily spotted with lilac-purple on a yellow ground, while the labellum is closely spotted with black, and has two large black blotches on the sides of the hypochile. The other form is much more boldly marked, and may be considered in many respects superior to the type. The sepals and petals in this case are golden yellow, with a few large blotches on each; the labellum is also golden yellow at the base with the customary and conspicuous eye spots, from whence the specific name has been derived, while the upper portion, including the horns, are white, marked with numerous small spots. In any of its numerous forms it is a free-flowering and very showy Orchid, and its odour is very agreeable, and by no means overpowering.

Masdevallia Peristeria.—The flowers of this species are described as honey-coloured, which may be true to a certain extent; but they are also densely marked with brown spots, most conspicuous internally, whilst externally they are traversed with strong greenish yellow ribs. The petals, on the other hand, are pure white, and the lip amethyst—a curious combination in the genus. The flowers are solitary and large individually, the tube being short and wide, showing off the petals and labellum to advantage, which assume the attitude seen in *P. elata*, the Dove Orchid. The species belongs to the Coriacea section, and is both distinct and pretty. The above curious characters we noted in the collection at Sudbury House, Hammersmith.

An Erratic Cypripedium.—A remarkably abnormal form of *Cypripedium Lowii* has reached us from Mr. Sharpe, gardener to A. Curle, Esq., Priorwood, Melrose, having been sent by Messrs. Thomson & Sons, Clovenfords. In the specimen in question the lateral sepals—normally united by their contiguous edges, forming one piece, and supporting the labellum—are in this instance free to the very base, reflexed behind the ovary, and distant from the labellum. The petals, on the other hand, are united by their edges to the upper sepal to within $\frac{1}{8}$ in. of the tip of the latter; but being longer than that organ, they curve or converge towards one another, forming an arch over the sepal. The petals, although adnate in the way stated, retain their respective colours, which are, however, much intensified, the spotting on the lower half of those organs being very dark, and the upper half a deep rich purple. The other organs of the flower appear quite normal.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

TUBEROUS BEGONIAS.—The main batch of tuberous Begonias should now be at their best, but to keep them so for any length of time a little warmth should be afforded to the pipes, in the house in which they are staged, morning and evening. It must be remembered that these plants are most impatient of damp resting upon the foliage; in fact, unless the temperature of the structure is kept light and buoyant, both flowers and foliage quickly spoil. It will greatly assist in their keeping, also, if the pots are staged on inverted 60's, that all danger of stagnation at the roots may be avoided; the bulbs, too, under these conditions ripen more satisfactorily and, consequently, keep or winter better.

THE BATCH OF GLOXINIAS for autumn and winter-flowering must be potted up without further delay, as, if treated as advised, they will now be fairly started into growth; do not allow for shifting on, and use pots of rather smaller size than for spring and summer flowering; a little assistance in the way of liquid manure water will compensate for loss of root room, and they will flower more freely than if over-potted.

HEDYCHIUMS are now supplying us with some grand flower spikes, in fact, better than usual; how noble they look in a mixed collection! added to which, the perfume is delicious. Continue to liberally treat them so that the latest growths may be induced to flower; but when all growths are up, and autumn advances, they must be kept rather drier, but at no time allowed

to suffer. Caladiums, as they go past their best, should be removed from the house to the cold frames, where they may be allowed to gradually dry off and ripen preparatory to storing them; if those to ripen early are noted and stored by themselves they will be found to start next season with less trouble and considerably in advance of the main batch. That useful little variety *Argyrites* may be encouraged to grow for some time to come, although from now onwards green-fly may be expected to infest them; a slight fumigation now and again will be found the best means of keeping them clean. Let all care be taken of spring-flowering stuff, such as

WALLFLOWERS, CAMPANULAS, SILENE, &c., the dry weather having much retarded their growth, and at best the plants will be smaller than usual for autumn bedding out. Our earliest *Cinerarias* are now quite ready for their final shift, which will be into 8-in. size. They are well rooted, and now only require head and root-room to develop; the late batch are making a good start, and will be encouraged, but they must not at any time be coddled. Primulas we have staged in a pit by themselves, and are a good sturdy lot of plants. We have a good stock of herbaceous *Calceolarias*, and as soon as they are large enough to handle they will be pricked out singly into 60's, and returned to the cold pits until well on in the autumn, when warmer quarters must be found for them. As *Chrysanthemums* advance in growth, let the necessary ties be put to them so that all danger of breakage by storms may be avoided; ours are a first-rate lot, and we never remember them so robust as they are this season.

THE FORCING HOUSES.

Although thus early in the season, attention must be paid to winter supply, particularly to Cucumbers and French Beans; our plants of the former have been shifted into 32's, and placed on a shelf near to the glass, so as to make them as firm in growth as possible. This is of the greatest importance at this season of the year; if kept in strong heat or plunged they grow too vigorously, and are quite unable to withstand the dreary month of November, when they ought, if properly treated, to be yielding a supply of fruit. It is rather too soon to sow those for spring fruiting; it is far better to defer sowing, and then keep the plants always growing, than to be obliged to resort to stopping in the middle of winter, which is at all times an objectionable practice. The heated pits, which have been used for Cucumber growing, have now been sown with French Beans; by this means we avoid sowing in pots, as under such conditions they give but a poor return in the autumn. The variety we find the most serviceable is Osborne's Prolific, and although we have been induced to try new and would-be better ones, we have been compelled to return to our old love. Continue the collecting and drying of the necessary droppings for the making up of

MUSHROOM BEDS, for there will evidently be but few to be had of out-door growth, so it is necessary that no time should be lost in the making-up of the beds. See that the borders in both vineries and Peach-houses, from which the fruit is gathered, do not become too dry. In the case of the former, liquid manure should be given, so that next season's crop may be assisted, and in each case let the occupants of the houses be freely syringed at least twice a day, and should there be any trace of scale on the Peach trees let them be syringed with tobacco-water, or any other insecticide, according to fancy; this is far less dangerous than subjecting the trees to a winter dressing.

THE KITCHEN GARDEN.

CELERY should now be encouraged to grow as rapidly as possible, and a dressing or two of superphosphate will be found beneficial to the crop. The early batch ought to be ready for use, but unfortunately through the drought ours is later than usual. Earthing up must be done while the plants are quite dry, taking care that the soil is kept out of the hearts during the operation. Cardoons are growing very strongly, and through the scarcity will come in useful later on.

THE ONION CROP is much smaller than usual, and quite ready for lifting, which will be done this week. It is useless to leave them any longer in the ground, as all growth is dying, and there is danger of their again starting into growth if allowed to remain, in which

case they never keep so satisfactorily. Carefully lay them out in the full sun with the base of the bulb uppermost for a week or so before storing them, and if to be roped, they should be placed under shelter until time can be found for the work. We have made a new plantation of surplus Strawberries, and as they were layered early we hope for a good crop of fruit from them. Winter Spinach is well up, but as it is rather early we intend to make a further sowing this week. Endive and Brown Cos Lettuce too are quite ready for planting out, and must be attended to; but unfortunately the gathering of the fruit requires so much attention.—*Walter Child, Croome Court.*

FLORICULTURE.

DAHLIAS.—Supposing that the rain has been general, I think there should be a very fine display of Dahlia blooms at the forthcoming Crystal Palace Show. Calling at Messrs. Keynes, Williams, & Co.'s Nursery, at Salisbury, a few days ago, I found the Dahlia plants looking as clean and healthy as one could desire, but the blooms were small and ill-developed owing to the great heat; as a matter of course, a great deal of labour in the way of watering and mulching had to be expended to bring the plants to this stage. But many of them had been sharply touched with the frost on the morning of Monday the 15th inst., when there were as many as 6° in the Salisbury district, and leaves and flowers alike were destroyed. Let us hope this visitation is not to be taken as indicating an early winter.

Of new Dahlias of 1887 I made a note of the following as very fine: Victor (Keynes), a very fine shaded maroon-claret self, dwarf, very constant and fine; Willie Garrett (Garrett), bright cardinal, good in colour, good habit and very constant; Sir Charles Miles (Cheal), yellow, slightly shaded at base with citron, a finely-formed flower and good petal, but I fear it will be very difficult to get it with a finished centre; Colonist (Keynes), a very distinct flower, described as of a chocolate and fawn colour, very constant, and should be allowed to carry all its flowers; Eclipse (Keynes), pale scarlet, very fine petal and outline, dwarf, the flowers well displayed above the foliage; King of Crimson (Keynes), bright, deep crimson-scarlet, good petal and centre; Defiance (Keynes), crimson centre, edged with cerise; a very fine, full flower of excellent quality. Of last year's flowers, Harry Keith, Thomas Hobbs and Richard Dean were to be seen in very promising character; and of older flowers the following deserve special mention: Miss Cannell, William Rawlings, Joseph Green, Goldfinder, Mr. Gladstone, Herbert Turner, Constancy, James Cocker, Lord Chelmsford, and Mr. Glasscock.

Of new fancy varieties of the present year, Magnet (Keynes), in the way of John Lamont, is very good and promising. Older fancy varieties of good character are Mr. Saunders, Rev. J. B. M. Camm, Gaiety, Rebecca (which, when it sports to a crimson self, makes a very fine flower), Henry Eckford (very fine), General Gordon, Neptune, Peacock and Henry Glasscock (which also makes a very fine deep scarlet self).

Among the Cactus Dahlias, I saw a new one named Empress of India (Munday), shaded crimson and maroon, a fine variety to cut from because so free, and throws its flowers well above the foliage.—*R. D.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*Aug. 23rd.*—The meeting on this occasion was rendered additionally interesting by the considerable display of exhibits brought up to compete for the prizes of the National Co-operative Flower Show. The Orchids at this time brought before the committee were not numerous, but nevertheless interesting—F. G. Tautz, Esq., Mr. G. W. Cummins, and Mr. J. Linden being the only exhibitors of this class of plants. The largest exhibits, and the most noticeable features of the meeting, were the Gladioli exhibited by Messrs. Kelway & Son, the hardy herbaceous plants and the Dahlias of Mr. T. S. Ware, the large double Dahlias of Messrs. H. Cannell & Sons, the varieties of *Lilium auratum* and *L. speciosum* of Mr. W. Gordon, and the stove and greenhouse plants of Messrs. J. Veitch & Sons, Chelsea. The latter had the most extensive display of fruit brought before the Fruit Committee.

Messrs. Kelway & Son had a very extensive display of Gladioli, five of which were certificated, and recorded on another page. Beside those, there were ample means to pick and choose a selection of distinct and beautiful forms, ranging from the palest blush and pink shades to the deepest scarlet and crimson in self colours, or variously flaked and splashed with shades of a darker tint. Stanley was a showy and attractive variety of a bright scarlet, with large white and purple blotches on the two lower segments of the perianth. A striking and novel colour that might find admirers was exhibited by a variety named Glow, in which, for want of a better term, the ground colour might be described as orange-pink, while the margin was flaked with scarlet. Sullivan was buff-scarlet, and purple on the base of the two lower segments. Some boxes of Gaillardias were also staged by the same exhibitor; and a form named Leonard Kelway, and stated to be of dwarf habit suitable for bedding, was nearly double, having largely developed semi-tubular crimson florets, tipped with yellow. A Silver-gilt Banksian Medal was awarded the exhibit.

A Silver Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a collection of hardy herbaceous plants and Dahlias. The former consisted of Gladioli, Iceland Poppies, *Senecio pulcher*, *Lilium Neilgherense*, *Satyrium corneum*, *S. cordifolium*, *S. carneum*, Gaillardias, &c.; a vote of thanks being given for Gaillardia Venus. Golden Gem, Eli Millard, Hubert, and Burning Coal, were fine forms of Pompon Dahlias. Good Cactus Dahlias were Empress of India, maroon; William Darvill, reddish purple; and King of Cactus, crimson. Single Dahlias included amongst others Formosa and Huntsman, scarlet; Duchess of Westminster, white; and Miss Gordon, which was certificated. A very creditable display of exhibition and other large-flowering Dahlias was made by Messrs. H. Cannell & Sons, who were awarded a Silver Banksian Medal. Fine flowers were Eric Fisher, scarlet, flaked with yellow; Rev. J. B. M. Camm, yellow, striped with red; George Rawlings, deep maroon; Mrs. Langtry, buff-white with purple tips to the florets; Julia Wyatt, white, faintly suffused at the edges with pink when old; Spitfire, scarlet; Romeo, intense red; Henry Bond, pale purple; and Frank Rawlings, violet-purple. A similar award was made to Mr. W. Gordon, Twickenham, who staged between forty and fifty pots of *Lilium auratum*, besides several forms of *L. speciosum*, including *L. a. album*, the pure white variety. A vote of thanks was given for *L. auratum virginale*, a white flower with medium yellow bands. An interesting series or collection of varieties of *Acer palmatum*, the Japan Maple, was tastefully intermixed with the Lilies.

Messrs. J. Veitch & Sons, Chelsea, were accorded a vote of thanks for *Senecio macranthus*, and likewise for *Oplismenus albidus*, a beautiful dwarf grass whose leaves were white, with the exception of a little green along the centre. They also exhibited *Phrynium variegatum*, *Nephrolepis rufescens tripinnatifida*, and a number of hybrid greenhouse Rhododendrons, including *Balsamiflorum album*, double white; Duchess of Edinburgh, scarlet; Nemesis, apricot, with crimson stamens; and Hermosa, rose. A small but interesting collection came from the Royal Gardens, Kew, consisting of *Mecunia imbricata*, with flowers like a bunch of black Grapes; *Erythrina Caffra Humei*, *Stenoglottis fimbriata*, a curious little Orchid with spotted leaves, and purple flowers; *Origanum hybridum*, fruit of *Testudinaria elephantipes*, *Kniphofia parviflora*, probably the smallest species, with miniature white flowers; *Cosmos bipinnatus*, and a botanical curiosity in the shape of a huge fasciated flower of Maid of Orleans, a variety of *Jasminum Sambac*. F. G. Tautz, Esq. (gardener, Mr. Cowley) exhibited a number of Orchids, including *Acropera Loddigesii*, *Disa cornuta*, *Miltonia Moreliana*, *Cypripedium Ainsworthii*, and *Aërides Regneri*. The latter is a distinct and pretty species, with pale yellow sepals and petals and a purple labellum. The curious little *Oncidium triquetum* represents a type we seldom see. The comparatively large purple labellum is the most conspicuous feature of the flower.

Messrs. F. W. & H. Stansfield, Sale, near Manchester, exhibited two curiously bipinnatifid forms of *Blechnum spicant plumosum*; a finely bipinnatifid and distinct variety of *Asplenium*, named *A. marinum plumosum*; and a Parsley-like tuft of *A. Filix-femina*

velutinum. Messrs. Vilmorin, Andrieux & Co., Paris, showed Pyramidal Bouquet Rose Aster, a floriferous rose-coloured variety, the strain of which was commended, and a vote of thanks accorded for the exhibit. Messrs. Carter & Co., High Holborn, exhibited a *Lilium* named *L. auratum Wittei*, with white flowers having a median band of yellow. Mr. R. Owen, Floral Nursery, Maidenhead, staged a box of single and double blooms, and two stands of flowers of tuberous-rooted Begonias showing great variety of colour, and was awarded a vote of thanks. *Prunus Pissardi* and *P. domestica variegata* were staged by Messrs. Paul & Son, Cheshunt. The Mary Wardell Convalescent Home, Stanmore (gardener, Mr. W. Sime), sent a small collection of single and double Sunflowers.

At a meeting of the Fruit Committee, Messrs. J. Veitch & Sons, Chelsea, made an interesting display of fruit, including Beurré Giffard Pear, for which a vote of thanks was given; they also showed Sea Eagle and Hale's Early Peaches, and Victoria, Frogmore, Orleans, and Golden Esperen Plums. The exhibits of fruiting plants in pots were probably the most admired, and amongst these we noted Jefferson's Early Transparent Gage, Lawrence Gage, Greengage, Denniston's Superb, Prince Englebert and Kirke's Plums, Dryden Nectarine, and Acton Scott Peach. Mr. F. Ross, The Gardens, Pendell Court, Bletchingley, received a vote of thanks for a rather uncommon and interesting exhibit of Guava fruits (*Psidium Cattleianum*). Mr. A. Miller, The Gardens, Rood Ashton Park, Trowbridge, showed a white-fleshed Melon, named Rood Ashton Hybrid. A seedling Melon was also exhibited by Mr. W. Palmer, The Gardens, Thames Ditton House, Thames Ditton.

National Co-operative Flower Show.—*Aug. 23rd.*—The second annual show of this body took place in the Conservatory of the Royal Horticultural Society at South Kensington, when a mixed display of fruits, flowers and vegetables was made, bringing together a varied concourse of people of a different class from that usually witnessed at the exhibitions held here. The competition was rather keen in some of the classes, there being from nine to eighteen entries in some of them, the larger number being for Potatoes. Numerous medals and prizes other than money ones were awarded to the successful exhibitors, and a handsome engraved certificate of the Agricultural and Horticultural Association was awarded to every prizewinner at the show. In the section open to members of industrial and co-operative societies Mr. R. Inglis, 3, Gateside, Kilbarchan, Renfrew, had the best Peas out of eleven entries, the finest Beet and premier Turnips.

Mr. Luff, Delhi Villa, Beckenham, was first for Broad Beans. Mr. G. North, Mitre Street, Buckingham, secured the first prizes for Scarlet Runners, Cabbages, Carrots, kidney Potatoes, a collection of vegetables, and a collection of Potatoes. The best winter Onions were those of Mr. J. Last, Broad Street Green, Heybridge; Mr. G. Leabourn, West End, Wilton, being first for spring Onions; and Mr. T. O. Bennet, School Cottage, North Tauton, showed the best round Potatoes. In the section open to members of the Agricultural and Horticultural Association Mr. R. Phillips, The Deodars, Meopham, Kent, secured the first prizes for Broad Beans, Tomatoes, the best collection of vegetables, and the premier collection of Potatoes. Mr. J. Dean, Tipey Place, Limpsfield, had the best Melons and winter Onions. In the section open to members of all co-operative societies Mr. R. A. Haywood, Union Street, Coventry, took the first prize for Apples. The best Pears were those of Mr. W. Avens, Leicesterville, Church Road, Teddington, and Mr. J. Dean secured the first prizes for Plums and the best collection of fruit. Mr. Edwin Thurst, Heybridge, Malden, had the finest Gladioli. The first prize for honey was awarded to Mr. F. H. Cudd, Oakleigh Stables, Chislehurst, Kent.

Earley District Cottagers'.—*August 18th.*—A remarkable display of cottagers' produce greeted the judges at this prosperous rural exhibition, held in some pleasing grounds attached to Captain Aphorb's residence, Earley. Owing chiefly to the excellent influence exercised by the society, and, perhaps, to the admirable lead given by Messrs. Sutton & Sons, the eminent seed firm of Reading, cottagers in this locality turn out some wonderfully good products—in fact, they were all the more remarkable, because of the season; but we were assured that some of these exhibitors have

during the summer laboured early and late watering, being honourably ambitious to be the winners of the best prizes. Over 100 classes to some three sections of exhibitors are arranged, and generally the competition is excellent. Potatos, Carrots, Onions, Cabbages, Marrows, &c., were first-rate, and plants especially marvellous. Balsams, Fuchsias, zonal Pelargoniums, Begonias, Hydrangeas, and other plants quite as remarkable were well grown and finely flowered. On the whole, this is one of the best displays of *bona fide* cottagers' or labourers' produce to be found in the home counties. A fine feature on one of the stages was a splendid group of cut flowers in extraordinary variety from Messrs. Sutton & Sons' trial grounds and nursery. This collection included at least fifty diverse things, all from the open ground, and full of beauty and interest. They also exhibited some very dwarf rich-coloured Cockscorns in pots. Messrs. Holder & Sons, of Reading, put up a nice group of plants, and a superb basket of Roses. Mr. Turton, The Gardens, Maiden Erleigh, had amongst numerous plants sent to decorate the tables some fine blue and white pyramidal Campaulas, and Mr. Lees, of The Wilderness, sent some fine Crotons, Fuchsias, Ferns, &c. Amongst Potatos, so largely shown, the best samples were of International, Vicar of Laleham, Reading Russet, Schoolmaster, Ashleaf Kidney, The Dean, and Beauty of Hebron. Suttons' New Intermediate Carrot was shown in splendid form by the cottagers, as also was the Early Nantes.

Petersfield Horticultural.—The second show of the above society was held on Thursday, August 18th, in a field in close proximity to the town—a most suitable spot. The show, although in its infancy, is making good headway, the exhibits being two-fold to what they were last season. The secretary and committee can congratulate themselves on their well-earned success. The arrangements were perfect, the weather fine, and there was a good company of visitors; the prizes to the successful exhibitors being distributed by Mrs. Bonham Carter in the evening. Everybody seemed well pleased, all passing off pleasantly; and although most of the various exhibitors reside in the district, the competition, in many cases, was very keen. The vegetables shown by both cottagers and amateurs were highly creditable, especially considering the dryness of the season, the prizes in the various classes being well competed for. We are always glad to see encouragement given to juveniles at shows of this description. Their interesting exhibits were very close, and caused great excitement among those who competed. A grand collection of miscellaneous plants was sent, not for competition, by Mr. Measures, of Lady-mead, amongst which were some three dozen varieties of Orchids, including many novelties of sterling merit, which were greatly admired, and worthily received a very high commendation from the judges. Mrs. Bonham Carter and other gentry contributed collections of plants and flowers, which materially added to the beauty of the tents. Prizes were offered for groups of plants not exceeding a certain space. There were four entries, three of which had, unfortunately, to be disqualified, owing to their not conforming to the rules laid down in the schedule. They were the best groups, too; but this was quite right on the judges' part, and in future we trust it will be a lesson to those who may compete in this and other classes.

Shildon Horticultural and Industrial.—*August 20th.*—The nineteenth annual horticultural and industrial fête, which still stands unrivalled in proportions and popularity in the North of England, was held on Saturday last in the Vicarage Fields. The preparations of every kind were on the usually complete and extensive scale, and for miles around the district was early in a commotion. The weather had rather a sickly cast in the morning, but the elements on the whole were propitious. The sum of £368 9s. 5½d. was taken at the several turnstiles, the registers having registered that 9,144 visitors had passed through. The society has been signally favoured by a succession of favourable seasons, and the entries altogether were inconceivably enormous. They were about 37,000, or some 1,500 more than last year, the increase going to the poultry, schools, and lady amateurs' departments.

Pot plants this year were a decided step in advance of any previous exhibition, and the judges, especially in the class set apart for stove and greenhouse specimens, must have had some difficulty in making

their awards. The Auckland Park [and Black Boy miners, as in former years, showed some remarkably well-grown collections. Cut flowers, fruit and vegetables were largely represented, and, despite an adverse season, were specially fine.

Matlock Bath Horticultural.—*Aug. 13th.*—This society can claim the honour of being one of the few that, in 1887, held their annual exhibition on a wet day. The morning opened dull and heavy, with slight rain, and at noon a steady downpour set in, continuing, more or less, all day, thereby greatly affecting the attendance; but it was a very interesting show, held in the large conservatory-like pavilion at the Public Gardens. The centre of the building is a spacious hall, and on the floor of this the large groups of plants arranged for effect were placed, the side halls containing tables for fruit, cut flowers, &c. It was a remarkably good exhibition, and it will be matter for regret if the funds of the society suffer materially owing to the wet.

The leading feature was in the class for the large groups, to fill a space of 250 ft. About 1,500 sq. ft. had been marked off into six plots, and in five of these the competing groups were placed, the sixth being filled with shrubs in pots, &c., that were available for the purpose. There was a keen competition, and the awards of the judges were as follows:—Mr. Samuel Thacker, Minerva House, Nottingham, won the first prize; Mr. A. Webb, gardener to J. H. Manners, Fulton, Esq., Kelham Hall, Newark, was second; Mr. C. Williams, gardener to S. Baerlin, Esq., Orchardene, Didsbury, Manchester, came in third; and two extra prizes were awarded. Mr. Thacker's group was not only valuable on account of the quality of the plants staged—consisting of Palms, Crotons, and various handsome-foliaged subjects—but also because of the artistic arrangement, though there was a little undue crowding. Mr. Webb had Crotons, &c., dotted about in a bed of Maidenhair Fern, with other foliaged and flowering plants, and a rich background of brilliant Crotons, &c. There was also a class for smaller groups of 100 ft. square, confined to persons living within ten miles of Matlock, there being three competitors. Here Mr. C. Yates, gardener to W. C. Wildgoose, Esq., Holloway, Matlock, was first; Mr. W. Barlass, gardener to F. C. Arkwright, Esq., Willersley Castle, Crawford, secured the second prize; and Mr. John Brown, florist, Matlock Bath, was third.

There were several classes of cut flowers, one for twenty-four varieties of Roses, and here H. D. Smith, Esq., Alvaston Hall, Derby, was first with a very good lot; Mr. R. W. Proctor, Chesterfield, being second; equal third prizes being awarded to Mr. R. H. Vertegans, Chad Valley Nurseries, Birmingham, and Mr. J. Henson, Derby. Mr. Henson had the best twenty-four Dahlias; Mr. J. Carrington, Derby, being second. Bunches of zonal Pelargoniums were superbly shown, as might be imagined when Messrs. J. R. Pearson & Co., of the Chilwell Nurseries, had to be contented with the third prize; Mr. J. Carrington, Derby, was first; and Mr. J. Henson, second. Gladioli were rather poor; Verbenas were fresh and bright, but the varieties did not call for special notice. Boxes of cut flowers in eighteen bunches were finely shown, and there was a keen competition; the best came from Mr. C. Williams, who had Anthurium Ferrierense, Cattleya Eldorado, C. Gaskelliana, and C. superba, &c.; Mr. J. Bolas, gardener to H. C. P. Gell, Esq., Hopton Hall, being second; and Mr. J. Henson, Derby, third. The best bouquet came from Mr. C. Williams; Messrs. J. R. Pearson & Co., being second; and Mr. J. Henson third. The best bouquet of Roses and their foliage came from Mr. Hans Niemand, nurseryman, Birmingham, a beautiful bouquet; Mr. J. R. Chard, florist, Stoke Newington, being second; and Mr. J. Henson third. Baskets of cut flowers were a delightful feature also; Mr. J. R. Chard was first; Mr. H. Niemand second.

FRUIT.—Of this there was an excellent show, and it was laid out on tables round the central hall. The best collection of eight dishes came from Mr. J. Edmunds, gardener to the Duke of St. Albans, Bestwood Lodge, Nottingham, who had capital Madresfield Court and Muscat of Alexandria Grapes, Pine, Nectarines, Figs, Cherries, and Melon; second, Mr. J. Ward, gardener to C. H. Oakes, Esq., Riddings Hall, Alfreton, who had fine Black Hamburgh and Muscat of Alexandria Grapes, a good Pine and

fine Bellegarde Peaches; third, Mr. J. Lyon, gardener to Viscountess Ossington, Ossington Hall, Newark. Mr. Borlass, Willersley Castle, had the best six dishes, staging good fruit of Gros Maroc and Muscat of Alexandria Grapes, Violette Hâtive Peaches, Elruge Nectarines, Brown Turkey Figs, and Melon; second, Mr. J. Harvey, gardener to Major McCrea Thornhill, Stanton Hall. The best four bunches of Grapes came from D. Saville, Esq., Alvaston Hall, Derby, who had capital bunches of Black Hamburgh and Muscat of Alexandria; second, Mr. Edmunds with Madresfield Court and Muscat of Alexandria; third, Mr. J. Ward with fine examples of the same. Mr. Edmunds had the best two bunches of white Grapes in Muscat of Alexandria; Mr. J. Bolas being second with the same. In the class for black Grapes Colonel Thorpe, Coddington Hall, Newark, was first with fine bunches of Black Hamburgh; Mr. Edmunds being second; Mr. Bolas was third. The latter had the heaviest bunch—a fine one of Muscat of Alexandria; Mr. Lyon being second with Barbarossa.

VEGETABLES.—Of these a large number were staged in certain open classes; also by amateurs and cottagers, the two latter showing cut flowers and hardy fruits in addition. Special prizes for vegetables were offered by Messrs. Dickson & Robinson and Messrs. Dickson, Brown & Tait, of Manchester; Messrs. James Dickson & Sons, Chester; Messrs. R. B. Laird & Sons, Edinburgh; Messrs. Daniels Bros., Norwich; and Messrs. Webb & Sons, Stourbridge; but time did not admit of our gathering up details of the competitions.

HONEY.—Several prizes were offered for honey in sections, and also in the form of general exhibits. One of the leading exhibitors was Mr. A. Clark, post-master of Matlock Bath, the energetic and hon. secretary of the society.

Among miscellaneous exhibits were stands of Carnations and Picotees from Mr. Hans Niemand, nurseryman, Edgbaston, Birmingham; Carnations, &c., from Mr. R. H. Vertegans, Chad Valley Nurseries, Edgbaston; Roses from Messrs. Dickson, Brown, & Tait, and Messrs. Dickson & Robinson; a very handsome memorial wreath from Messrs. J. R. Pearson & Co.; and a collection of fruit, flowers, and vegetables from Mr. F. Oram, fruiterer, Matlock Bath, all of which were highly commended.

QUESTIONS & ANSWERS.

VINE LEAVES SPOTTED.—*Enquirer:* Your vines are very badly affected with thrips, and in a lesser, but still very injurious degree by red-spider and a pale green one, which is another form of the same thing, or a closely allied species. The atmosphere of the house has been kept too dry, a state of matters greatly aggravated by the nature of the season. To save your vines from destruction by the loss of their foliage, it would be advisable to cut the fruit if ripe, removing part of the branch along with the bunches, and insert the shoots in bottles of water and keep in a dark room till used. Fumigation with tobacco, or the application of a mixture of 1 lb. of sulphur and 2 lbs. of quick-lime, boiled in four gallons of water till it becomes of the same consistency as paint, to the hot-water pipes, will do much to eradicate the pest. Afterwards syringe heavily with clear rain water, and keep the atmosphere moist. For other remedies see Barron's *Vines and Vine Culture*.

PEACH LEAVES UNHEALTHY.—*Enquirer:* The Peach leaf sent has evidently been taken from a vigorous tree or shoot, judging from its size; but it is now badly infested with thrips on both surfaces, and numerous eggs are also visible. If the pest is as firmly established all over the trees as on the leaf sent, it will be very difficult to dislodge; but seeing that the crop has been gathered, remedies may be more easily applied. Mere syringing will not eradicate thrips, seeing that they conceal themselves on the underside of the foliage, from whence they issue in as great numbers as ever. Close the house and fumigate heavily with tobacco paper. Give the trees a good syringing with the syringe or garden engine next morning, which will destroy most of them. Seeing that eggs are present in great numbers, a second application of the remedy a little later on will be necessary.

SEEDLING CARNATION.—*Leeds:* The flowers of the seedling you send us are a soft rosy pink, very floriferous and sweet-scented, showing it to be a self, something in the way of Mary Morris, but paler. They are not particularly large, but of a very pleasing colour, and for decorative purposes we should certainly pronounce it a fine thing. The size may improve in more favourable seasons, and the variety merits preservation, at least, till you can improve it with regard to size.

STRIKING ROSES.—*Omicron:* Cuttings of Roses may be rooted at any time in summer when they are procurable in a tolerably firm and well-ripened condition. From now onwards till October they may be rooted by cool treatment under handlights, frames or something similar, behind a north aspect wall or other shady place. Two methods may be adopted at pleasure, that is by inserting the cuttings in small thumb pots and plunging the latter in sand, or by dibbling them into a shallow bed of prepared soil covered with a surfacing of sand. After the material has been got ready, collect your cuttings, firm and short jointed,

and insert them immediately before they get withered. Give a good watering through the rose of a watering pot and make the frames as air-tight as possible. Those inserted now will be ready to pot off in small pots before winter; but those done in October will not be fit for that purpose till spring.

POTTING ODONTOGLOSSUM AND CELOGYNE CRISTATA.—W. H. J.: Generally speaking we should say it is not a very favourable time to pot the Orchids named unless there is great necessity for it. We should advise merely top-dressing those that have finished their growth or are in an advanced state, and wait till they have done flowering and just commencing to make fresh growth. Those that have just started into growth may with more safety be potted, as they have yet some time to get established before the sunless and cold autumn and winter months put a stop to growth. See that the drainage is good.

NAMES OF PLANTS.—H. J. G. Read: Matricaria inodora (a very common plant differing from Anthemis in the absence of scales on the receptacle).

COMMUNICATIONS RECEIVED.—B. & S.—C. P.—G. F.—Visitor, Sheffield (next week).—J. S. T.—R. H. V.—W. D.—J. H. T. P. (next week).—N. H. P. (next week).—M. McL.—A. O.—T. S. (many thanks).—G. S. A.—E. B.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., 237 and 238, High Holborn, London.—Carters' Choice Picked Bulbs at Dutch Prices, direct from the growers.

JAMES COCKER & SONS, Sunnypark, Aberdeen.—Descriptive Catalogue of Hyacinths, Tulips, and other Bulbous Roots.

B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, N.—Dutch Bulbs, Roses, Fruit Trees, &c.

DAMMAN & Co., San Giovanni a Teduccio, near Naples.—New Vegetable and Flower Seeds.

VICARS COLLYER & Co., Central Hall, Silver Street, Leicester.—Autumn Catalogue, 1887.

JOHN LAING & SONS, Forest Hill, London, S.E.—Descriptive Catalogue of Dutch, French, and other Bulbous Roots.

WEBB & SONS, Wordsley, Stourbridge.—Webb's Bulb Catalogue for 1887.

WILLIAM BAYLOR HARTLAND, 24, Patrick Street, Cork.—Hartland's Original Little Book of Daffodils, Oxlips, Cowslips, and Primroses.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.—Bulbs and Tuberous-rooted Plants, &c.

OAKSHOTT & MILLARD, Reading.—Special List of Bulbs.

BARR & SON, 12, King Street, Covent Garden, W.C.—Descriptive List of Hardy Daffodils.

LONDON SEED TRADE.

August 24th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a brisk sale for all values of Trifolium incarnatum, and a good demand for New Italian Rye Grass. Mustard and Rape continue in request at prices current last week. A few orders for Red Clover and Trifolium come to hand. New Rye and Winter Tares sell readily. Bird Seeds unchanged.

COVENT GARDEN MARKET.

August 25th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 6	3 6	Peaches, per dozen	1 0	6 0
Grapes, per lb.	0 9	1 6	Pine-apples, St. Michaels, each	3 0	8 0
Grapes, Chan. Islands, per lb.	0 6	1 0	Pine-apples, Eng. lb.	1 0	3 0
Kent Filberts, 100 lbs.	35 0	40 0	Plums, ½ sieve	3 0	4 0
Melons, each	1 0	2 0	Strawberries, per lb.		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Asparagus, per bdl.			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4	0 6	Lettuces, per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages, per doz.	2 0	2 6	Onions, per bushel	4 0	5 0
Carrots, per bun.	0 9		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatoes, per lb.	1 0	
POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.			Turnips, per bun.	0 6	

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemones, 12 bun.			Pansies, 12 bunches		
Arum Lilies, 12 blms.	3 0	5 0	Narcissus double, 12 bunches		
Asters, 12 bun.	3 0	4 0	Narcissus, 12 bunches		
Aster, French per bun.	1 0	2 0	Pelargoniums, 12 spys.	0 6	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, scarlet, 12 sprays	0 4	0 6
Carnations, 12 blooms	0 6	1 0	Pinks, colored & white, dozen bunches	2 0	4 0
Carnations, 12 bunches	3 0	6 0	Polyanthus, 12 bunches		
Cornflower, 12 bun.	1 0	3 0	Primula, double, bun.		
Day Lily, 12 bunches			— single, 12 bun.		
Eucharis, per dozen	3 0	6 0	Pyrethrum, 12 bun.	2 0	6 0
Gardenias, 12 blooms	2 0	4 0	Roses (coloured)	1 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Roses, Tea, per dozen	0 6	1 6
Iris, various, 12 bun.			Roses, mixed, per doz.	0 6	2 0
Lavender, 12 bun.	4 0	5 0	— Safrano, per doz.	0 6	0 9
Lilium longiflorum, 12 blooms	2 0	4 0	Spiraea		
Lilium speciosum, 12 blooms	1 0	2 0	Stephanotis, dozen sprays	2 0	4 0
Lilies of the Valley, 12 sprays			Tropæolums	1 0	2 0
Marguerites, 12 bun.	3 0	6 0	Tuberose, per dozen	0 6	1 0
Mignonette, 12 bun.	1 0	3 0	White Jasmine, bun.	0 4	0 6
Myosotis, 12 bunches	2 0	3 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Hydrangea, per doz.	9 0	12 0
Asters, dozen pots	4 0	6 0	Lilium longiflorum, per doz.	12 0	24 0
Balsam, per doz.	3 0	6 0	Lilium speciosum, doz.	9 0	18 0
Calceolarias, per doz.	4 0	9 0	Lobelia, per doz.	3 0	4 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	3 0	6 0
Dracena term., doz.	30 0	60 0	Musk, per doz.	2 0	4 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz.	6 0	12 0
Ferns, in var., do	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 6	Rhodanthe, per doz.	6 0	9 0
Foliage Plants, various, each	2 0	10 6	Scented Verbena, 4 0	6 0	
Fuchsia, per dozen	3 0	9 0	Spiraea, per dozen		
Heliotrope	4 0	0	Tulips, per doz. pots		

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PTERIS SERRULATA CRISTATA, fine stuff in 3-in. pots, with crests on, 3s. 6d. per doz. P. SERRULATA, strong, 3-in. pots, 3s. per doz.; ditto, strong, out of boxes, 6s. per 100. P. HASTATA, strong, out of 4-in. pots, 3s. 6d. per doz. P. CRETICA ALBO-LINEATA, strong, out of boxes, 6s. per 100.

POLYSTICHUM ANGULARE PROLIFERUM, nice stuff of this splendid decorative Fern, 3-in. pots, 3s. 6d. per doz.; ditto, strong, out of boxes, 2s. per dozen. P. A. P. FOOTII, out of boxes, 3s. 6d. per doz.

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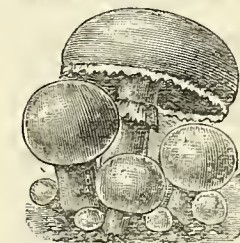
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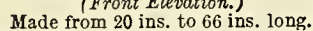
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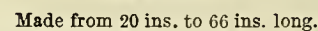
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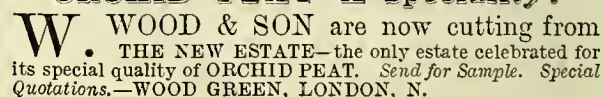


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